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**Spaces and Places of Health Care in Tuscany:
A Post-Medical Perspective**

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Preface

This research was carried out as part of a doctoral scholarship awarded, within the framework of the Italian National Strategy for Inland Areas (SNAI), to both the “Unione dei Comuni Valdarno e Valdisieve” and the Department of Economics and Business Sciences of the University of Florence, within the Doctoral Programme in “Development Economics and Local Systems”.

The SNAI represents a place-based local development policy (Barca, 2009; Barca et al., 2012), launched in Italy in 2013 as part of the work on cohesion policy for the 2014–2020 programming cycle by the then Minister for Territorial Cohesion, Fabrizio Barca.

In his keynote speech on 28 May 2015 at the tenth edition of the “Ermanno Gorrieri Annual Lecture”, entitled “*Disuguaglianze territoriali e bisogno sociale. La sfida delle Aree Interne*”, Fabrizio Barca presented the SNAI as a policy aimed at removing obstacles to the implementation of Article 3 of the Constitution, based on a multidimensional conception of equality and justice understood as substantive freedoms (Barca, 2015).

All citizens have equal social dignity and are equal before the law, without distinction of sex, race, language, religion, political opinion, personal and social conditions.

It is the duty of the Republic to remove those obstacles of an economic or social nature which constrain the freedom and equality of citizens, thereby impeding the full development of the human person and the effective participation of all workers in the political, economic and social organisation of the country. (Article 3, Constitution of the Italian Republic)

As observed by Barca (2015, p. 12),

our constituents [...] have established that the State must commit itself to achieving equality and that this must be *substantial*. Like Amartya Sen, many years later, they understand and reiterate that freedom cannot be only formal or procedural, but also and above all *substantial*. And that it is not enough to proclaim it, but it must be pursued.

The reference to the “full development of the human person” contained in Article 3 is consistent with the perspective that has become fully established in the social sciences thanks to the work of Amartya Sen and his capability approach (Sen, 1980; Sen, 2000).

The capability approach provides a conceptual framework for the analysis of well-being and development that goes beyond an understanding of development as economic growth alone. It shifts the focus from the means to the ends of development and places at the centre the substantive freedoms and effective opportunities that people have to lead a life that they have reason to value. In this perspective, development is defined as “the process of expanding real freedoms” (Sen, 2000, p. 41), understood both as concrete opportunities and abilities of access fundamental resources (e.g. nutrition, education, healthcare) and as opportunities for participation and agency freedoms.

Since these freedoms depend on personal, social and environmental conversion factors, they are closely linked to the territorial context. Hence the need for a territorial and place-based perspective on the capability approach was advanced by Biggeri and Ferrannini in their book “Sustainable Human Development: A New Territorial and People-Centred Perspective” (Biggeri

and Ferrannini, 2014), which emphasises the role of places and local institutions in expanding or constraining people's real opportunities.

In line with this perspective, the SNAI highlights that the “personal and social conditions” that should not limit people's opportunities have territorial dimensions (Barca, 2015). As observed by Barca (2015, p. 17), “a very large part of ‘personal and social conditions’ derives not only from the family into which you are born, which certainly has a very significant influence, but also from the territorial context in which you live”.

Based on these premises, this research arises from an interest in studying territorial inequalities in the inland areas of the Tuscany region and from the adoption of a multidimensional perspective in the study of well-being and development.

However, we decided to focus on the study of equity in access to health care.

The Italian National Health Service (“*Servizio Sanitario Nazionale*”, SSN) is currently facing a crisis characterised by a shortage of healthcare personnel, the weakening of territorial assistance, longer waiting lists and overcrowded emergency departments. These critical issues are part of a demographic and social context marked by an ageing population, an increase in chronic diseases, changes in family structure and growing social vulnerability. In this context, social inequalities in health and in access to health care services both between and within different regions are persistent and profound and lead people to forego medical treatment (Costa et al., 2014; Vicarelli and Spina, 2020; Fondazione Gimbe, 2024; ARS Toscana, 2016).

The research adopts a geographical perspective in the study of equity in healthcare, which moves from the territorial justice (Davies, 1968) perspective that is central to the SNAI to a spatial justice perspective (Soja, 2010).

Particular attention is devoted to the geographical dimensions of accessibility. However, the research is not limited to providing measures of accessibility to health care services; rather, it focuses on the territorial dimensions – political–organisational and community–based – that shape access to health care. In fact, the spatial analyses support critiques of administrative and functional geographies, highlighting their role in the (re)production of territorial inequalities and proposing the adoption of approaches from the contemporary geography of healthcare – focusing on the dimensions of service availability, proximity, and healthcare needs – as tools to support healthcare planning.

We make our geographies just as it has been said that we make our histories, not under conditions of our own choosing but in the material and imagined worlds we collectively have already created – or that have been created for us. (Soja, 2010, p. 18)

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Introduction

Today, the concept of Inland Areas has become firmly embedded in the Italian national policy agenda and in both public and academic debates, and it is linked to a broader European discussion on territorial inequalities in access to citizenship rights¹.

Over the last ten years, geographical literature, regional sciences and political debate at European level have seen a renewed interest in territorial inequalities, coinciding with the worsening of socio-spatial disparities and processes of spatial polarisation (Görmar et al., 2019).

This debate draws on an ancient idea of justice based on equal access to citizenship rights, but it is evolving towards a perspective of territorial justice, highlighting the territorial dimensions and the political, institutional and social determinants of access to essential services.

As early as Ancient Greece, around 600 BC, with the formation of the city-state, the first formulations of justice concerned participatory democracy and the exercise of citizenship rights and obligations (Soja, 2010).

As Soja points out, “justice, democracy, and citizenship came to be defined as rights to participate in the politics of the city-state as well as its social, cultural, religious, and economic activities” (Soja, 2010, pp.74–75).

Early ideas about justice thus revolved around urban-based “civil” rights and the actions of a citizenry in what came to be known as civil society, or a public realm involved in deciding how best to maintain equitable access to urban resources for all those who qualified. It can be argued that these ideas represent one of the earliest notions of specifically spatial justice, that is, a conception of social justice in which geography matters in significant ways. For most of the next two thousand years, justice and democracy were embedded in the distinction between city and countryside, urbanity and rurality. (Soja, 2010, p. 75)

Until relatively recently, justice was largely conceptualized as an aspatial notion. It was only in 1968 that the Scottish social planner Bleddyn Davies, in his book “Social Needs and Resources in Local Services”, introduced the concept of territorial justice. According to the author:

In the services for which the most apparent appropriate distribution between individuals is ‘to each according to his need’, the most appropriate distribution between areas must be ‘to each area according to the needs of the population of that area’. Since the former

¹ It should be noted that the European debate on processes of peripheralisation (Fischer-Tahir and Naumann, 2013; Kühn, 2015; Copus et al., 2017) has led to the formulation of the concept of inner periphery (Copus et al., 2017; ESPON, 2017). European inner peripheries are classified into four types, based on four criteria: territories that are peripheral in terms of economic potential, measured through potential accessibility by road and rail; areas experiencing population decline, identified on the basis of indicators such as population density, GDP per capita, and unemployment rate; peripheries in terms of access to regional centres, based on travel time to the nearest urban centre; and, finally, peripheries in terms of access to services of general interest, based on travel time to a defined set of services (Copus et al., 2017; ESPON, 2017; Ietri and Paggetti, 2019). While it is primarily the latter category that shows the greatest affinity with the Italian notion of Inland areas, the ESPON report (ESPON EGTC, 2018, p. 15) identifies the SNAI as a good practice at the national level for addressing inner peripheries (Ietri and Paggetti, 2019). In what follows, the term ‘Inland Areas’ is used to translate the Italian notion of ‘Area Interna’, in order to avoid confusion with the European concept of ‘Inner Periphery’.

criterion is synonymous with social justice, we can call the latter ‘territorial justice’.
(Davies, 1968, p. 16)

This definition not only draws attention to territorial inequalities, but also explicitly introduces the principle of equity.

Indeed, Davies recommends the adoption of a geographical perspective in defining distributive justice and states that need is the most appropriate criterion for the allocation of resources in social services. In this perspective, territorial justice is therefore defined not by the guarantee of arithmetic equality, but by the pursuit of equity, understood as equality based on need.

In the Italian context, these reflections find a concrete application in the National Strategy for Inland Areas (SNAI).

The SNAI treats social need implicitly. In fact, the identification and classification of Inland Areas is based on purely geographical measures of accessibility: Inland Areas have been defined as “municipalities significantly distant from centres providing essential services (education, health and mobility)” (Barca et al., 2014, p. 5). Their classification is based on the identification of ‘hub’ municipalities and aggregates of municipalities called ‘inter-municipal hubs’ that jointly guarantee the provision of three types of essential services: high-level hospitals, which are identified as hospitals with at least a I Level DEA emergency department; a complete secondary school offering; a railway station of at least Silver category. All other municipalities have been classified according to their distance, expressed in road travel time, from the identified hubs.

The main argument underpinning the Strategy is that structural disadvantage defined as limited access to essential services fuels depopulation and triggers vicious circles of abandonment, which tend to reinforce themselves over time, reducing people’s quality of life and the prospects for local development (Barca et al., 2014).

Therefore, the idea of justice promoted by the SNAI goes beyond the static definition of territorial justice to embrace the idea of peripheralization, which has been gradually adopted in the European debate.

In this context, today peripheralization is interpreted as “the outcome of complex processes of change in the economy, demography, political decision-making and socio-cultural norms and values” (Fischer-Tahir and Naumann, 2013, p. 9; Kühn, 2015).

The SNAI highlights the need to recognise that the peripherality, structural deficiencies and depopulation that characterise many inland areas are not spontaneous phenomena but are the result of processes of marginalisation that have accumulated since the Second World War.

Since the 1950s, a significant part of inland areas has undergone a process of marginalisation that has manifested itself primarily through intense phenomena of de-anthropisation: a) reduction of the population below the critical threshold and demographic ageing; b) reduction in employment and in the degree of utilisation of territorial capital. Secondly, this process manifested itself in the progressive quantitative and qualitative reduction of the local supply of public, private and collective services – i.e. the services that define the quality of citizenship in contemporary European society. Certain entities – which we can define as ‘enemies of inland areas’ – have profited from and contributed to this process of marginalisation. These are private and public actors who have extracted resources – building significant positions of income – rather than innovating. (Barca et al., 2014, p. 8)

This conceptualization of peripheralization is consistent with the renewed attention to place that has emerged in the literature within the so-called spatial turn.

With the spatial turn, geographical and spatial thinking began to be more explicitly embraced in the social sciences under the recognition that “spatial thinking [...] cannot only enrich our understanding of almost any subject but has the added potential to extend our practical knowledge into more effective actions aimed at changing the world for the better” (Soja, 2010, p. 2).

Space, traditionally conceived in geometric terms as a neutral container of events, populations, and services, has thus been reinterpreted as place – that is, as a dynamic dimension shaped by social, political, cultural, and economic practices and, therefore, socially constructed and relational (Lefebvre, 1991; Soja, 2010).

Consistent with this perspective, while in the past the periphery was understood as the set of areas located at the margins and distant from centres, with peripherality measured primarily in terms of distance, today peripheral areas are no longer interpreted solely according to their geographical location. Instead, they are increasingly conceptualized as socially produced spaces and outcomes of marginalization processes (Fischer–Tahir and Naumann, 2013; Kühn, 2015).

From this perspective, it is increasingly recognised that marginalisation, which is defined at the individual level “as a mode of injustice involves curtailing full participation in social life and accessibility to societal resources and respect for certain segments of the population” (Soja, 2010, p. 79), also takes spatial forms when the economic, political and social processes at work produce the social exclusion of the population residing in certain territories.

The present research was born from these assumptions. However, this study departs from the SNAI approach and classification to examine territorial equity in access to health care in Tuscany, adopting a spatial justice perspective (Harvey, 1973; Soja, 2010).

In a book entitled “*L’equità nella salute in Italia. Rapporto sulle disuguaglianze sociali in sanità*” (“Health equity in Italy. Report on social inequalities in healthcare”), Costa et al. (1994) argued for the need of a geography of health care that addressed the issue of equity in Italy.

This question does not seem to have found adequate answers, either at the political or the academic level, even though the ageing population, the increase in chronic diseases and conditions of social vulnerability are making it increasingly urgent to radically rethink health care planning.

Based on these questions, the present research combines the perspective of territorial equity in healthcare, proposing measures of geographical accessibility that integrate proxy measures of the population’s healthcare needs, with a perspective of spatial justice, going beyond the concept of territorial justice as an outcome to explore its process dimensions and to defend what Soja (2010) defines as socio–spatial dialectics.

Accepting the basic idea of a socio–spatial dialectic means recognising that just as social processes influence geographies, geographies actively influence these processes. It means recognising that “space is actively involved in generating and sustaining inequality” (Soja, 2010, p. 4).

Adopting a critical spatial perspective (Soja, 2010) implies recognizing that space is not a neutral container of services and populations, but a social and political product that contributes in shaping people’s opportunities. It also means acknowledging that the administrative and functional geographies of health care systems constitute socially produced institutional and organisational spaces that rarely coincide with the lived spaces of individuals and may generate or exacerbate socio–spatial inequalities in access to services (Dini and Zilli, 2022; Dini and D’Orazio, 2022; Dini and Romei, 2022; Scialdone and Giuliano, 2023). It further implies recognizing that the tools commonly employed in health care planning – such as demographic thresholds and service catchment areas – actively shape people’s opportunities to receive care. When these instruments fail to incorporate distance (Landini, 1986; Evangelista, 2017) and

measures of healthcare needs, they inevitably lead to “evident distortions in terms of compensating disparities in service provision, since thresholds and catchment areas must be related to the physical, demographic and socioeconomic characteristics of places” (Evangelista, 2017, p. 60).

In this sense, the geographical criteria used to plan health care provision become institutional devices that shape opportunities for care and may contribute either to removing or to reinforcing geographical barriers to accessibility.

Therefore, adopting a perspective grounded in the socio-spatial dialectic entails recognizing and defending the evaluative and planning role of geography in a context where geography and spatial planning, as well as research and practice, are often kept separate (Landini, 2007).

As noted by Evangelista (2017, p. 104) following Martin (2001), “geographers should rectify their theoretical and empirical objectives on several fronts in order to increase their social and political relevance and should be more action-oriented”.

We need to see research not simply as a mechanism for studying and explaining change, but – by following our investigations through to their implications for possible policy intervention and action – as an instigator of change, as an activist endeavour. (Martin, 2001, p. 203)

Based on these assumptions, the overall aim of this study is to defend the social and political role of geography in promoting more equitable healthcare systems (Catania et al., 2025), while at the same time discussing the multidimensional and territorial nature of access to health care (Biggeri and Ferrannini, 2014).

The study is structured around two main research questions.

To what extent do administrative zoning and the criteria used to define functional service areas influence spatial accessibility to health care? And to what extent do spatial accessibility analysis methods developed within health care geography – also in light of advances in Geographic Information Systems – make it possible to critically assess their limitations and shortcomings?

In the context of processes of state retrenchment and the localisation of welfare systems, how are shortages of and distance from health care services experienced at the local level in territories characterised by processes of peripheralisation and by the interaction between structural and social disadvantage (Bernard and Keim-Klärner, 2023)? What responses are provided by civil society organisations, and what challenges emerge at the local level?

The work is organised as follows.

Chapter 1 introduces the theme of territorial equity in healthcare, presenting different conceptual approaches and some empirical evidence from the Italian context. The chapter also lays the groundwork for presenting the approaches of the geography of health care services as planning tools and their potential in the promotion of equity in access to health care. From this perspective, it is argued that promoting equity in access requires health planning tools that go beyond the mere definition of optimal thresholds and service-to-population ratios within administrative units of varying size (health districts, local health authorities, regions). Instead, greater attention should be paid to geographical barriers to access and to the healthcare needs of the population.

Chapter 2 presents a review of the geography of health care literature. On the one hand, this review highlights the strong focus of the international literature on the geographical and social determinants of accessibility to health care. On the other hand, it highlights the greater attention of the Italian literature to the political and organisational dimensions of service provision.

The literature review provides the basis for adopting a critical spatial perspective (Soja, 2010), which goes beyond analysing variations in the distribution of health care services and their accessibility across places, and instead explores the territorial, political, organisational, relational, and community dimensions of access to health care.

Chapter 3 adopts a structural–functional and political perspective (Banini, 2001) in the study of accessibility to general practitioners and primary care paediatricians. The study develops a critique of the functional zoning used in the organisation of primary care – the catchment areas called “*ambiti territoriali*” – and of the role attributed to simple measures of availability in the methodology used to identify physicians’ allocation zones. To support this critique, the French case is presented and discussed. In France, since 2017 physician zoning relies on sophisticated approaches that integrate measures of medical availability, spatial accessibility, and healthcare needs.

Chapter 4 adopts a similar perspective in the study of accessibility to hospital care. The discussion highlights the need to assess accessibility to hospital beds within the hospital geographical–administrative catchment areas, the so-called “Aree Vaste”. Then the discussion proposes some methods for analysing geographical accessibility to hospital beds, which combine availability and proximity measures with proxy measures of healthcare needs and of the attractiveness of different types of hospital facilities. In this framework, the analysis also highlights cases in which accessibility is constrained by administrative zoning arrangements.

Finally, Chapter 5 presents a case study conducted with Third Sector Organisations (TSOs) operating in the health and socio–health care sectors in municipalities identified as inland areas of the Mugello and Val di Sieve districts in the Metropolitan City of Florence. This work helps to complete the picture outlined in the previous chapters, bringing the research down to the local level and adopting a bottom–up perspective, aimed at investigating the actual opportunities for access to services, the demand for healthcare mobility and the role of TSOs in the management of health care and social care services in a peripheral context. The adoption of a mixed methodology allows us to triangulate the results of the quantitative analyses conducted in the previous chapters with the information derived from participatory research, in line with a place–based and people–centred approach to research (Biggeri and Ferrannini, 2014; Biggeri et al., 2018; Biggeri and Ciani, 2019). This approach is particularly useful in studying the territorial dimensions of a multidimensional phenomenon such as access to health care (Biggeri and Ferrannini, 2014; Biggeri et al., 2018; Biggeri and Ciani, 2019; McLafferty, 2020).

This last study contributes to the literature known as the geography of healthcare volunteerism, which studies the role of non–profit organisations in the provision and planning of health care services and the implications of welfare state restructuring processes on the ability of civil society organisations to identify and respond to the needs of local communities (e.g. Skinner and Power, 2011; Skinner et al., 2016).

In summary, consistent with a multidimensional understanding of access to health care and with the adoption of a perspective attentive to the socio–spatial dialectics, this research aims to shift the focus from the *spaces of health care*, understood in a technical–functional sense, to *health care places*, conceived as situated realities that are experienced and socially constructed and politically governed. The research therefore adopts what the geography of healthcare literature defines a post–medical perspective, which invites us to consider accessibility to health care as a complex territorial phenomenon shaped by socio–spatial, institutional, and organisational processes.

The decision to focus on a regional case study that, according to comparative assessments of regional health system performance, ranks among the national benchmarks might at first appear

limiting. However, Tuscany provides a valuable empirical case study, while the theoretical and methodological arguments supporting the accessibility analyses are potentially applicable to other regional contexts.

As Costa et al. (1994, pp. 23–24) observe:

Rationing requires criteria, and criteria that are rational, which is not impossible to achieve from an increasingly competent and well-equipped scientific community; criteria that are transparent and shared, [...] and, above all, criteria that are fair. Now, if the ideal reference to a criterion of fairness is to be not only ritualistic but truly effective, it should be articulated in solid operational criteria, capable of suggesting where to concentrate investments to promote health and ensure effective, safe and good quality care.

Chapter 1. Territorial equity in healthcare: definitions and evidence

In reality, all policies that assert equity as equality of access according to individual need are subsequently translated – at best, and by the most conscientious administrations – into equality of ‘inputs’ at an aggregated territorial level. The Italian case does not contradict this divergence between constitutional value statements concerning health as a fundamental right of the individual, irrespective of personal responsibility, and the more limited objectives of mere territorial equalisation of resources and services—objectives which, moreover, are strikingly belied by the facts [...] this model of the welfare state, ostensibly egalitarian on the basis of individual needs, in practice egalitarian only in terms of the geographical scale of territorial divisions, and, due to its own shortcomings, not even egalitarian from this geographical standpoint, must also contend with a seemingly unstoppable drive towards increasing consumption.
(Costa et al., 1994, pp. 24–25)

1.1 Introduction

The quotation that opens this chapter highlights a crucial contradiction in Italian healthcare policy: while, at the regulatory level, equity is defined as proportionality of rights to individual needs, in practice it is translated into equality of inputs within predefined geographical areas. This form of equalisation, in addition to being conceptually weaker than the constitutional principle of universalism based on need, is not borne out by the evidence, which reveals profound territorial inequalities in the allocation of resources and in the effective protection of the right to health (Costa et al., 1994; Costa et al., 2014).

The protection of the right to health as a fundamental right of the individual and in the interest of the community is enshrined in Article 32 of the Constitution of the Italian Republic.

The Republic safeguards health as a fundamental right of the individual and as a collective interest, and guarantees free medical care to the indigent.

No one may be obliged to undergo any health treatment except under the provisions of the law. The law may not under any circumstances violate the limits imposed by respect for the human person. (Article 32, Constitution of the Italian Republic)

The principle of health as a universal right was implemented thirty years after the Constitution came into force, with the establishment of the National Health Service (*‘Servizio Sanitario Nazionale’*, SSN) by Law 833 of 1978 (Maciocco, 2018a). Article 1 of Law 833/1978 states that:

The Republic protects health as a fundamental right of the individual and in the interest of the community through the National Health Service.

The protection of physical and mental health must be carried out with respect for the dignity and freedom of the human person.

The National Health Service consists of the set of functions, structures, services and activities aimed at promoting, maintaining and restoring the physical and mental health of the entire population, without distinction of individual or social conditions and in accordance with procedures that ensure equality of citizens in relation to the service. The implementation of the National Health Service is the responsibility of the State, the regions and local authorities, ensuring the participation of citizens.

The SSN so defined is based on a Beveridge model and is inspired by the principles of universality, equality and equity. This means that access to health care services is guaranteed to the entire population, regardless of economic or social status (universalism); that all citizens have equal rights to use the services (equality); and that resources must be distributed in such a way as to meet people's actual needs, seeking to reduce health inequalities (equity).

As Maciocco (2018b) and Vicarelli (2023) observe, the establishment of the SSN took place in a context characterised by the emergence of three major transformations in the demand for health and care: the demographic transition, driven by the ageing of the population; the epidemiological transition, driven by the growing prevalence of chronic diseases; and the technological transition, marked by the spread of new drugs and health technologies.

As early as 1992, with the first law reorganising the National Health Service (Legislative Decree No. 502 of 30 December 1992, "*Riordino della disciplina in materia sanitaria, a norma dell'articolo 1 della legge 23 ottobre 1992, n. 421*" [Reorganisation of health regulations, pursuant to Article 1 of Law No. 421 of 23 October 1992]), processes of privatization and regionalisation of the SSN were initiated. These processes were then accompanied by processes of restructuring of the system guided by the centralisation of services and a progressive opening up to the private sector, putting pressure on the concrete implementation of the fundamental principles of universality, equality and equity enshrined in Law 833/1978 (Maciocco, 2018a).

Today, the Italian SSN is facing a structural crisis that manifests itself in a shortage of healthcare personnel, the progressive weakening of local health care services, longer waiting lists and overcrowded emergency departments. Although the intensity of these problems varies from region to region, they are spreading throughout the country, highlighting the need for a renewed commitment to ensuring equity in access, quality and funding of health care services.

In this context, there is a pressing need to examine the current state of equity in healthcare and explore the relationships between access, space and territory.

This research examines inequalities in access to health care in the Tuscany region, addressing only marginally with broader social inequalities in health. The aim is not to analyse equity in health status or the relationship between space and health, but rather to explore the issue of equitable access within the SSN, while recognising that access to services is only one of the social determinants of health (Dahlgren and Whitehead, 1991; Diderichsen and Whitehead, 2001; Maciocco and Santomauro, 2014). "Social inequalities in health are, in fact, a complex problem that arises from a dense network of generating mechanisms" (Zengarini et al., 2014, p. 73), and availability, proximity and access to health care services provide opportunities for disease prevention and treatment, but are only one of the 'proximal' determinants of health².

² The social determinants of health are usually described as either 'proximal' or 'distal'. Proximal determinants also include direct influences attributable to individual behaviour, lifestyle and contextual conditions (Zengarini et al., 2014, p. 73). 'Distal' determinants of health, which include individual and structural factors – such as education, employment

What does it mean to address the issue of territorial equity in healthcare? What are its main meanings? What is the current state of equity in the Italian context? How will the issue be addressed in this research?

This introductory chapter outlines the conceptual framework guiding the research, presenting the issue of equity in healthcare (Section 1.2) and the main evidence on the state of equity in healthcare in the Italian context (Section 1.3). Finally, some preliminary reflections are presented on the role of geography in healthcare planning aimed at promoting equity of access to health care (Section 1.4).

1.2 Defining territorial equity in healthcare

Equity is a criterion “that ensures that ‘rights’ are not equal but proportional to needs” (Costa and Cislighi, 2014, p. 166).

The literature generally distinguishes between two definitions of equity in healthcare: horizontal equity, defined as equal treatment of equals; and vertical equity, defined as different treatment of unequals (Granaglia, 2008; Fattore and Torbica, 2010). The literature on equity in healthcare focuses mainly on the horizontal dimension, defining equity as a condition that is achieved when people with similar needs have equal opportunities to access the same care (Aday and Andersen, 1981; Gulliford and Morgan, 2003).

As observed by Granaglia (2008), equity in healthcare can be defined, from the point of view of distributive justice, on the basis of three criteria: equality in the distribution of resources, equality of access to services and benefits, and equality of outcomes (Granaglia 2008; Vicarelli and Spina, 2020). These criteria are typically aimed at the interpersonal level but are useful for specifying the concept of territorial equity (Granaglia, 2008). Equality of resources is to be considered on the basis of quantitative and qualitative standards of personnel, facilities and healthcare equipment. Equality of access requires, in addition to the availability of resources, the absence of geographical, economic, informational, psychological and cultural barriers to access to services. Finally, equality of outcomes can be defined in terms of the satisfaction of needs and health outcomes.

Referring to Amartya Sen’s capability approach (Sen, 1985; 1999), Granaglia (2008) highlighted that the three criteria of equality allow us to distinguish between equality of means (resources), equality of opportunities (access) and equality of outcomes, and affirmed the desirability of a concept of equality of outcomes.

Consistent with Sen’s perspective (1985; 1999), i.e. a conception of well-being and development centred on freedoms and people’s real opportunities to achieve results that are worth valuing, the notions of equality and equity of opportunities and results appear preferable to equality of means, whether defined in terms of monetary resources or structural endowments (Granaglia, 2008). People’s actual ability to benefit from available services does not depend exclusively on the availability of means but on personal, social and contextual characteristics and therefore, it necessarily has a territorial dimension. Equity of access is understood both as the opportunity to enter the system and as actual entry into the system, and equity of health outcomes is influenced primarily by need and a series of structural, economic, cultural and organisational factors.

Neglecting the spatiality and territoriality of equality and equity is therefore reductive because health care services tend to be located in specific points of the territory, while the population and

status, income, housing conditions and area of residence – which contribute indirectly to the production of social inequalities in health.

its healthcare needs are unevenly distributed spatially (Granaglia, 2008) and because the exercise of freedom, access to opportunities and the achievement of results takes place in the territories (Biggeri and Ferrannini, 2014).

Fattore and Torbica (2010) pointed out that discussing equity in healthcare requires some specification and assessment of healthcare needs and interpreted territorial equity in healthcare according to five main meanings: equity in financing, accessibility, utilisation, outcomes and health levels (Table 1.1).

Equity in financing presupposes that financial resources are distributed based on the healthcare needs of the population, following per capita criteria weighted on demographic, epidemiological or socioeconomic indicators that are closely linked to greater healthcare needs and justified on epidemiological grounds (Fattore and Torbica, 2010). However, equity in financing, like the criterion of resource equality (Granaglia, 2008), represents a form of equality in means.

Approaches that focus not only on resources but also on opportunities and processes are those advocated in the second and third definitions put forward by Fattore and Torbica (2010), which concern potential and actual equity of access³. According to the definition of equity in potential access, equity refers to potential access to services, i.e. the guarantee of equal opportunities for individuals with equal needs to use health care services, considering the geographical distribution of facilities and actual accessibility conditions. In the third definition, equity refers to the actual use of healthcare, that is, real access: “a system is territorially equitable if it guarantees equal rates of service use for equal needs” (Fattore and Torbica, 2010, p. 266).

Finally, the fourth and fifth approaches to equity presented by Fattore and Torbica (2010) refer to people’s health outcomes and results. According to the outcome-based approach to equity, a fair system is one that guarantees the same outcomes and uniform and equally effective levels of care for people with the same healthcare needs. According to the health levels approach, a healthcare system is equitable if it is able to guarantee the same level of health for the same needs and, therefore, if it is able to address social inequalities in health and health differentials that originate outside the healthcare service.

These five different criteria are complex to operationalise for a number of reasons. First, as criteria of equity, their operationalisation requires the measurement of need. However, it is useful to distinguish between healthcare need and the demand expressed for services and therefore to recognise that healthcare need is “an unknown statistic” (Spatola, 2023, p. 706). Therefore, the measurement of equity ‘can only be based on proxies’ (Granaglia, 2008).

Table 1.1 – Possible approaches to defining territorial equity in healthcare

<i>Definition</i>	<i>Potential and conditions for use</i>	<i>Critical issues</i>
Equity in financing	It is simple to define operationally and to monitor; Respects the autonomy of territories in the use of resources	Refers to a potential concept of fairness, because resources are a means and not an end in the pursuit of fairness

³ The literature generally uses the term access to refer to both the opportunity to access the healthcare system (potential access) and the use of care, i.e. actual entry into the system (realised access) (Aday and Andersen, 1974; Khan, 1992); it highlights its multidimensional nature, i.e. geographical, organisational and socioeconomic determinants (Donabedian, 1973; Penchansky and Thomas, 1981; Joseph and Phillips, 1984; Rosenberg, 1988; Khan, 1992), and the fact that optimal conditions in terms of distribution and proximity of services are preconditions for access, which, however, depends on healthcare needs, socioeconomic factors, beliefs and behavioural influences. The distinction between potential access and actual access therefore makes it possible to specify that ‘even with equal availability in terms of quantity and quality, the use of care may vary for cultural reasons or due to the existence of discriminatory mechanisms’ (Fattore and Torbica, 2010, p. 265).

Equity in conditions of access (potential)	Requires a specific measurement system to be made operational; It tends to guarantee equity in terms of structural conditions	Tends to focus on structural aspects rather than welfare aspects Structural indicators do not guarantee uniformity in the quality of care
Equity of utilisation (actual access)	As above; Specific measures may seek to identify any discrepancies between equity of access and equity of use	As above; The availability and use of services are not sufficient to guarantee uniformity in health protection guarantees
Equity of outcomes	Requires information systems and analysis models focused on outcomes and risk factor control; Refers to the purpose of health care services, that is, improving health status	It can be complex to measure the effects attributable to health care services
Equity in health levels	Tends to be easy to measure in terms of mortality; Reflects the general well-being of the community.	Measuring disability and quality of life poses significant conceptual and practical difficulties; Requires a compensatory role for health care services to offset the effect of determinants external to the health system

Source: Author's own elaboration based on Fattore and Torbica (2010, p. 266)

The literature generally refers to four main definitions of need – normative need, perceived need, expressed need and comparative need (Bradshaw, 1972) – and highlights that there are many factors that influence the translation of healthcare needs into actual access to health care. Consequently, on the one hand, healthcare need may be overestimated due to the phenomenon of induced demand (Barnett, 1993), and on the other hand, it may be underestimated due to unexpressed needs or latent demand.

While demand refers to the revealed behaviour of those seeking access to health care, need includes latent demand – individuals in the population who might benefit from access to health care services but do not seek it because of perceptual, cultural, social, or economic barriers to access. (Mayer, 1982, p. 224)

Health service utilisation rates more accurately summarise the expressed demand component.

It is probably fallacious to argue that where rates of utilization exist, need is greatest. Other measures of healthcare needs, such as mortality rates, disability days, and life expectancy, may be much better indicators. (Joseph and Phillips, 1984, p. 9)

Furthermore, operationalising equity criteria in health outcomes and levels would require isolating the effects on outcomes and health that are directly attributable to healthcare, which is very complex (Fattore and Torbica, 2010).

As mentioned in the introduction to this chapter, health inequalities are the result of the interaction between factors operating both within and outside the healthcare system. Addressing the issue of equity in healthcare is therefore not the same as addressing equity in health (Costa, et al., 2014) . Containing these inequalities requires the adoption of corrective policies that go beyond the strictly health-related sphere. Nevertheless, the health system can contribute to promoting equity in health through targeted interventions on equity of access and equity in the financing of services.

The main categories of policies through which the healthcare system can directly influence health equity are: healthcare financing, resource allocation, the definition of

Essential Levels of Care (LEA), the organisation of healthcare and the quality of healthcare. (Costa and Cislighi, 2014, p. 166)

In other words,

Once health inequalities have manifested themselves, they should translate into similar inequalities in healthcare need indicators: this means that the main Levels of Care should follow a social distribution that is consistent with that of health indicators. (Marinacci and Maggini, 2014)

The literature on the geography of healthcare, which will be presented in Chapter 2, and the empirical evidence, which is discussed in the following section, suggest the relevance of the study and promotion of equity of access.

The literature on medical geography has, in fact, addressed various issues related to the spatial distribution of health care services and the geographical and social factors that influence their use, and has extensively dealt with the issue of horizontal equity in potential access to health care in search of evidence of the manifestation of the so-called ‘Inverse Care Law’ (Tudor Hart, 1971).

Formulated by British physician Julian Tudor Hart (1971), the Inverse Care Law posits the existence of an inverse relationship between the need for healthcare and the availability of adequate healthcare resources: underserved areas are often those with a higher spatial concentration of population groups with high healthcare needs, such as the poorest and most vulnerable people.

In areas with most sickness and death, general practitioners have more work, larger lists, less hospital support, and inherit more clinically ineffective traditions of consultation, than in the healthiest areas; and hospital physicians shoulder heavier case-loads with less staff and equipment, more obsolete buildings, and suffer recurrent crises in the availability of beds and replacement staff. These trends can be summed up as the inverse care law: that the availability of good medical care tends to vary inversely with the need of the population served. (Tudor Hart, 1971, p. 412)

The relevance of the Inverse Care Law has been reaffirmed several times over the last 50 years (Watt, 2002; Marmot, 2018; The Lancet, 2021), confirming that healthcare resources, such as physicians and healthcare facilities, are generally more abundant and easily accessible in wealthier areas, where the demand for care is proportionally lower, while they are more limited and difficult to access in poorer areas, where expressed and latent healthcare needs are higher. The Inverse Care Law has had a significant impact on thinking about health and healthcare inequalities, highlighting the role of geography in promoting equity of access.

What approach to equity prevails in the Italian National Health Service? What forms of equality and equity does the Essential Levels of Care system promote? What is the state of equity in Italian healthcare beyond the statements of principle?

1.3 Equity in healthcare in the Italian context

When the SSN was established, the regional healthcare differences inherited from the previous mutual aid system (Vicarelli, 1997) were expected to be governed by national planning guidelines (Vicarelli and Spina, 2020). Law 833/1978 established that, in order to gradually eliminate interregional differences, funding would be ‘determined annually once the levels of services had been set’ (Vicarelli and Spina, 2020, p. 79). At the same time, healthcare policy guidelines aimed

at promoting equality in professional and structural resources were promoted (Vicarelli and Spina, 2020).

In this initial period, the aim was to achieve a broadly equal allocation of healthcare facilities across all local health units [...] The tool used was the closure of facilities in regions with above-standard allocations and increased capital funding for regions with below-standard allocations. (Vicarelli and Spina, 2020, p. 80)

Law No. 833 of 1978 defined Local Health Units (*Unità Sanitarie Locali*, USLs) as “the complex of facilities, offices and services of municipalities, either individually or in association, and mountain communities which, within a given territorial area, perform the tasks of the national health service referred to in this law”. The Law stipulated that, following consultations with the municipalities concerned, the regions should determine USLs zoning and provide clear guidelines on their optimal catchment areas: “The territorial area of activity of each local health unit is delimited on the basis of population groups of between 50,000 and 200,000 inhabitants, taking into account the geomorphological and socioeconomic characteristics of the area. In the case of areas with a particularly concentrated or scattered population, and also to allow for coincidence with an appropriate municipal territory, higher or, in special cases, lower limits are permitted”. Furthermore, it was stipulated that these areas should coincide with “the territorial areas of social services management” and that “the delimitation of school districts and other service units” should be adjusted to coincide with the areas of the USLs. The USLs ‘acted, therefore, at the micro-territorial level as operational instruments of individual or associated municipalities’ (Vicarelli and Spina, 2020) and were designed to ensure the unified management of health protection throughout the country.

The implementation of the law proceeded at different speeds in the Italian regions. With regard to the identification of USLs, by 1982, all regions except Sicily had formally identified the territorial areas of the USLs (Taroni and Giorgi, 2020, p. 57). However, there were wide differences in the average size of the USLs between regions: compared to a national average of 87,000 inhabitants, the average population fell to 44,000 in Trentino and Molise and rose to 139,000 and 178,000 in Lombardy and Veneto respectively (Del Vecchio, 1980, pp. 48– 57; Taroni and Giorgi, 2020, p. 57). ‘The smallest local health authority had 2,108 inhabitants and the largest 380,883’ (Geddes da Filicaia, 2018, p. 459).

The processes of privatization and regionalisation initiated with the 1992 health reform radically changed this scenario.

1.3.1 Regionalisation and the definition of Essential Levels of Care

The regionalisation of the SSN developed in two directions: from the bottom up, through the transformation of Local Health Units (USL), managed by municipalities, into Local Health Authorities (*Aziende Sanitarie Locali*, ASLs) subject to regional control; and from the top down, through the decentralisation of health care responsibilities from the state to the regions. This last process culminated in the reform of Title V of the Constitution of the Italian Republic in 2001 (Constitutional Law No. 3 of 18 October 2001), within the framework of which further forms of regional autonomy and powers are currently being discussed in parliament. This institutional evolution has gradually redefined the Inland structure of regional health systems and the distribution of responsibilities in promoting equity.

In parallel with the transformation of the USLs into ASLs under regional control, the reforms of the 1990s decreed the separation of local health authorities from hospital authorities and initiated processes of merger and consolidation between ASLs, which led to the formation of

ASLs that were generally provincial and, in some cases, regional in size (Vicarelli and Spina, 2020).

This institutional reorganisation redefined the relationship between the centre and the periphery. As Borgonovi (2015, p. 3) observes,

When the National Health Service was established, the decision to have small local health authorities (over 600) implicitly or explicitly foreshadowed objectives of replicability (ensuring that the services provided for by the Essential Levels of Care were available in different parts of the country) combined with niche objectives (allowing for adaptations to specific socioeconomic and territorial conditions, e.g. plains, hills, mountains).

Following the 1992 healthcare reform, there was a sharp reduction in the number of local health authorities (USL): from 659 pre-reform USLs to 228 post-reform ASLs (Table 1.2).

These processes had a particularly significant impact in some regions. In particular Tuscany was organised in 40 USLs prior to the 1992 reform (Figure 1.1) and in 12 ASLs after the reform (Figure 1.2). Following the healthcare reform law introduced in 2015 (Regional Law No. 84 of 28 December 2015 “Riordino dell’assetto istituzionale e organizzativo del sistema sanitario regionale. Modifiche alla l.r. 40 /2005Legge Regionale 84/2015” [Reorganisation of the institutional and organisational structure of the regional healthcare system. Amendments to Regional Law 40/2005 Regional Law 84/2015]), Tuscany is today organised into three large ASLs: ‘Azienda USL Toscana Nord-Ovest’ in the North-West; ‘Azienda USL Toscana Centro’ in the regional centre; and ‘Azienda USL Toscana Sud-Est’ in the South-East of the region (Figure 1.3). With an average population per ASLs of 1,221,599 inhabitants (ISTAT, 2024), Tuscany ranks first nationally in terms of average size of local health authorities (Table 1.3).

Table 1.2 – Number of Local Health Authorities (pre-reform) and Local Health Authorities (post-reform) by region/autonomous province (P.A)

<i>Region/Autonomous Province (A.P.)</i>	<i>Before Law 502/1992</i>	<i>After Law 502/1992</i>	<i>2010</i>	<i>2011</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017-2019</i>	<i>2020</i>	<i>2022</i>	<i>2023-2024</i>
Piedmont	63	22	13	13	13	13	13	13	12	12	12	12
Aosta Valley	1	1	1	1	1	1	1	1	1	1	1	1
Lombardy	84	44	15	15	15	15	15	8	8	8	8	8
P.A. Bolzano	4	4	1	1	1	1	1	1	1	1	1	1
P.A. Trento	11	1	1	1	1	1	1	1	1	1	1	1
Veneto	36	22	21	21	21	21	21	21	9	9	9	9
Friuli-Venezia Giulia	12	6	6	6	6	6	5	5	5	3	3	3
Liguria	20	5	5	5	5	5	5	5	5	5	5	5
Emilia-Romagna	41	13	11	11	11	8	8	8	8	8	8	8
Tuscany	40	12	12	12	12	12	12	3	3	3	3	3
Umbria	12	5	4	4	2	2	2	2	2	2	2	2
Marche	24	13	1	1	1	1	1	1	1	1	1	5
Lazio	51	12	12	12	12	12	12	10	10	10	10	10
Abruzzo	15	6	4	4	4	4	4	4	4	4	4	4
Molise	7	4	1	1	1	1	1	1	1	1	1	1
Campania	61	13	7	7	7	7	7	7	7	7	7	7
Apulia	55	12	6	6	6	6	6	6	6	6	6	6

Basilicata	7	5	2	2	2	2	2	2	2	2	2	2
Calabria	31	11	6	5	5	5	5	5	5	5	5	5
Sicily	62	9	9	9	9	9	9	9	9	9	9	9
Sardinia	22	8	8	8	8	8	8	8	1	1	8	8
Total	659	228	146	145	143	140	139	121	101	99	106	110

Source: Author's own elaboration based on data from the Ministry of Health (Ministero della Salute, 2025)

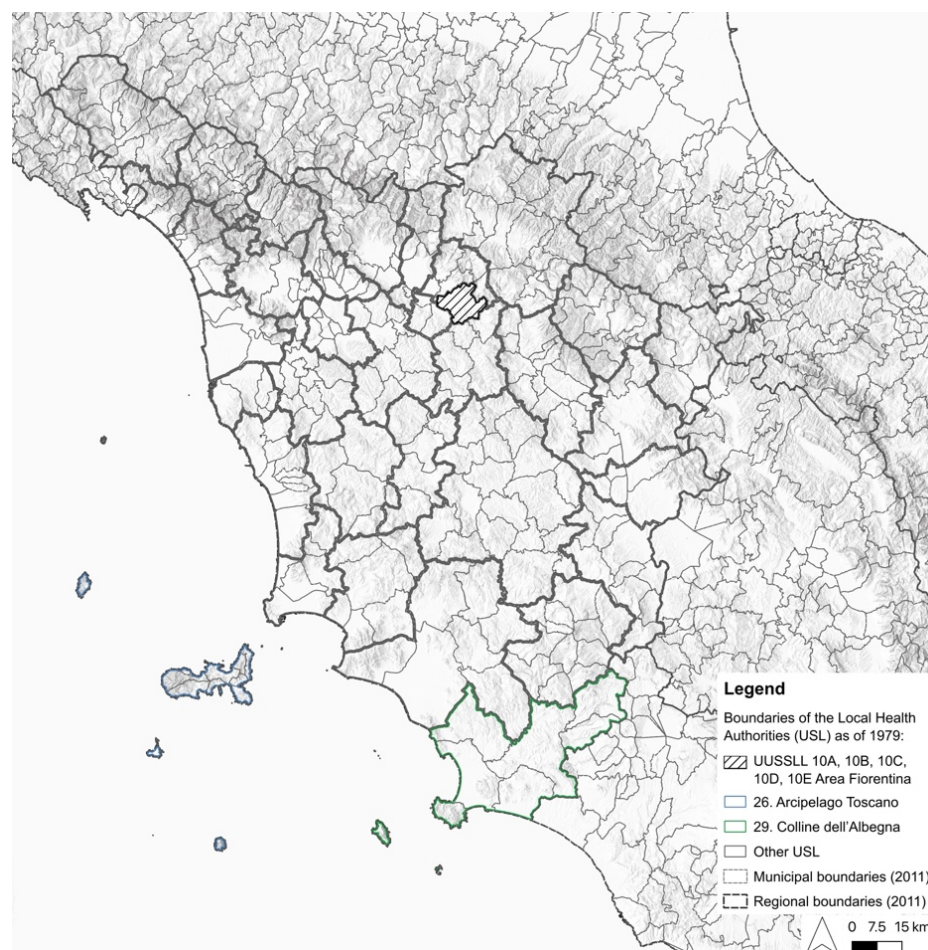


Figure 1.1 – Local Health Units before the 502/1992 health reform

Source: Author's own elaboration

Table 1.3 – Average number of municipalities and resident population in pre-reform and post-reform Local Health Authorities

	Number	Average number of municipalities	Average population
USL – before Law 502/1992	40	8	Approximately 88,250**
USL companies – Regional Law 28/1995	12	24	291,484
Local Health Authorities – Regional Law 84/2015	3	91	1,221,599

*** Jurisdiction over the municipal territory of Florence was divided among five USLs – 10A, 10B, 10C, 10D, and 10E – whose boundaries were defined on the basis of the subdivision of the municipality of Florence into districts (Florence City Council Resolution No. 1790/966, 17 May 1976).

Source: Author's own elaboration

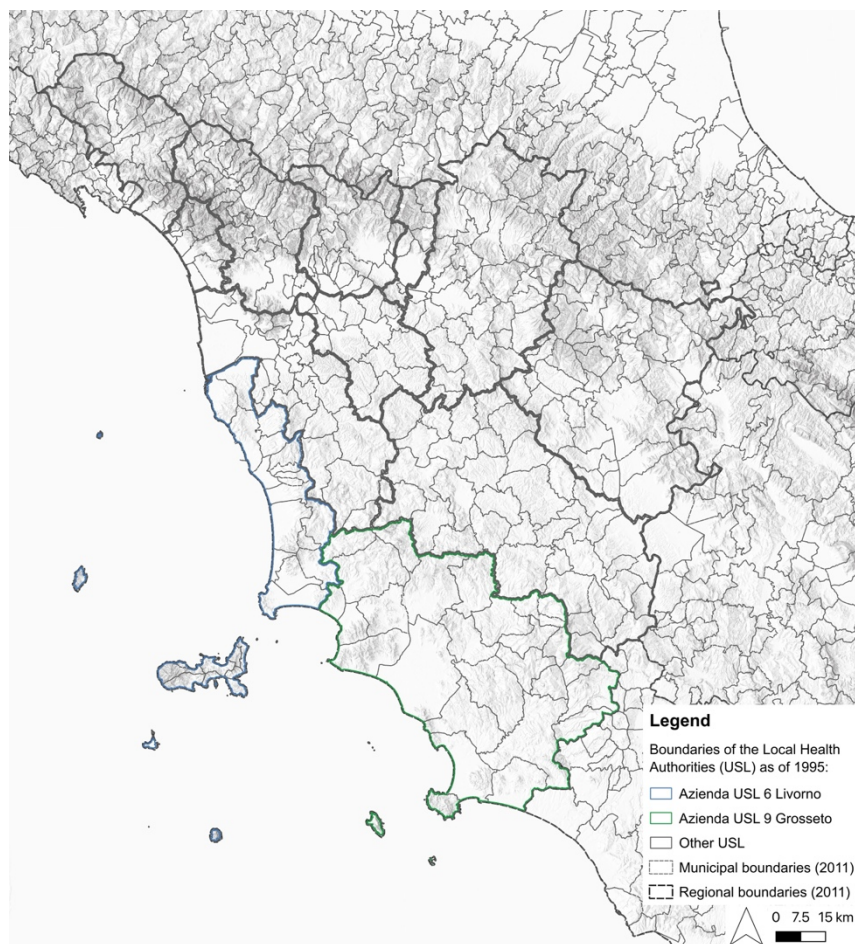


Figure 1.2 – Local Health Authorities defined by Regional Law 28/1995
Source: Author's own elaboration

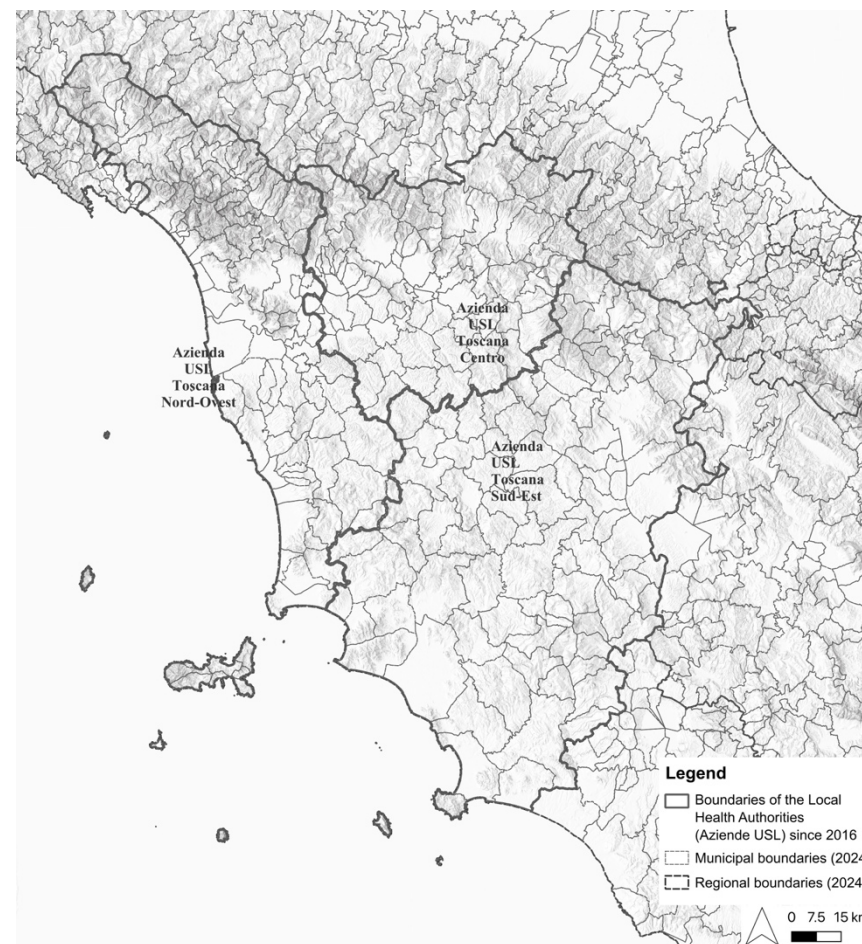


Figure 1.3 – Local Health Authorities defined by Regional Law 84/2015.
Source: Author's own elaboration

The merger of the ASLs was accompanied by a devolution of responsibilities to the Healthcare Districts (*'Zone-Distretto'*). Following Regional Council Resolution No. 101/2021, which revised the territorial arrangements previously established by Regional Law No. 11/2017, Tuscany is currently organised into 28 district zones. With only minor exceptions, these districts correspond to the administrative boundaries of the former USL (Figure 1.3). Under Regional Law No. 40/2005 and its subsequent amendments, district zones are responsible for assessing the health and social needs of local communities and for coordinating the provision of integrated health, social care, and long-term care services. In carrying out these functions, they operate within the resource framework established by the ASLs.



Figure 1.4 – Healthcare Districts (*'Zone-distretto'*) as defined by Regional Law 28/2021
Source: Author's own elaboration

The privatization and regionalisation processes were launched in a context of healthcare spending cuts and expenditure control policies, alongside the introduction of a new method of overall financing for the National Health Service, which became 'preliminary to the definition of levels of care' (Vicarelli and Spina, 2020, p. 80).

However, the reforms of the 1990s clearly defined the Essential Levels of Care to be guaranteed throughout the country.

Legislative Decree 502/1992, as subsequently amended by Legislative Decree No. 229 of 19 June 1999 (*'Norme per la razionalizzazione del Servizio sanitario nazionale, a norma dell'articolo 1 della legge 30 novembre 1998, n. 419'*) [Rules for the rationalisation of the National

Health Service, pursuant to Article 1 of Law No. 309 of 30 November 1998 No. 419]) defines Essential Levels of Care (*‘Livelli Essenziali di Assistenza’*, LEA) as the set of services guaranteed by the SSN, free of charge or with a contribution towards the cost, as they are characterised, for specific surgical conditions, by evidence of a significant benefit in terms of individual and collective health compared to the resources used. With the Prime Ministerial Decree of 29 November 2001 (“Definizione dei livelli essenziali di assistenza” [Definition of Essential Levels of Care]), the LEA were organised into three broad areas: ‘Collective Prevention and Public Health’, ‘District Care’ and ‘Hospital Care’. These levels were in turn listed in a series of services and benefits in 2017.

With the introduction of the LEA, the SSN “sought to define the contents of a national right; the LEA are precisely a set of services to which citizens are entitled, regardless of their territory of residence” (Fattore and Torbica, 2010, p. 267).

However, the definition of the LEA took place in a context characterised by increasing regionalisation and the continuous redefinition of the institutional areas of the SSN.

In the regionalised healthcare system, the definition of LEAs and their funding are the responsibility of the State, while the provision of LEAs is the responsibility of the Regions and Healthcare Authorities.

In this context, the approach to equity that seems to prevail appears to be centred on a potential notion of equity that is substantiated in the pursuit of equality in means (Fattore and Torbica, 2010). Although Italian healthcare legislation relating to LEAs has, over time, adopted a perspective that also focuses on equality in access to services and outcomes (Vicarelli and Spina, 2020), what seems to be pursued is a form of equality in structural resources in a context driven by policies of healthcare expenditure containment, rationalisation and openness to the private sector (Vicarelli and Spina, 2020; Maciocco, 2018a).

1.3.2 Equality in resources

Interregional and intertemporal comparisons of professional and structural resources, such as the number of general practitioners and hospital beds, show a gradual reduction in interregional inequalities since the 1990s, which has, however, been accompanied by a gradual contraction in supply throughout the country (Vicarelli and Spina, 2020). Indeed, the reduction in regional disparities has, in fact, been achieved under the impetus of a healthcare policy aimed at rationalisation and freezing staffing levels (Vicarelli and Spina, 2020; Vicarelli 2023).

The data presented in the National Health Service Yearly Reports (Ministero della Salute, 2025) allow us to summarise the evolution of health care services and certain variables, such as the workload for primary care physicians, given by the number of patients per general practitioners or primary care paediatricians.

Data on the regional average number of patients per general practitioners (GPs, *‘Medici di Medicina Generale’* in Italian) and primary care paediatricians (*‘Pediatri di Libera Scelta’*, PLSs)⁴ between 1999 and 2023 suggest growing pressure on the workload of physicians, reflecting a context in which the ageing of the population has been accompanied by a reduction

⁴ In the Italian healthcare system, primary care is characterised by a distinctive organisational feature that sets it apart from most other European models: the presence of a specific physician dedicated to the provision of primary care services for the paediatric population, known as the *‘Pediatria di Libera Scelta’* (PLS). While in many European countries general practitioners (GPs) are responsible for providing primary care to patients of all ages, in Italy the care of children is entrusted to this specialised professional figure, who operates within the primary care system but focuses exclusively on infants and adolescents. For this reason, in this study the term general practitioner (GP) is used to refer to primary care physicians serving the adult population, whereas the expression primary care paediatricians (PLS) is adopted to denote this specific professional role within the Italian context.

in the number of active professionals (Table 1.4). Overall, there has been a progressive and generalised increase in the number of patients per physician, both for GPs and PLSs, although with varying intensity between regions. At the national level, the average number of patients per GP rose from 1,089 in 1999 to 1,335 in 2023, while for PLSs the increase was more modest, from 748 to 936 over the same period (Table 1.4). The regions of northern Italy generally show higher values, with steady growth trends over time: for example, in 2023, Lombardy and Veneto exceeded 1,540 and 1,520 patients for GPs and approximately 980 and 1,000 for paediatricians, respectively. In the southern regions, on the other hand, growth is more irregular, with some declines in the period 2009–2013 and average values below the national average, particularly for primary care paediatrics. There is also greater interregional variability for paediatricians than for GPs: while for the latter, territorial differences tend to decrease over time, for paediatricians there are still significant disparities between the North and South, with values above an average of 1,000 patients in regions such as Piedmont, Veneto, Lombardy and the Autonomous Province of Bolzano, and around 800 patients in regions such as Lazio, Molise, Puglia, Sicily and Sardinia.

Table 1.4 – Regional distribution of the average number of patients registered with general practitioners and paediatricians in 1999, 2004, 2009, 2013, 2019 and 2023

Territory	General practitioners						Primary care paediatricians					
	1999	2004	2009	2013	2019	2023	1999	2004	2009	2013	2019	2023
Piedmont	1,099	1,126	1,146	1,228	1,289	1,377	766	846	917	986	1,057	1,102
Aosta Valley	1,066	1,065	1,204	1,194	1,291	1,430	655	761	708	851	853	1,049
Lombardy	1,095	1,202	1,317	1,323	1,408	1,547	752	820	911	956	975	981
P.A. Bolzano	1,874	1,686	1,583	1,543	1,551	1,534	845	942	1,029	1,013	1,063	1,118
Trento	1,169	1,111	1,116	1,252	1,357	1,415	793	780	833	883	920	906
Veneto	1,141	1,165	1,207	1,297	1,365	1,524	809	882	967	1,009	1,000	1,006
Friuli–Venezia Giulia	1,047	1,055	1,105	1,145	1,320	1,460	751	809	903	976	977	975
Liguria	1,008	1,020	1,059	1,141	1,179	1,314	711	772	869	906	909	879
Emilia Romagna	1,094	1,124	1,180	1,243	1,302	1,437	741	763	810	824	815	832
Tuscany	1,031	1,045	1,077	1,150	1,241	1,179	769	775	865	894	936	924
Umbria	1,066	1,025	1,022	1,049	1,049	1,188	697	737	793	838	791	795
Marche	1,089	1,095	1,084	1,146	1,209	1,374	764	841	893	915	912	892
Lazio	1,012	1,015	1,041	1,065	1,138	1,251	692	747	805	837	809	807
Abruzzo	1,087	1,053	1,031	1,045	1,059	1,168	657	746	787	819	829	869
Molise	1,035	1,018	1,062	1,041	1,059	1,052	722	783	830	835	798	814
Campania	1,156	1,169	1,132	1,125	1,225	1,371	829	886	927	916	889	893
Apulia	1,090	1,076	1,083	981	1,078	1,214	777	823	816	810	786	802
Basilicata	1,055	1,046	1,025	1,017	1,052	1,089	665	762	814	858	840	854
Calabria	1,062	1,061	1,121	1,013	1,055	1,208	631	750	809	819	826	871
Sicily	1,103	1,071	1,044	1,104	1,059	1,119	765	774	758	838	768	818
Sardinia	1,064	1,043	1,068	1,117	1,226	1,487	604	735	761	771	771	803
Italy	1,089	1,107	1,134	1,160	1,224	1,335	748	805	857	890	884	936

* For Friuli Venezia Giulia, the average number of patients for primary care paediatricians for 2022 is reported, as the data published in the 2023 Statistical Yearbook of the National Health Service is anomalous.

Source: Author's own elaboration based data from the Ministry of Health (Ministero della Salute, 2025)

With regard to hospital beds density, all Italian regions saw a gradual reduction in the number of acute hospital care beds between 1999 and 2023. This trend reflects a general process of rationalisation of hospital services, which affected the whole country in a uniform manner (Table 1.5). At the national level, the number of beds per 1,000 inhabitants fell from 4.9 in 1999 to 3.1 in 2023 (Table 1.5). Regional differences, although still present, are now more limited than in previous decades: in 1999, the value ranged from 3.7 beds per 1,000 inhabitants in Campania to 5.6 in Friuli Venezia Giulia, while in 2023, the gap narrowed to between 2.7 beds in Calabria and 3.5 in Molise (Table 1.5). In the case of Tuscany, the number of acute hospital care beds fell from 4.8 in 1999 to 2.9 in 2023. The overall slight increase recorded between 2019 and 2023 may reflect policy responses to the COVID-19 emergency and renewed investment in health care infrastructure. However, bed availability remains substantially lower than in 1999, the overall trend continues to point towards a long-term contraction of inpatient health care capacity, which was formalised at national level by Ministerial Decree No. 70 of 2 April 2015 (*“Regolamento recante definizione degli standard qualitativi, strutturali, tecnologici e quantitativi relativi all'assistenza ospedaliera”* [Regulation defining the qualitative, structural, technological and quantitative standards relating to hospital care]). This Decree introduced standard criteria for defining needs and reorganising the hospital network and set a reference value of 3.7 beds per 1,000 inhabitants (of which 3.0 for acute care and 0.7 for post-acute care).

Table 1.5 – Regional distribution of the number of public and accredited acute hospital beds per 1,000 inhabitants in 1999, 2004, 2009, 2013, 2019 and 2023

<i>Territory</i>	<i>1999</i>	<i>2004</i>	<i>2009</i>	<i>2013</i>	<i>2019</i>	<i>2023</i>
Piedmont	4.8	3.7	3.3	3.0	2.9	3.3
Aosta Valley	4.6	4.0	3.6	3.7	3.1	3.3
Lombardy	5.1	4.2	3.6	3.2	3.0	3.1
P.A. Bolzano	5.0	4.5	3.7	3.4	3.0	3.2
P.A. Trento	4.7	3.7	3.5	3.0	2.8	3.0
Veneto	5.4	3.9	3.5	3.2	3.0	2.9
Friuli–Venezia Giulia	5.6	4.6	3.9	3.8	3.3	3.2
Liguria	5.4	4.2	3.9	3.2	3.2	3.2
Emilia Romagna	5.0	4.3	3.7	3.5	3.1	3.3
Tuscany	4.8	4.1	3.6	3.2	3.0	2.9
Umbria	4.8	4.0	3.3	3.2	3.2	3.2
Marche	5.3	4.2	3.5	3.3	3.0	3.4
Lazio	5.0	4.6	3.6	3.1	3.0	3.0
Abruzzo	5.5	4.6	3.6	3.2	2.9	3.0
Molise	5.2	5.1	4.5	3.6	3.3	3.5
Campania	3.7	3.3	3.2	2.9	2.7	2.8
Apulia	5.1	3.6	3.5	2.9	2.8	3.3
Basilicata	4.4	4.1	3.2	3.0	2.8	2.9
Calabria	4.7	4.1	3.5	2.6	2.5	2.7
Sicily	4.1	4.1	3.6	2.9	2.9	3.0

Sardinia	5.4	4.8	4.2	3.6	3.3	3.3
Italy	4.9	4.1	3.6	3.1	2.9	3.1

Source: Author's own elaboration based data from the Ministry of Health (Ministero della Salute, 2025)

This trend towards reducing regional disparities seems to “only concern traditional healthcare, i.e. the availability of basic and hospital care. In fact, in recent years, in response to the new needs expressed by an increasingly elderly and fragile population, which suffers from chronic and often degenerative problems, inequalities have re-emerged” (Vicarelli and Spina, 2020, pp. 86–87). This is demonstrated by regional differences in the provision of other care services, such as the number of available places in residential care facilities (Vicarelli and Spina, 2020).

Beyond the equality of resources, interregional inequalities in the guarantee of essential levels of care (LEA) are evident in the monitoring indicators introduced since the implementation of the Ministerial Decree of 29 November 2001. These indicators highlight elements relating not only to equality in resources, but also to equality of access and outcomes, providing a set of summary information on the distribution of services, costs, access to services and results achieved (Vicarelli and Spina, 2020).

1.3.3 Equity in access and outcomes

In a context characterised by regionalisation processes and progressive defunding of public health care, the different regional health care systems, together with different socioeconomic conditions lead to significant differences in the availability of health care services and health outcomes (Fattore and Torbica, 2010; Maciocco, 2018a).

Improvements in equity in the distribution of resources have not translated into substantive equity: the complex transformation of financial resources into production factors of adequate quantity and quality, their combination into processes that generate effective services, and their use in timely and appropriate care vary systematically and, at least in part, avoidably. (Fattore and Torbica, 2010, p. 276)

Data on health care mobility across Italian regions, regional differences in waiting times, and the use of out-of-pocket services, for example, show that, despite the regulatory guarantee of equality and equity of access, the SSN is far from overcoming territorial disparities in access to services (Fattore and Torbica, 2010; Vicarelli and Spina, 2020; Costa and Di Girolamo, 2023).

In this context, the phenomenon of foregoing or postponing treatment due to long waiting lists, the cost of prescription charges for access to services, and distance from health care facilities (Maciocco, 2018a) are significant indicators of the critical issues facing the SSN, which is not always able to compensate for health inequalities that originate outside its scope of intervention.

Scientific evidence gathered over the last few decades shows, in the European context, an inverse association between socioeconomic status (SES) and poor health conditions, indicating that as socioeconomic status decreases, the risks of negative health outcomes increase (Caranci et al., 2018; Costa and Di Girolamo, 2023). Over the last forty years, in all European countries and for both genders, people with lower levels of education have continued to have higher mortality rates, at the same age, than those with higher levels of education. In the early 2000s, the least educated reached the mortality levels that the most educated had already achieved in the late 1970s: a gap equivalent to about four decades of progress in reducing mortality (Costa and Di Girolamo, 2023). “Over the past 40 years, in most countries, the mortality gap between the less educated and the more educated has decreased or remained the same in absolute terms (difference

between rates) and has increased in relative terms (ratio between rates)” (Costa and Di Girolamo, 2023).

In Italy, the existence of social inequalities in health has been documented since the 1990s through various survey systems (Costa, 2014), including nationwide surveys that have measured self-reported health indicators and use of services, such as the Italian National Institute of Statistics’ (“*Istituto Nazionale di Statistica*”, ISTAT) survey “Health conditions and use of health care services”, and epidemiological studies conducted at the local level, such as metropolitan longitudinal studies (Caranci et al., 2018). Metropolitan longitudinal studies (‘*Studi Longitudinali Metropolitan*’, SLM) were launched in the 1980s and integrate individual information from municipal registries with basic data from the census and health information systems for the resident population. The first SLM was launched in Turin based on the 1971 census cohort and was followed by the “Tuscan longitudinal study (which includes Livorno since 1981, Florence since 1991, and Prato since 2001), the Emilian longitudinal study (with Reggio Emilia since 1991, and Modena and Bologna since 2001) and the SLMs of Rome and Venice, both started with the 2001 Census” (Petrelli et al., 2019, p. 11).

The results of these surveys point in the same direction: both objective indicators and self-reported health indicators show that the most relevant determinants of health inequalities are external to the health care system and that social position, summarised in indicators relating to educational level, employment status, professional position and economic resources, is the main determinant of health after age (Costa et al., 2010; Zengarini et al., 2014).

In Italy, social inequalities in health are observed to the detriment of the most disadvantaged, affecting all dimensions of health – incidence (becoming ill), prevalence (remaining ill), lethality (dying from illness) – and all dimensions of social position, both those of a relational nature centred on the ability to control available resources (social class or educational credentials) and those of a distributive nature, such as income and assets owned. (Costa, 2014, p. 18)

A wealth of epidemiological literature shows that the social position of individuals and contexts is the single most important determinant of variation in healthcare needs after age; Italian data at national and local level show that both mortality and objective and reported morbidity are strongly influenced by the social position of individuals and contexts. (Costa et al., 2010, p. 94)

With regard to access to health care services, epidemiological literature has shown that macro-levels of health care – primary care, hospital care and specialist care, including mental health care (Tibaldi et al., 2005) – “are distributed in a socially unequal manner” (Costa and Di Girolamo, 2023, p. 454). Specifically,

The levels of care that are available through direct access and those with scheduled access but not subject to cost sharing (general medicine, drugs and hospitalisation) are used more by poorer people, precisely to meet their greater healthcare needs (poorer subjective health, more chronic morbidity, more functional limitations). Conversely, the level of care provided by specialist visits and diagnostic tests is used more by wealthier people. (Costa and Di Girolamo, 2023, p. 455)

Among the measures of social disadvantage, the level of education and the so-called Italian “deprivation index” (Cadum et al., 1999; Costa et al., 2014; Rosano et al., 2020) have received

great attention in the literature, partly due to the limited availability of individual socioeconomic information within health flows and, contextually, the scarcity of data referring to detailed geographical scales (Costa et al., 2014). In fact, since health care information systems rarely include detailed data on the socioeconomic status of individuals, in Italy, as in other European countries, systems for monitoring health inequalities at both national and local level integrate health information, such as disease incidence and mortality rates, with socioeconomic indicators derived from official statistics, administrative archives or sample surveys (Caranci et al., 2018)⁵.

With regard to education, studies conducted over the last decade confirm its role as a predictor of social health inequalities, while highlighting a North–South gradient in its influence.

On average in Italy, the gap between the most and least educated in terms of life expectancy is about five years for males and three years for females. However, the regions of southern Italy show an additional year of disadvantage compared to those of central and northern Italy. (Costa and Di Girolamo, 2023, p. 450)

The Italian deprivation index, developed in 1999 in line with national and international literature, is a multidimensional measure of social disadvantage (Cadum et al., 1999). It is calculated as the simple sum of the standardised scores of five basic indicators relating to educational attainment, employment status, housing characteristics and family composition (see Table 1.6 for a summary of updates to the index calculation methodology based on Caranci and Costa (2009), Caranci (2010), Costa et al. (2011) and Rosano et al. (2020)). Initially calculated at the municipal level (Cadum et al., 1999), it was subsequently applied to the census section (Caranci and Costa, 2009). The literature has shown that the deprivation index, together with age, can predict actual access to health care and are therefore proxy measures of healthcare needs (Costa et al. 2011; Costa et al., 2014; ARS Toscana, 2016).

Table 1.6 – Deprivation index: developments and dimensions considered

<i>Deprivation index:</i>	<i>1999 version (Cadum et al. 1999)</i>	<i>2011 version (Costa et al., 2011)</i>	<i>2020 version (Rosano et al., 2020)</i>
<i>Reference year</i>	<i>1991</i>	<i>2001</i>	<i>2011</i>
<i>Scale</i>	<i>Municipality</i>	<i>Census section</i>	<i>Census section</i>
<i>Dimensions considered:</i>			
Education	Percentage of population with primary education	Percentage of population aged 5 years and over with primary education or below	Percentage of population aged 15–60 with education at or below primary school level
Employment	Percentage of working population unemployed or seeking first job	% of working population unemployed or seeking first job	Percentage of working population unemployed or seeking first job

⁵ It should be noted that the analysis of health inequalities at the contextual level exposes us to the risk of so-called ecological error, i.e. the erroneous attribution to each individual of the average characteristics of the territorial context to which she or he belongs. In this case, there is a tendency to assign all residents of a municipality a level of deprivation equal to the municipal average, resulting in distortions in the classification: for example, economically well-off individuals living in overall disadvantaged areas are considered ‘poor’ like the average for the territory, while their actual condition contributes to artificially attenuating that average. This type of approximation leads to an underestimation of the actual impact of socioeconomic status on variables of access to health care services and health outcomes (Costa and Cislighi, 2014).

Housing conditions	% of dwellings occupied by tenants	% of dwellings occupied by tenants	% of dwellings occupied by tenants
	% of dwellings occupied without a bathroom inside the dwelling	Housing density (number of occupants per 100 m ² in dwellings)	Housing density (number of occupants per 100 m ² in dwellings)
Family composition	Percentage of single-parent families with children	% of single-parent families with dependent children living at home	% of single-parent families consisting of a single household with minor children

Source: Author's own elaboration based on Cadum et al. (1999), Costa et al. (2011) and Rosano et al. (2020)

In summary, we could argue

a National Health Service offers a system of guarantees and protection for health that is normatively equitable if it ensures that the use of Levels of Care is proportional to healthcare needs regardless of other extraneous factors of potential discrimination. (Costa and Cislighi, 2014, p. 166)

However, Italian epidemiological studies have shown that age, level of education, and the Italian deprivation index are significant predictors of health status and healthcare utilisation, highlighting substantial inequalities in both health outcomes and access to health care. This evidence suggests that certain socio-economic variables can be used as proxy measures of healthcare needs, and that these relationships could be taken into account in healthcare planning aimed at promoting territorial equity.

However, attempts to operationalise equity in healthcare planning appear to be largely limited to local studies and practices (see, for example, Migliardi et al., 2024, p. 1, who propose, in the Piedmont context, a methodology aimed at guiding prevention planning “and the allocation of resources to the most disadvantaged and needy areas”). A notable national example is provided by the recent methodology for funding the Essential Levels of Care (LEA).

1.3.4 Equity in financing

Some interesting elements related to the promotion of territorial equity in the SSN emerge from an analysis of the recent LEA funding method. This is not the place to introduce in detail the items of expenditure and the methods of allocation of the National Health Fund (see Caruso and Dirindin (2011) and Fantozzi et al. (2025)). However, it is worth noting that the system for allocating healthcare funding to the regions takes certain elements of equity into account. Legislative Decree 68/2011, subsequently amended by Law 190/2014, introduced a new system for allocating healthcare funding based on a per capita quota weighted by age group, which is considered the main determinant of healthcare consumption. This approach, based on the different consumption of healthcare resources at different ages, has led to a significant redistribution of resources, favouring areas with a higher incidence of elderly people (Fantozzi et al., 2025). Table 1.7 shows the age-specific weights of healthcare need applied to determine the funding of specialist and hospital care in 2023. Costa and Cislighi (2014) had affirmed the relevance of the deprivation index as useful for estimating healthcare needs. Starting in 2023, following the State–Regions agreement of 21 December 2022 and the decree of the Minister of Health of 30 December 2022, new allocation criteria have been introduced, which consider not only the age structure but also the mortality rate of the population under 75 and socioeconomic and territorial indicators aimed at reflecting regional healthcare needs. The latter include: the incidence of relative individual poverty, the level of low educational attainment (defined as having at most an

elementary school certificate in the population over the age of fifteen) and the unemployment rate, which are aggregated into a composite vulnerability index with equal weights. However, 98.5% of resources continue to be allocated according to the old criterion of population partially weighted by consumption by age group, 0.75% is allocated on the basis of the mortality rate under the age of 75, and a further 0.75% is allocated on the basis of indicators relating to particular territorial situations (Fantozzi et al., 2025). Although limited, this new methodology introduces some elements of fairness into the financing of the SSN, as it integrates measures of healthcare needs and social disadvantage, considering evidence gathered from Italian epidemiological literature, which has amply demonstrated that this is the main determinant of inequalities in health and access to health care.

Table 1.7 – Age-specific weights for health care utilisation

<i>Level of care</i>	<i>Less than 1 year</i>	<i>From 1 to 4 years</i>	<i>5 to 14 years</i>	<i>15 to 24 years</i>	<i>25 to 44 years</i>	<i>45 to 64 years</i>	<i>65 to 74 years</i>	<i>Over 75</i>
Specialized care	0.389	0.221	0.279	0.390	0.650	1.156	2.177	2.074
Hospital care	3.122	0.366	0.226	0.363	0.528	0.930	2.079	2.906

Source: Author’s own elaboration based on “Intesa Stato Regioni del 9 novembre 2023 Rep/atti 262/CRS”.

1.4 Conclusions

Overall, the discussion presented so far offers an initial analytical contextualisation of the issue of territorial equity in the Italian SSN, distinguishing between different approaches to equity and introducing national and regional evidence on the state of equity.

Since 1990, Italian epidemiological literature has demonstrated the persistence of inequalities in health status and access to health care, which are well explained by social disadvantage and by the level of education and the Italian deprivation index (Costa et al., 2014). However, beyond statements of principle, attempts to operationalise equity appear limited in the Italian context.

This study will address territorial equity in healthcare, focusing on equity in potential access. In this context, if, as previously noted, healthcare needs are unknown to statistics (Spatola, 2023), evidence relating to health outcomes, such as morbidity and mortality indicators, and to the importance of social determinants of health, such as the level of education in predicting morbidity, mortality and healthcare needs, can provide useful elements for promoting equity in healthcare policies.

The spatial dimension of equity is considered to be “an integral and formative component” of equity itself, a vital part of how equity and inequity are “socially constructed and evolve over time” (Soja, 2010, p. 1) and health planning should move towards the adoption of sophisticated spatial analysis tools that focus on geographical measures of accessibility and proxy measures of healthcare needs.

The discussion of equality in structural resources and equity in healthcare financing introduced in this chapter provides interesting insights for the discussion that will be presented in the following chapters.

On the one hand, data from the Ministry of Health (Ministero della Salute, 2025) on the average number of patients per general practitioners and primary care paediatricians and the number of acute hospital beds per 1,000 residents have shown a general decline in structural provision over the last twenty-five years, which has affected all Italian regions. These are the two Essential Levels of Care (LEA) – primary care and hospital care – which we can define as

‘traditional healthcare’ (Vicarelli and Spina, 2020, p. 86) and which will be the focus of Chapters 3 and 5.

On the other hand, recent provisions on promoting equity in the financing of essential levels of care, with the introduction of social disadvantage indicators alongside age weighting, are consistent with approaches to the study of geographical accessibility to health care, which, as will be discussed in the following chapters, are becoming widespread in the literature and which, in some contexts, are adopted for the promotion of healthcare planning that is attentive to equity in potential access (see in particular Chapters 2 and 3).

Recalling Tudor Hart’s Inverse Care Law (1971), it is important to note that he not only highlighted the inverse relationship between the availability of health care services and population needs, but also emphasised that this relationship is shaped by systemic factors, including healthcare policies and organisational choices, which ultimately influence both access to care and its quality. The geographical tools used to plan the organisation of services shape people’s opportunities for access and can facilitate or hinder the overcoming of social inequalities in access. They can be directed towards promoting equity if they are attentive to the “spatial distribution of disease and/or healthcare needs” (Rosenberg, 1988, p. 180). However, the literature has long shown that

decision making criteria that have less to do with the spatial distribution of disease and/or those in need and more to do with a series of individual and group conflicts in the specific society where the health care delivery system operates. (Rosenberg, 1988, p. 180).

It is therefore useful to analyse the geographical aspects of health policy and planning and to provide planners with evidence on the state of inequalities in access to health care that emerge in contexts where the role of geography in planning is minimal and healthcare planning neglects fundamental dimensions such as the size and morphology of the areas underlying the organisation of care and the distances between people and services.

Planners can choose whether or not to adopt a critical geographical perspective: they may prioritise equality in resource allocation or equity in access; they may conceive of space either as a neutral container of facilities and professionals or as a governed and lived territory, shaped by barriers to access and concrete healthcare needs.

Adopting a critical spatial perspective involves questioning the role of geography not so much in the pursuit of equality in resources, but in analysing the processes that shape people’s actual outcomes. In this direction, the literature on healthcare geography provides sophisticated tools for analysing geographical accessibility and advocates the adoption of a post-medical perspective.

Chapter 2. Perspectives from the geography of health care services: towards a post–medical approach

2.1 Introduction

Geography's interest in medicine has its roots in ancient times, dating back to the thinking of Hippocrates. As a field of research, it became established in the mid–19th century thanks to the work of British physician John Snow, who carried out the first spatial analysis: by mapping the distribution of cholera cases in London's streets and waterways, Snow identified the cause of the disease in a water source.

Today the discipline has attracted considerable academic interest, especially in the United Kingdom, the United States, Canada and New Zealand. Its internationalisation was facilitated by the organisation of biennial international symposia, the International Symposia in Medical Geography (IMGS), which began in 1985 (Moon and Sabel, 2019).

Scholars of medical geography have traditionally explored two main lines of research. The oldest is disease ecology or geography of disease, which focuses on the study of the distribution of diseases and health risk factors, thus overlapping with epidemiology (Evangelista, 2017, p. 21; Mayer, 2009, p. 9; Kearns and Joseph, 1993). The other line of research is the geography of health care services, which analyses the location of health care facilities and explores patterns of access to services.

Historically, the field has shifted from medical geography to health geography. According to the definitions in the Dictionary of Human Geography (Rogers et al., 2013), medical geography concerns the study of epidemiology, disease and health systems from a geographical perspective, while health geography concerns the study of interactions between health and place. This evolution is rooted in the renewed interests on the concepts of space and place as well as on a new conceptualisation of health, from health conceived as “the absence of disease” to health understood holistically as “a state of complete social, physical and mental well-being” (WHO, 1948).

Renewed perspectives on the concepts of place and health have directed research in medical geography towards the study of broader determinants of health and the adoption of more robust social and territorial perspectives on health (Kearns and Joseph, 1993; Kearns and Collin, 2009). These conceptual transformations have not only broadened the theoretical scope of the discipline but have also had significant implications for the analysis of accessibility to health care.

Which discipline provides a theoretical and methodological basis for studying equity of access to health care, for assessing the existence of territorial justice in access to health care or, conversely, of an Inverse Care Law? “Are we health geographers, medical geographers, post–medical geographers, or something else entirely?” (Brown et al., 2009, p. 1).

This chapter presents the literature on the geography of health care services and reconstructs the evolution of the sub–discipline, its main topics of study, and the research methodologies it favours. Sections 2.2 and 2.3 present, respectively, some terminological clarifications on the concepts of access and geographical accessibility to health care and the methodological approaches commonly adopted in analysing geographical accessibility. Section 2.4 presents the evolution of the geography of medical care in international literature since the 1990s. This strand

focuses on geographical and socioeconomic variables of access to health care, while emphasising location and distance. It then evolves into a geography of health care (Kearns and Joseph, 1993; Rosenberg and Wilson, 2005; Kearns and Collin, 2005), which highlights the contextual nature of health care, the relationships between structural conditions and people's experiences, political dynamics, power imbalances, and institutional and organisational models that shape places characterised by poor access to health care. Subsequently, Section 2.5 presents the Italian literature on the geography of health care, in which both the 'structural–functional perspective' characterising the international literature, and a perspective that we can define as 'political–economic', prevail, with particular attention paid to healthcare policy and the administrative geography of health care (Banini, 2001). Finally, the concept of 'medical desert' is discussed, which is currently emerging in the European debate as a key interpretative tool for re-examining traditional arguments in the geography of medical care.

2.2 Defining access and geographical accessibility to health care

Since the 1970s, a vast academic literature ranging from public health and epidemiology to healthcare geography and spatial planning has addressed the conceptualisation and measurement of access to health care, highlighting its geographical, social, economic and organisational dimensions (e.g., Donabedian, 1973; Aday and Andersen, 1974; Penchansky and Thomas, 1981; Joseph and Phillips, 1984; Khan, 1992; Higgs, 2004; Levesque et al., 2013; Neutens, 2015).

In their pioneering work, Penchansky and Thomas (1981, p. 128) defined access as “a concept that reflects the degree of ‘fit’ between clients and the system” and identified five dimensions of access to health care: availability, accessibility, accommodation, affordability and acceptability.

Levesque et al. (2013) revised the model proposed by Penchansky and Thomas (1981), defining access as “the opportunity to reach and obtain adequate healthcare in situations of perceived need” (Levesque et al., 2013, p. 4), linking the different dimensions of accessibility to people's ability to interact with the healthcare system (the ability to perceive healthcare needs, seek, reach, afford and participate in healthcare).

Aday and Andersen (1974) defined access as a multidimensional concept, distinguishing between potential and actual entry into the health care delivery system and proposing a model that highlights the geographical, socioeconomic, political and organisational determinants of access to health care. In their model, individual characteristics act as predisposing and enabling factors for entry into the health care system, but ultimately need is the primary determinant of access. Factors such as age, gender, ethnicity, socioeconomic status and income directly influence individuals' healthcare needs and opportunities to access health care services (Aday and Andersen, 1981).

In an article entitled “Linking the geographical, the medical and the political in analysing health care delivery systems”, Canadian geographer Mark W. Rosenberg (1988) proposed a model for studying access that emphasises the political-economic and socio-cultural influences on people's access to health care. The model (Figure 2.1) emphasises the centrality of the person, but highlights, on the one hand, the social and cultural influences and the decisive role of the family, peer groups and the community as facilitators of people's access to the health care system and, on the other hand, the political and economic influences on accessibility, driven by health policy, the health care delivery system and the broader political and economic context, and, most importantly, by primary care providers. This professional figure, who in many countries is represented by the general practitioner, acts as a gatekeeper for individuals entering the healthcare system and makes critical decisions that guide people's care pathways.

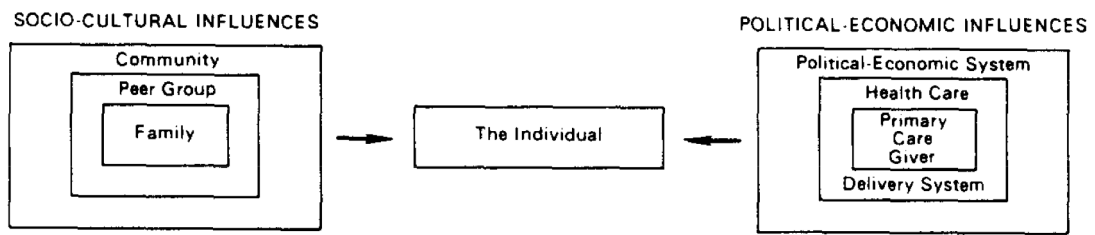


Figure 2.1 – A framework for analysing health care delivery
Source: Rosenberg (1988, p. 181)

The distinction between potential access and realised access was revisited by Khan (1992), who proposed a typology of access that distinguishes access along two dimensions: on the one hand, he distinguishes potential and realised access; on the other hand, spatial and social access (Figure 2.2). According to this definition, “social access of individuals or communities is that which is conditioned by non-geographical barriers or facilitators, but it can also have a geographical expression, thus revealing a spatial pattern of (social) access” (Khan, 1992, p. 276).

ACCESS DIMENSIONS	Spatial (Geographic)	Aspatial (Social)
Potential	Potential Spatial/ Geographic Access	Potential Aspatial/ Social Access
Realized	Realized Spatial/ Geographic Access	Realized Aspatial/ Social Access

Figure 2.2 – A type of access.
Source: Khan (1992, p. 276)

2.3 Approaches and measures of geographical accessibility

The literature provides different approaches to measuring geographical accessibility to services: those that focus on service availability, those that focus on proximity, and those that combine both dimensions (Table 2.1) (Joseph and Phillips, 1984; Rosenberg, 1998; Talen, 2003; Higgs, 2004; Cromley and McLafferty, 2012; Neutens, 2015; Apparicio et al., 2017; Lucas–Gabrielli and Mangeney, 2019).

The availability-based approach consists of counting the number of resources (professionals or structural facilities) or measuring their density relative to the resident population within certain spatial ‘containers’ (such as census tracts, municipal, provincial, or regional boundaries, or political-administrative districts) (Talen, 2003).

The most obvious limitation of this approach lies in its strong sensitivity to the size and configuration of the spatial unit of analysis (the so-called “Modifiable Areal Unit Problem”; Openshaw, 1984; Apparicio et al., 2008), as well as in the impermeability of administrative boundaries, which do not necessarily reflect the actual distribution of mobility flows (Lucas–

Gabrielli and Mangeney, 2019). The choice of the spatial unit of analysis is a crucial step in minimising aggregation errors resulting from the uneven distribution of the population within spatial units (Apparicio et al., 2008). Measures calculated over larger areas tend to produce more distorted results than those conducted over smaller areas, such as census tracts (Apparicio et al., 2008). These errors can affect both the measures of availability, which are based on the density of resources within a given territorial perimeter, and the measures of accessibility, influencing the representation of real opportunities for access to services.

Approaches based on proximity, measured in terms of Euclidean distances or travel times, include four main types of measures: the number of services within a given distance; the distance to the nearest service; the average distance between a reference point and all facilities; the average distance between a reference point and a defined number of facilities (Higgs, 2004; Apparicio et al., 2017). The main limitations of proximity measures lie, on the one hand, in the fact that they do not account for the volume of supply, i.e. they do not allow for an adequate understanding of the actual opportunities for access linked to the number of services and healthcare professionals available within a given area. On the other hand, these measures do not allow consideration of opportunities that are just beyond the pre-set distance threshold (Lucas–Gabrielli and Mangeney, 2019).

Both availability-based approaches and those based on proximity or travel costs are predominantly supply-side measures. However, it should be noted that potential accessibility to health care services depends jointly on the location of supply and potential demand (Apparicio et al., 2017).

Thanks to innovations introduced by the development of Geographic Information Systems (GIS) (Cromley and McLafferty, 2012), measures of availability and proximity have been combined into more complex indicators through the application of gravity models or the Two-Step-Floating Catchment Area (2SFCA) method (Luo and Wang, 2003). These measures allow modelling the spatial interactions between supply and demand of health care based on distance decay functions. In other words, gravity models and 2SFCA methods combine availability-based and accessibility-based approaches (Khan, 1992; Joseph and Phillips, 1984), measuring supply and potential demand together.

Table 2.1 – Approaches and measures of geographical accessibility

<i>Dimension</i>	<i>Approach</i>	<i>Measure</i>
Availability	Container	The number of facilities contained within a given unit; population–health care provision ratios
Proximity	Coverage	The number of facilities within a given distance from a point of origin
	Minimum distance	The distance between a point of origin and the nearest facility
	Travel cost	The average distance between a point of origin and all facilities The average distance between a point of origin and n facilities
Availability and proximity	Gravity models	An index in which the sum of all facilities (weighted by size) is divided by the “frictional effect” of distance
	Two-step floating catchment area method	An index in which supply-demand ratio is determined within travel time catchment areas.

Source: Author’s own elaboration based on Talen (2003), Higgs (2004), Apparicio et al. (2017)

Based on the 2SFCA model proposed by Luo and Wang (2003), several 2SFCA methods have been developed which are now considered among the most effective for assessing potential spatial

accessibility to health care services (Calovi and Seghieri, 2018; Tao et al. 2020) and have largely replaced simpler measures of availability – such as measures of availability expressed as provider-to-population or service-to-population ratios – as well as basic proximity metrics. These methods are based on gravity models but offer more easily interpretable results, as they integrate distance measures with supply–demand ratios, calculated within territorial catchment areas defined by travel time thresholds.

2SFCA indicators are generally calculated in two stages (Figures 2.3 and 2.4). In the first stage, health care supply availability is calculated by allocating the resources available at a given facility to the demand nodes included in the relevant catchment area (Figure 2.3). In the second stage, the number of potentially accessible services for each demand node is calculated by adding up, for each demand node, the different portions of potentially accessible supply obtained in the previous stage (Lucas–Gabrielli and Mangeney, 2019; Tao et al., 2020) (Figure 2.4). The accessibility indicator thus obtained indicates the volume of potentially accessible supply for each residential unit and takes the form of a density within the predefined distance (Lucas–Gabrielli and Mangeney, 2019).

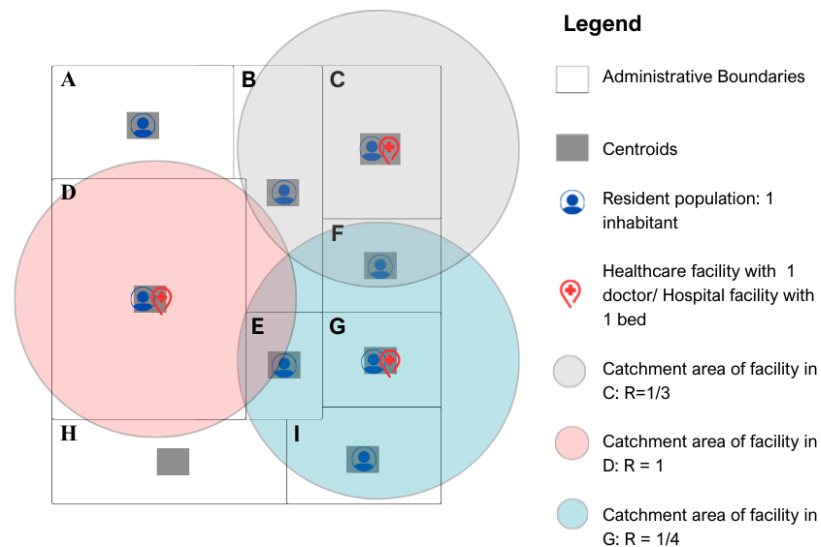


Figure 2.3 – First step in calculating the 2SFCA indicator

Source: Author's own elaboration based on Lucas–Gabrielli and Mangeney (2019, p. 10)

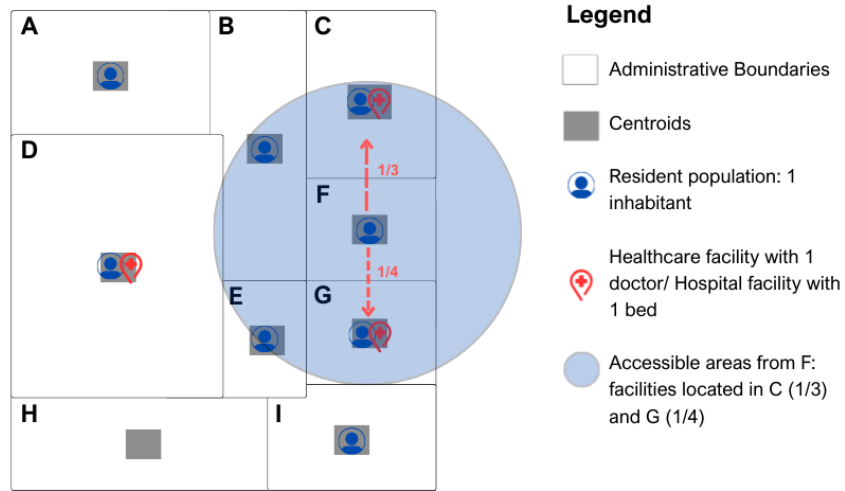


Figure 2.4 – Second step in calculating the 2SFCA indicator

Source: Own elaboration based on Lucas–Gabrielli and Mangeney (2019, p. 11)

In the first version proposed by Luo and Wang (2003), the calculation formulas were as follows. In the first step:

$$R_j = \frac{S_j}{\sum_{i \in d_{ij} < d_0} p_i}$$

where:

- S_j = the number of physicians in j
- p_i = population residing in the area i
- d_{ij} = the distance between the location of the population i and that of the physicians j

In the second step:

$$A_i = \sum_{j \in d_{ij} < d_0} R_j$$

Calculations were based on the definition of a distance threshold within which to estimate potential accessibility, which was therefore uniform for all inhabitants included in the reference area and zero for those located outside it (Lucas–Gabrielli and Mangeney, 2019).

Luo and Qi (2009) then included a distance decay function in the model in order to consider a decreasing probability of recourse to care as a function of distance. The model was named “Enhanced Two–Step–Floating Catchment Area” (ESFCA). The decay functions initially considered were step decay functions. Subsequently, models using continuous decay functions were developed (“Kernel Density Two–Step–Floating Catchment Area”, KD2SFCA; Dai and Wang, 2011).

Therefore, over time, the 2SFCA model has been developed in two main directions. On the one hand, various distance decay functions have been integrated (Luo and Qi, 2009; Wang, 2012). The most commonly used functions for this purpose are: the power, the exponential, the Gaussian

and the log-logistic functions (Jia et al., 2019). Despite these improvements, several authors have criticised the use of predefined catchment areas and decay coefficients, arguing for the importance of adopting decay functions calibrated to real mobility data (Chen et al., 2024)⁶. The integration of such data allows for the development of more accurate accessibility indicators that also take into account the actual attractiveness of healthcare facilities (Xing and Ng, 2022; Chen et al., 2024).

On the other hand, the 2SFCA model has been progressively adapted to include greater sensitivity to social dynamics and healthcare needs. This has been achieved by adjusting the population by age group (Ngui and Apparicio, 2011), integrating socioeconomic indicators (Knox, 1979; Chevillard and Mousquès, 2018; Lucas-Gabrielli and Mangeney, 2019) or health outcomes (Cromley and McLafferty, 2012); weighting healthcare supply based on provider activity levels (Barlet et al., 2012; Lucas-Gabrielli and Mangeney, 2019); and measuring distance in relation to different transport modes available to various population groups (Mao and Nekorchuk, 2013; Langford et al., 2016), for example. In addition, some scholars have developed innovative models to analyse the daily space-time constraints associated with mobility between the workplace and healthcare facilities (Fransen et al., 2015). Therefore, these studies adopt perspectives that highlight that, despite geographical proximity, access to health care services can be severely limited for people whose daily lives are affected by low incomes, inadequate access to transport, or time constraints due to work schedules or locations and domestic responsibilities (McLafferty, 2020)⁷.

These developments allow us to emphasise that the promotion of an inclusive healthcare geography requires the recognition that different individuals do not have the same resources to overcome distance and that people differ in their experience of territorial constraints in access to health care services (Cromley and McLafferty, 2012). Indeed, proximity to health care services is not equally important for all population groups: it is particularly important for those who are more tied to their place of residence, such as people with limited access to private transport, those in poor health, those on low incomes or those in older age groups (Bernard et al., 2007).

In this context, the choice of accessibility measure, spatial reference unit, population aggregation method and type of distance adopted has significant implications for the results of accessibility analyses and may lead to distorted results (Apparicio et al., 2017).

The type of health service analysed substantially influences the selection of these parameters. For example, distance expressed as the minimum travel time to reach the nearest hospital is a relevant measure for analysing accessibility to emergency services, while measures of density measures, gravity models or 2SFCA methods are more appropriate for assessing accessibility to primary care services (Siegel et al., 2016). At the same time, the choice of distance type – whether walking distance, travel time by private or public transport – should be guided by the characteristics of the reference population and the nature of the service being analysed, in order to ensure a consistent representation of access opportunities.

The following discussion presents the theoretical guidelines that have informed the development of the geography of health care services in the international and Italian context, starting from the distinction between the geography of medical care and the geography of health

⁶ In Chapter 4, we will adopt a model of this type to analyse accessibility to hospital care, thus adopting different distance decay functions for facilities of different type as derived by healthcare mobility data.

⁷ The study presented in Chapter 3 will apply a model that corrects the population based on the age structure of the population and supply based on the level of outpatient activity. Interestingly, in the French context, this model is used not only for academic purposes to identify underserved areas, but also at the political level to define the areas to which primary care physicians are assigned (Costa M., 1995).

care (Rosenberg and Wilson, 2005). This discussion clarifies the disciplinary transformations that have progressively redefined the field of study and identifies the theoretical approach that is currently guiding the study of so-called ‘medical deserts’ (Brinzac et al., 2023; Bonal et al., 2024; Dubas–Jakóbczyk et al., 2024), emphasising that the adoption of a geographical perspective to the study of equity in healthcare should not be understood as a simple exercise based solely on geographical accessibility analyses.

2.4 The geography of health care services in the international context

The literature on the geography of medical care has traditionally focused on the study of the geographical basis for service organisation, the variation in the use of care depending on the availability and accessibility of health care services, and the variations in the allocation of resources in relation to the healthcare needs of the population. This line of research has led to the identification of empirical regularities in the relationship between space and access to services, such as provider–induced demand (Barnett, 1993), ‘distance decay effects’ in the use of health care services, and the ‘Inverse Care Law’ (Barnett and Copeland, 2009).

Extensive scientific research conducted in different geographical contexts and across a variety of health care services has confirmed that distance has a significant effect on access to health care, even when controlling for individual characteristics such as age, morbidity and exposure to risk factors (Joseph and Phillips, 1984; Cromley and McLafferty, 2012, p. 306). Two phenomena are widely documented: the phenomenon of provider–induced demand (Barnett, 1993), whereby increased proximity leads to increased inappropriate demand for health care services; and the ‘distance decay’ effect (Joseph and Phillips, 1984), whereby increasing distance, and therefore monetary and time costs, progressively reduces the propensity to access healthcare. As highlighted by Cromley and McLafferty (2012), increasing distance also tends to limit information on the existence of certain services and people’s familiarity with healthcare facilities and professionals. The literature has also shown that the effects of distance depend on the type of service and the demographic and socioeconomic characteristics of the people:

People differ in their abilities to overcome distance and in how locational constraints affect service use [...] Location and distance have significant effects on people’s willingness and ability to use services, but these geographical effects vary in importance and meaning among places, populations, times, and individuals. (Cromley and McLafferty, 2012, pp. 306–307)

With regard to the Inverse Care Law (Tudor Hart, 1971), medical geography studies have shown that although the socioeconomic determinants of access to health care services are classified as non–geographical determinants (Khan, 1992), they can only be considered

‘non–geographic’ only insofar as they can occur in almost any location. In aggregate, however, they often display regular and marked spatial variations, and socio–spatial differentiation is consequently an important factor in examining the use of services (Joseph and Phillips, 1984, p. 116).

Therefore, location and distance take on particular importance when considering that “social groups for whom inequality is a problem occupy particular discrete positions in geographical space” (Jones and Moon, 1987, p. 221).

Historically, the geography of health care services has focused on identifying medically underserved areas by analysing geographical accessibility to services, or medically underserved populations by studying variations in service utilisation rates by different population groups (Cromley and McLafferty, 2012). However, this perspective has remained largely anchored to the analysis of the location and spatial distribution of facilities, neglecting the broader contextualisation of the territorial influences on access processes. As noted by Moon (1995), attention to place was implicit: space was treated primarily as a geometric container in which to place medical services and population groups with their characteristics and healthcare needs, rather than as a place characterised by social and relational dynamics, conditions of inequality and territorial patterns of accessibility to services. In other words, the research was not yet effectively contextualised.

Starting with the publication of several influential articles in the 1990s (Gesler, 1991; Kearns, 1993; Moon, 1995), a new perspective emerged that embraced recent developments in the social sciences to reinforce the importance of political and economic structures in determining access to health care (Dear, 1984; Rosenberg, 1988) and the interactions between the structural characteristics of health care provision and people and their agency (Giddens, 1984; Sen, 2000). In other words, academics began to call for the adoption of a social perspective in medical geography (Gesler, 1991; Kearns, 1993; Moon, 1995). Starting from these publications, and from Kearns' (1993, p.144) request for a "post-medical geography",

calls for more progressive and socially engaged research grew louder, and health geographers began to consider that unequal geographies of risk, access and health outcomes were not simply a matter of distributional inefficiencies, gaps in knowledge or uninformed policy-making, but rather were products of inequitable social structures built on relations of dominance and discrimination. (Hanlon, 2018, p. 89)

How did the transition from a geography of medical care to a geography of healthcare come about?

To situate the analysis of access to health care in places, the literature has recommended the adoption of political, social and relational perspectives in defining the spaces within which access to health care is realised.

This focus on politics was central to both the model proposed by Aday and Andersen (1974), which recommended extending the study of access to health care beyond geographical and socioeconomic dimensions and analysing political and organisational dimensions – i.e. healthcare policy and the overall structure of the health care delivery system – and by the model proposed by Rosenberg (1988), which highlighted socio-cultural and political-economic influences on access.

However, even in the 2000s, the geography of healthcare remained heavily focused on quantitative methods and "patterns of individual behaviour and much less on health institutions, or key public and private stakeholders and the role they played in determining access to health services" (Barnett and Copeland, 2009, p. 498). Thus, Cummins et al. (2007) argued for the need to adopt a 'relational perspective', emphasising the importance of considering the 'social network' and 'social power' in facilitating access to health care services, and to combine quantitative and qualitative methods in healthcare geography studies.

Access to goods, services and other assets may be dependent partly on the geographical disposition of facilities and their jurisdictions but also on social networks and social power, interventions of various 'actors' and degrees of regulation which produce 'layers'

of resources accessible to different members of local populations in different ways. [...] We need more multi-dimensional research that combines multiple ways of characterizing and understanding places, including resident reports, systematic observation and objective measures on the location and spatial accessibility of resources. (Cummins et al., 2007, p. 1828–1830)

Andrews and Evans (2008) discussed the need to pay greater attention to the study of the dynamics that influence not only the consumption of healthcare but also its production, noting that social and spatial processes influence the ways in which healthcare work is (re)produced. Furthermore, Barnett and Copeland (2009) listed some political-economic topics that are poorly explored in the healthcare geography literature: the study of the impacts of healthcare system decentralisation on the structure and orientation of healthcare policy; the variability of these impacts in relation to differences in levels of economic development between locations; the role of the local political culture and power dynamics in shaping healthcare policy; and broader political and social influences in health care restructuring processes (that is, the so-called ‘revolving doors’ or ‘State retrenchment’).

At the same time as these criticisms emerged, the geography of healthcare established itself as a sub-discipline exploring new directions beyond the study of potential or actual access to medical care (Rosenberg and Wilson, 2005).

In this context, a new distinction has emerged between the geography of healthcare and the geography of care (Conradson, 2003). For example, the latter goes beyond analyses of access to and use of formal health care services to study informal care practices, their moral dimensions, alternative medicine practices and geographical imaginaries of care (Paar, 2003).

With regard to the study of accessibility to formal healthcare, innovative measures of accessibility to health care services – particularly those inspired by the 2SFCA method discussed in Section 2.3 – allow the integration of proxy measures of the population’s healthcare needs and empirically derived distance decay coefficients into analyses of geographical accessibility, thereby enabling the contextualisation of accessibility measurement within specific places (McLafferty, 2020).

While, in the medical geography literature, rurality has traditionally been identified as a key attribute for detecting areas lacking medical services (Moseley, 1979; Joseph and Phillips, 1984; Flinterman et al., 2023), recent developments in accessibility measurement allow for a shift towards analyses that focus on the territorial components of accessibility. These approaches move beyond rurality as a simple spatial attribute and instead emphasise structural and social disadvantage as defining characteristics of territories – whether rural or not – that experience the Inverse Care Law.

Furthermore, the literature has undergone a shift from a geography of medical care that focused on the geographical and socioeconomic aspects of access to health care (Penchansky and Thomas, 1981), but concentrated on location, to a geography of healthcare that encourages the adoption of both place-based quantitative and qualitative methods (McLafferty, 2020) and combines the traditional focus on the study of geographical accessibility to health care services with a renewed interest in the political, organisational and relational aspects of access to health care and in the place embedded nature of access to health care (Aday and Andersen, 1974). In this context, since the 1990s, a renewed interest in the study of healthcare policy and the consequences of the restructuring of health care services promoted in Europe and North America emerged. Specifically, several scholars have explored the implications of this restructuring for volunteering in the health sector (Joseph and Kearns, 1996; Skinner and Rosenberg, 2005) and the relationship between the geography of health and care and the ‘geography of volunteering’. In a literature

review entitled “Voluntarism, health and place: Bringing an emerging field into focus”, Skinner and Power (2011) traced the evolution of this field of study, known as “health geographies of voluntarism”, which is engaged in critiquing the political economy of volunteering and studying the social and cultural aspects of voluntary activity related to assistance and care and the roles and responsibilities of voluntary organisations in service delivery and local governance (Milligan and Conradson, 2006; Skinner and Joseph, 2007).

Despite this growing attention to the different dimensions of access to health care, international literature has paid little attention to the critical analysis of administrative and functional zoning in the organisation of healthcare. This aspect has historically characterised studies in the geography of health care services in the Italian context.

2.5 The geography of health care services in Italy

Since the 1980s, within the Italian geographical literature, medical geography has been proposed as a field of research with its own theoretical and methodological approach thanks to the work of a research group led by Cosimo Palagiano of La Sapienza University in Rome and the organisation of international seminars on medical geography⁸(Banini, 2001). In this context, it was the perspective of medical geography that prevailed.

The Italian geographical literature has devoted considerable attention to the spatial distribution of diseases, their determinants, and health risk factors (Banini, 2001). At the same time, a substantial body of research has developed within the field of health care geography, addressing issues such as the localisation of health care services, their accessibility, the organisation of health care systems, and health policies.

A first systematic reconstruction of this research field was provided by Banini (2001, pp. 676-677), who observed that Italian medical geography had primarily focused on

the territorial distribution of diseases and the identification of ecological correlates; analysis of the location, accessibility and functional provision of health care services; analysis of the political-administrative organisation and expenditure of health systems; identification of risk factors for human health; analysis of the opinions, assessments and behaviour of the population; analysis of the social and cultural determinants of the phenomena analysed.

Subsequently, Evangelista (2016a; 2017) reviewed publications appearing in the main Italian geography journals (*Rivista Geografica Italiana*; *Bollettino della Società Geografica Italiana*; *Geotema*; *Archivio di Studi Urbani e Regionali*; *Annali del Dipartimento di Metodi e Modelli per l'Economia, il Territorio e la Finanza*), highlighting the limited presence of health care geography studies during the period 2004-2015.

Table 2.2 summarizes the main contributions to the Italian geography of health care focusing on the Italian context, reconstructed based on the literature reviews conducted by Banini (2001) and Evangelista (2016a; 2017).

⁸ The first International Seminar on Medical Geography, entitled *Medical Geography*, was held in Rome from 4 to 7 November 1982. This was followed by eleven other seminars that explored the following topics: the urban environment and quality of life (2nd Seminar, Cassino, 1985), quality of life, agriculture and environmental degradation in southern Italy (3rd Seminar, Cassino, 1988), medical geography and ecosystems (4th Seminar, Rome, 1991), public and private healthcare facilities (V Seminar, Rome, 1994); data collection methods and the perception of health (VI Seminar, Rome, 1997); health and migration (VII Seminar, Verona, 2001); the geography of food (VIII Seminar, Rome, 2004); health and work (9th Seminar, Rome, 2007); health and solidarity (10th Seminar, Rome, 2010); health management (11th Seminar, Perugia, 2014); health, ethics and migration (12th Seminar, Perugia, 2017).

Table 2.2 – Main contributions to Italian health care geography focusing on the Italian context (adapted from Banini, 2001; Evangelista, 2016a; 2017)

Title	Author(s)	Year
“Sulle differenziazioni strutturali del servizio sanitario ospedaliero nelle regioni italiane” [On the structural differences in hospital health care services in Italian regions]	Morelli P.	1978
“Riforma sanitaria e sviluppo a Roma” [Healthcare reform and development in Rome]	Morelli P.	1983
“L'organizzazione sanitaria a Cagliari” [Healthcare organisation in Cagliari]	Incani Carta C.	1986
“Il comportamento degli italiani nei confronti dei servizi sanitari” [The behaviour of Italians towards health care services]	Palagiano C., Arena G.	1987
“Il problema della salute e le scienze regionali” [The problem of health and regional sciences]	Landini P.	1990
“Geografia medica e informazione sanitaria in Italia: considerazioni metodologiche” [Medical geography and health information in Italy: methodological considerations]	Mancini M.	1990
“Struttura sanitaria ed equilibri negli ecosistemi umanizzati: l'esempio della Calabria” [Healthcare structure and the balance of humanised ecosystems: the example of Calabria]	Brancato Albanese M.	1992
“Nuovi modelli di ecourbanistica. Il risanimento dell'iperperiferia di Messina” [New models of eco-urbanism. The redevelopment of the hyper-periphery of Messina]	Caltabiano A.	1992
“Ambiente geografico e psiche in Italia” [Geographical environment and psyche in Italy]	Palagiano C., Banini T.	1994
“L'Atlante Sanitario Nazionale. Uno studio preliminare applicato alla Puglia” [The National Health Atlas. A preliminary study applied to Puglia]*	Amoruso O., Rinella, A.	1995
“I poli di attrazione e le aree di gravitazione degli istituti di cura pubblici e privati convenzionati in provincia di Roma: indagine preliminare” [The centres of attraction and areas of gravitation of public and private healthcare institutions affiliated with the National Health Service in the province of Rome: preliminary survey]*	Banini T., Cristaldi, F.	1995
“Il quadro territoriale dell'offerta sanitaria in Sicilia” [The territorial framework of health care provision in Sicily]*	Barilaro C.	1995
“Il riordino del servizio sanitaria in Campania alla luce dei recenti provvedimenti legislativi regionali” [The reorganisation of health care services in Campania in light of recent regional legislative measures]*	Bencardino F.	1995
“Alcune considerazioni geografiche e socio-economiche sulla migrazione sanitaria in Italia con particolare riguardo alla Sicilia” [Some geographical and socioeconomic considerations on healthcare migration in Italy, with particular regard to Sicily]*	Caltabiano A.	1995
“Distribuzione dei centri di dialisi nella provincia di Foggia: accessibilità al servizio da parte della popolazione locale” [Distribution of dialysis centres in the province of Foggia: accessibility to the service by the local population]*	Costa M.	1995
“Le strutture sanitarie in Umbria” [Healthcare facilities in Umbria]*	De Santis G., Patella Scola L.	1995
“La delimitazione territoriale delle USL nel Lazio. Criteri di definizione” [The territorial delimitation of local health authorities in Lazio. Definition criteria]*	Galluccio F.	1995
“Le politiche sanitarie e le attuali prospettive” [Health policies and current prospects]*	Palagiano C.	1995
“Una USL affatto singolare: il caso di Venezia” [A truly unique local health authority: the case of Venice]*	Patella Scola L., Righetti R.	1995
“Localizzazione delle strutture ospedaliere e riorganizzazione del sistema sanitario nella Regione Veneto” [Location of hospital facilities and reorganisation of the healthcare system in the Veneto Region]*	Salgaro S., Vantini S.	1995
“Telematica e medicina: quali nuovi spazi per la sanità?” [Telematics and medicine: what new opportunities for healthcare?]	Gallo A.	1998
“Il servizio sanitario in Puglia nel nuovo piano socio-sanitario” [The health service in Puglia in the new social and health plan]	Luisi G.	1998

<i>“Raccolta dati e indagine percettiva nella realizzazione dell'Atlante delle Strutture Sanitarie in Italia”</i> [Data collection and perception survey in the creation of the Atlas of Healthcare Facilities in Italy]	Palagiano C.	1998
<i>“Analisi delle strutture sanitarie psichiatriche e loro localizzazione. Dalla centralità manicomiale alla rete di servizi”</i> [Analysis of psychiatric healthcare facilities and their location. From the centrality of mental hospitals to the network of services]	Losavio M.	2004
<i>“L’attività delle organizzazioni di volontariato in provincia di Salerno: reinterpretazione in chiave geografica della banca-dati e dei primi risultati emersi nelle ricerche del CSV Solidalis”</i> [The activities of voluntary organisations in the province of Salerno: a geographical reinterpretation of the database and the initial results of research carried out by CSV Solidalis]	Siniscalchi S., Aversano G.	2012
<i>“I sistemi sanitari in Europa”</i> [Healthcare systems in Europe]**	Fasano A., Mignolli L., Pace R.	2015
<i>“Geografia, salute e benessere: le policies regionali”</i> [Geography, health and wellbeing: regional policies]**	Romanelli A.	2015
<i>“Gestione della salute e integrazione sociale: considerazioni sull’accesso ai servizi sanitari da parte degli immigrati”</i> [Health management and social integration: considerations on immigrants’ access to health care services]**	Pongetti P., Castagnani R.	2015
<i>“Immigrati e malattie: lo stato di salute e l’accesso ai servizi sanitari della popolazione straniera in Italia”</i> [Immigrants and disease: the state of health and access to health care services of the foreign population in Italy]**	Camerada V., Carboni D., Pinna A.	2015
<i>“Pianificazione del territorio, salute e qualità della vita. Il progetto “Area” per la ricerca e il sostegno alla cura dell’autismo”</i> [Land–use planning, health and quality of life. The ‘Area’ project for research and support for the treatment of autism]**	Barilaro C.	2015
<i>“Il ruolo degli ospedali ecclesiastici nella gestione della salute della popolazione in Puglia”</i> [The role of ecclesiastical hospitals in managing the health of the population in Puglia]**	Luisi G.	2015
<i>“Benessere, salute e governo del territorio: le strutture sanitarie in Puglia”</i> [Well–being, health and local government: healthcare facilities in Puglia]**	Gattullo M.	2015
<i>“Luoghi e spazi della salute mentale nel territorio marchigiano”</i> [Places and spaces for mental health in the Marche region]**	Betti S.	2015

Notes: * Publication in Palagiano G., De Santis G., Cardillo M.C. (1995). *“Atti del Quinto Seminario Internazionale di Geografia Medica: Le strutture sanitarie tra pubblico e privato”* [Public and private healthcare facilities. Proceedings of the Fifth International Seminar on Medical Geography], Perugia, Edizioni Rux; ** Publication in De Santis (2015). *“La gestione della salute, Atti dell’Undicesimo Seminario Internazionale di Geografia Medica”* [Health management. Eleventh International Seminar on Medical Geography], Perugia, Edizioni Rux.

Source: Author’s own elaboration based on Banini (2001) and Evangelista (2017).

The review shows that a substantial share of the scientific production was presented in the proceedings of the 5th International Seminar on Healthcare geography, entitled “Le strutture sanitarie tra pubblico e privato” [Healthcare facilities between public and private], and the 11th International Seminar on Healthcare geography, entitled “La gestione della salute” [Health management]. As noted by Banini (2001), these seminars played a pivotal role in the development of Italian health care geography by fostering research on specific topics.

Among these publications are studies addressing the traditional themes of medical geography from what Banini (2001) defines as a “structural–functional perspective”, focusing on the distribution, location, and accessibility of health care services (see, for example, Banini and Cristaldi (1995), Barilaro (1995), Costa (1995) and Losavio (2004), as well as research on patient mobility (Caltabiano, 1995). Other contributions adopted what Banini (2001) describes as a “political–economic” perspective, examining the administrative organisation of health care

systems, health policies and territorial governance. This group includes the works of Landini (1990), De Santis and Patella Scola (1995) and Galluccio (1995), which analysed the territorial delimitation of Local Health Units and the organisation of health districts. More recently, Siniscalchi and Aversano (2012) examined the contribution of voluntary organisations in the provision of health, social, environmental and cultural services in the province of Salerno.

Compared with the international literature, however, Italian health care geography has devoted relatively limited attention to social inequalities in health and access to health care, focusing predominantly on the territorial distribution of health care provision (Banini, 2001).

Following Banini (2001), several limitations of the Italian health care geography literature can be identified. These include the limited attention to the study of social accessibility to health care services and social differences in health; the tendency of researchers to use simple research methodologies both in terms of potential demand (e.g. service-to-population or provider-to-population ratios and mortality indicators) and supply (e.g. the number of beds per inhabitant or turnover indicators); the conduct of research with descriptive-interpretative rather than normative-prescriptive aims and with rather large or highly limited scales of investigation, with research focused, respectively, on the regional or urban level. These issues are largely determined by the scarcity of available data, which has led Italian geographers to conduct research mainly in contexts with which they are familiar (Banini, 2001). The result has been the emergence of “a substantial difference between regions that have been extensively explored from a geomedical point of view (Umbria, Sicily, Puglia, Lazio) and regions that [...] have been explored little (Basilicata, Lombardy, Abruzzo, etc.) or not at all (Valle d’Aosta, Marche, Molise)” (Banini, 2001, p. 683).

To assess whether this situation has changed in recent years, the present study replicated Evangelista’s literature review strategy by extending the search to the same Italian geography journals for the period 2015-2023⁹.

The updated review did not identify the emergence of a broader health care geography research agenda within the main Italian geography journals. During this period, only three additional contributions, all authored by Valentina Evangelista, were identified: the literature review already mentioned above (Evangelista, 2016a) and two studies on the hospital system in the Abruzzo Region (Evangelista, 2016b; 2017)¹⁰. These latter contributions renewed interest in several classical themes of health care geography by analysing different dimensions of hospital accessibility, including hospital catchment areas and interregional and intraregional patient mobility.

Overall, this review confirms Evangelista’s conclusion (2016a, pp. 62–63) that health care geography “still represents a research horizon yet to be fully explored, despite its potentially active role”.

Beyond the limited scientific output published in the main Italian geography journals, the topics that have traditionally characterized the geography of health care services – particularly

⁹ The analysed journals are as follows: “*Rivista Geografica Italiana*”, “*Bollettino della Società Geografica Italiana*”, “*Geotema*”, “*Archivio di Studi Urbani e Regionali*”, “*Annali del Dipartimento di Metodi e Modelli per l’Economia*”, “*Il Territorio e la Finanza*” (Evangelista, 2016; 2017).

¹⁰ Evangelista, V. (2016a). La geografia sanitaria: un’area di ricerca in declino? Una review della letteratura italiana del decennio 2005-2014. *Rivista Geografica Italiana*, 123(1), 55-68.

Evangelista, V. (2016b). Il sistema ospedaliero della regione Abruzzo: un’analisi preliminare della struttura della domanda e dell’offerta. *Annali del Dipartimento di Metodi e Modelli per l’Economia, il Territorio e la Finanza*, 189-200.

Evangelista, V. (2017). I bacini di utenza nel sistema ospedaliero della Regione Abruzzo: un quadro gerarchico-funzionale per le politiche di riassetto della rete di offerta. *Rivista Geografica Italiana*, 124(1), 39-61.

the integrated analysis of health care accessibility and population health care needs – have recently attracted renewed attention in both the international and Italian scientific literature, which has become increasingly interdisciplinary, as well as in the European policy debate. This renewed interest has developed around the concept of ‘medical deserts’, which has brought territorial inequalities in access to healthcare back to the forefront of both academic research and health policy (Flinterman et al., 2023; Brînzac et al., 2023; Dubas-Jakóbczyk et al., 2024; Bonal et al., 2024). The following section reviews the main conceptualizations and methodological approaches developed within this emerging body of literature.

2.6 Medical deserts

“The term medical desert derives from the expression ‘food deserts’, coined in the UK in 1995 and prevalently used in the USA and Canada to denote ‘disadvantaged geographic area in which residents have restricted access to healthy, affordable, fresh food from a supermarket’” (Brînzac et al. 2023, p. 785).

This notion explicitly refers to the medical component of health care. However, there is no clear, internationally agreed definition of what is meant by a medical desert and, in some cases, the term is used interchangeably with the term ‘health care desert’ (Baglio, 2024) or in any case to indicate the difficulties that people encounter in accessing not only medical care but healthcare in general, including, for example, pharmaceutical care (CittadinanzAttiva, 2022; Baglio, 2024; Bonal et al., 2024), and in meeting their healthcare needs (Brînzac, et al., 2023).

The concept of medical desert is often used as a synonym for ‘underserved area’ or ‘deprived area’ in terms of health care services and, more generally, rural areas (Flinterman et al., 2023; Dubas-Jakóbczyk et al., 2024).

However, associating medical deserts with rural areas or underserved areas has some important limitations. On the one hand, the lack of services is not necessarily linked to population density and, therefore, to rurality. On the contrary, it is reasonable to assume that many rural areas and urban centres follow different development trajectories compared to the average for their respective territorial type (Chevallard et al., 2018). Similarly, it can be assumed that peripheral urban areas have supply configurations and socioeconomic conditions that differ from those of central areas. While location and distance from the centres certainly influence this development trajectory, as we have anticipated, even the so-called Italian inland areas follow diversified development trajectories. On the other hand, as regards the association with deprived areas, this means defining medical deserts from a narrow perspective, which considers only the availability of health care services and geographical accessibility to health care. These are determinants on the supply side and the geographical nature of access to health care services only capture some aspect of potential supply and neglect the social, economic, cultural and organisational dimensions of access to health care.

Thus, some academics have recently recommended distinguishing the concept of ‘medical desert’ from the notions of rural area or underserved area and integrating, in the definition of ‘medical deserts’, attention to the geographical and socioeconomic dimensions that define access to health care (Brînzac et al., 2023).

With the aim of advancing a common definition of medical deserts that explains the phenomenon from a multidimensional perspective and that is internationally acceptable, Brînzac et al. (2023) conducted an international consensus-building exercise based on the Delphi methodology, which resulted in the following definition:

Medical deserts are areas where population healthcare needs are unmet partially or totally due to lack of adequate access or improper quality of health care services caused by insufficient human resources in health or facilities, long waiting times, disproportionate high costs of services or other socio-cultural barriers. (Brînzac et al., 2023, p. 787)

This definition is designed to emphasize both the geographical and non-geographical factors that influence access to health care and pays attention to the five dimensions of access defined by Penchansky and Thomas (1981) and on the concept of ‘healthcare need’. However, as highlighted by Ricketts (2009), the definition by Penchansky and Thomas (1981) does give priority attention to the geographical and socioeconomic determinants of access to health care, but neglects its political, organisational and relational determinants.

With the aim of assessing whether the study of medical deserts is embracing the latest developments in the geography of health care, we examined the work carried out in three international projects on medical deserts¹¹ funded by the European Union’s Health Programme since 2021: the AHEAD project (“Action for Health and Equity: Addressing medical Deserts”, 2021–2023); the OASES project (“Promoting evidence-based reforms on medical deserts”, 2021–2023) and the ROUTE–HWF project (“A roadmap out of medical deserts into supportive health workforce initiatives and policies”, 2021–2024). According to the definition adopted within the AHEAD project, which directly involved Italy:

A medical desert is the end point of a complex process called ‘medical desertification’, that implies continuous and increasing inability of a given population to access health care services in a timely and contextually relevant manner. (AHEAD, 2022, p. 5)

This is a dynamic definition that focuses on desertification as a process, which recalls the concept of peripheralization (Kühn, 2015) and which led the Italian working group to analyse medical deserts through the conceptual lens of inland areas. In this context, the analysis of indicators of health care service availability at the provincial level (Table 2.3) was accompanied by two case studies in the inland areas of Piedimonte Matese in Campania and Avola–Noto in Sicily.

Concerning the OASES and ROUTE–HWF projects, the definitions adopted vary from country to country, and medical deserts are often equated with rural areas. However, these definitions take into account both the geographical and socioeconomic dimensions of access to health care but tend to be static.

In the Italian context, the working group of the National Agency for Regional Health care services (AGENAS) involved in the OASES project defined medical deserts as areas subject not only to a “lack of healthcare facilities or professionals, but also situations where the quality of care is poor or specific subgroups of the population do not have access to health care” (Baglio, 2024, p. 6). Based on this definition, a matrix was developed that identifies medical deserts in relation to strictly geographical dimensions of health care provision, i.e. through measures of presence, local performance and accessibility, and in relation to the relationship between supply and population needs, i.e. through measures of coverage, health protection and equity. In addition, the analysis methodology adopted in this context, as in the French context of OASES, also

¹¹ The AHEAD Project involved Italy, the Republic of Moldova, Romania, the Netherlands and Serbia. The OASES Project involved Cyprus, Finland, France, Hungary, Italy, the Republic of Moldova and Romania; and the ROUTE–HWF Project involved Finland, Germany, Ireland, the Netherlands, Spain, Poland and Croatia.

focused on turnover indicators for healthcare professions. Table 2.3 shows some examples of the variables considered in the definition of medical deserts.

Table 2.3 – Summary of some examples of identifying medical deserts: analysis methods and variables included in the quantitative analysis

Bibliographic reference	Project (Country)	Quantitative analysis		
		Dimension (Measure)	Variables	Scale
CittadinanzAttiva (2022)	AHEAD (Italy)	Availability (Number per inhabitants)	Number of general practitioners, paediatricians, gynaecologists, hospital pharmacists; number of hospital beds; pharmacies	Province
Baglio (2024)	OASES (Italy)	Availability (Number per inhabitants)	Number of active professionals, e.g. general practitioners and primary care paediatricians	Province, Health district
		Proximity	Coefficient of variation in the number of healthcare professionals within a 5 km radius of the 1 km centroid ²	Province
		Healthcare needs	Inequalities in avoidable hospitalisation rates by citizenship	Region/Autonomous Province
		Supply dynamics	Incidence of healthcare professionals aged 65 or over	Province, Local Health Authority
Bonal et al. (2024)	OASES (France)	Proximity (LPA, 2SFCA method)	General practitioners, nurses, physiotherapists	Municipality
		Proximity (minimum distance)	Pharmacies, laboratories, radiologists, emergency services	Municipality
		Healthcare needs	Standardised mortality rate, standardised premature mortality rate, Median household income	‘EPCI’* Municipality
		Supply dynamics	Replacement rate of general practitioners Incidence of general practitioners over the age of 60	Municipality ‘Territoires de vie-santé’**
Dubas–Jakóbczyk et al. (2024)	ROUTE–HWF (Spain)***	Availability (Number per inhabitants)	Number of physicians per 100,000 inhabitants below the national average	Province
		Proximity	Percentage of the population living within a 15–minute drive below the national average	Province
		Healthcare needs	Incidence of population aged 65 and over higher than the national incidence	Province
			Incidence of population below the poverty line higher than the national incidence	Province

* An Établissement Public de Coopération Intercommunale (EPCI) is an administrative structure that brings together municipalities that perform certain functions jointly. ** The ‘territoires de vie-santé’ are groups of municipalities centred around a hub of infrastructure and services. *** Note that the ROUTE–HWF methodology was applied in all consortium countries where case studies were conducted: Germany, Ireland, the Netherlands, Spain, Poland and Croatia.

Source: Author’s own elaboration based on CittadinanzAttiva (2022), Baglio (2024), Bonal et al. (2024) and Dubas–Jakóbczyk et al. (2024)

2.7 Conclusions

Adopting a geographical perspective in the study of access to health care is a complex exercise.

The most recent models for measuring geographical accessibility have adopted more inclusive perspectives towards traditionally unexplored populations (Rosenberg, 1998; Cromley and McLafferty, 2012), and have refocused attention on the different dimensions of access to health care, as proposed by Penchansky and Thomas (1981), that is, combining a focus on the geographical dimensions of accessibility with an analysis of the socioeconomic variables that influence healthcare needs or that may act as social barriers to access, limiting people's opportunities to access healthcare.

The review of the literature on the geography health care introduced in this chapter highlights that adopting a geographical perspective to the study of territorial equity in healthcare should not be limited to analysing geographical accessibility to services.

The discussion has, in fact, suggested the benefits of adopting a post-medical perspective that addresses the issue of equity by paying attention to the contextual nature of access to health care, its political, organisational, cultural, social and community dimensions (Aday and Andersen, 1974; Rosenberg, 1988; Cummins et al., 2007) and the geography of health. In summary, the literature suggests that a comprehensive treatment of the topic requires paying attention to places, social inequalities in health and the multidimensionality of access.

Although the geography of health care is an under-explored area of research in the Italian literature, the study of geographical accessibility to health care has traditionally been combined with the study of political and administrative geography. These topics are little explored in international literature and in the most recent literature on medical deserts.

The recent interest in 'medical deserts' is, in fact, drawing attention to the concept of access to health care in its geographical, socioeconomic and cultural dimensions (Penchansky and Thomas, 1981; Levesque et al., 2013), but neglects its political, organisational, community and relational dimensions (Aday and Andersen, 1974; Rosenberg, 1988; Cummins et al., 2007), remaining anchored to the study of geometric space. In other words, the concept of 'medical desert' does not seem to be adequately situated within the developments that have influenced human geography and economic geography in recent decades, namely the so-called 'spatial turn' and the 'socio-spatial dialectic' recommended by Soja (2010).

On the other hand, however, the Italian literature has paid little attention to the study of social inequalities in health and in access to health care, whereas international literature has devoted considerable attention to these issues.

What has been presented so far raises the question of a geography health care that studies equity (Costa et al., 1994) from a post-medical (Kearns, 1993), place-based and inclusive perspective.

Based on the calls for a post-medical geography and for the adoption of mixed qualitative-quantitative approaches that are attentive to places, as well as on an analysis of the Italian context, this research adopts a perspective that emphasises the political, organisational and relational dimensions of access to health care. This calls for an understanding of 'health care peripheries' – as defined in this study – as places characterised by limited access to health care, shaped by planning tools based on outdated methodologies and inefficient zoning approaches, which rely on simplistic measures of availability, demographic thresholds, and catchment areas, while overlooking actual distances and the healthcare needs of the population.

Therefore, the studies that will be presented in the following chapters aim to shift the focus beyond the traditional topics of medical geography and adopt a perspective of geography of health care that is consistent with a focus on *space*, not so much as a geometric area, but as a *place* produced, re-produced, inhabited and experienced by people, communities and the institutions that govern it. The work pays attention to the different geographies that influence access to health care in Tuscany and does so by defending the political and social role that the tools in the literature on medical and healthcare geography can play. In other words, we believe that this literature can provide useful evidence to guide health policies towards greater equity.

In this sense, geography does not simply provide tools for analysing the location of services or measuring availability and proximity indicators but also includes a critical discussion of functional zoning for health care organisation and the identification of spatial patterns in the distribution of populations with high healthcare needs. In this sense, it offers analytical tools that are relevant not only for understanding phenomena, but also for planning and governing health policies geared towards equity.

Chapter 3. Healthcare needs and potential access to primary care: a critical perspective on physician zoning in Italy

3.1 Introduction

General practice plays a central role within primary care and the entire healthcare system, as it represents the first point of contact and access to the health care services and ensures continuity of care in relation to other levels of care (Allan, 2014; Garattini et al., 2023).

The literature on the geography of health care has traditionally devoted specific attention to the study of access to general practitioners (GPs) or family physicians (Joseph and Phillips, 1984). This focus is now particularly relevant in the emerging body of research on medical deserts (see, for example, Flinterman et al., 2023).

The general practitioner acts as a gatekeeper within the health care system (Joseph and Phillips, 1984; Rosenberg, 1988; Allan, 2014): access to health care is facilitated by the GPs, who act as a filter between individuals and secondary and tertiary health care services, directing people towards pharmacological, specialist and diagnostic services.

The general practitioner therefore not only provides basic care, but also acts as a referral agent or filter for higher levels of care. [...] Access to primary care is consequently a more important element in the determination of overall access to health care per se [...] As a consequence, changes in the geographical organization of primary care, especially of general practitioners, have a considerable impact on overall patterns of accessibility. (Joseph and Phillips, 1984, p. 58)

In the European context, primary care “has been undergoing continuous changes in response to the increasing multi-morbidity and (both medical and social) complexity of patients, whilst funding constraints have been strengthened following the economic crisis” (Garattini et al, 2023, p. 153).

In Italy, although the severity of the situation varies geographically, the shortage of general practitioners is now a clear phenomenon across the whole country, as highlighted by the data on the average number of patients per physician presented in Chapter 1. This situation is attributable to a variety of factors (Fondazione Gimbe, 2024). Despite repeated calls for reform of general practice and a strengthening of local health care provision, difficulties remain in implementing a structural reform of general practice (Mapelli, 2024; Maciocco, 2024).

One aspect that has so far received limited attention – both in policy debates and in the scientific literature – concerns the role of the methodological approaches that inform the allocation of GPs in promoting a more equitable territorial organisation of care. This argument guides the discussion in this chapter.

From this perspective, the present study contributes to the debate on policies to strengthen primary care, identifying a limitation in the substantial failure to question the methods that guide the allocation of services. In this context, the literature on the geography of health care provides advanced methodologies for measuring accessibility to health care services which – as in the

French context – can become planning tools capable of guiding public administration towards perspectives more attentive to spatial accessibility, social vulnerability and healthcare needs.

Starting with a review of the methodologies used in the definition of catchment areas for primary care physicians in the Italian and French contexts, this study applies various approaches to the analysis of health care accessibility in the Tuscan context. In particular, it compares scenarios derived from the use of simple measures of physician density, approaches that integrate the availability and proximity of services, and criteria that give priority to socioeconomic and epidemiological indicators serving as proxies for the population's healthcare needs.

This study therefore analyses territorial inequalities in access to GPs (*“Medici di Medicina Generale”*) and primary care paediatricians (*“Pediatri di Libera Scelta”*, PLSs) in the Tuscany region, adopting primarily a political and organisational perspective.

Defining whether a zone has excessive or insufficient healthcare providers is a common concern for several countries [...] The general aim is to balance the supply of healthcare by limiting the number of healthcare professionals in overserved areas and/or by encouraging their arrival in medically underserved ones. (Chevallard et al., 2018, p. 5)

The research questions are as follows: What are the parameters defining the allocation of GPs and PLSs in the Italian context? What instruments guide such physicians zoning? What implications do these instruments have in terms of generating inequalities in access to primary care?

This chapter is organised as follows. Section 3.2 presents the methodological background; Section 3.3 outlines the materials and analytical methods; Sections 3.4 and 3.5 present the results and their discussion, respectively. Finally, Section 3.6 summarises some concluding remarks.

3.2 Methodological background

The methodological background for this study is provided by the review of the methodologies used for physician zoning in the Italian and French contexts. The decision to undertake this comparison stems from a critique of the allocation criteria adopted in Italy and from the emergence, in the literature review, of the French case as a distinctive example. Indeed, in this context, the measures commonly used in the scientific field for the ex-post identification of underserved areas or so-called ‘medical deserts’ (Flinterman, et al., 2023) (Bonal et al., 2024) are also employed in administrative settings as ex ante tools for health care planning purposes.

This study does not aim to compare the more general organisation of primary care in the two national contexts. However, we consider it useful to provide a brief contextual introduction before presenting the methodologies for the definition of physicians’ assignment zones in Italy (Section 3.2.1) and in France (Sections 3.2.2 and 3.2.3).

The Italian and French healthcare systems differ in their underlying models: Italy adopts a Beveridge-type model, in which healthcare is funded predominantly through public expenditure and is guaranteed as a universal service; France, on the other hand, follows a Bismarckian model, based on compulsory mutual health insurance (Garattini et al., 2023).

A distinctive feature of the Italian primary care model concerns the distinction between two professional roles: GPs, responsible for caring for the adult population, and PLSs, responsible for caring for the paediatric population (Garattini et al., 2023). In both contexts, however, general practitioners operate as self-employed professionals contracted to the respective national health system, although the mechanisms of remuneration (Garattini et al., 2023) and territorial allocation differ.

3.2.1 Physicians zoning in Italy

In Italy, the methodologies for the zoning of GPs and PLSs are set out in the so-called National Collective Agreements (“*Accordi Collettivi Nazionali*”, ACN), which establish the rights, duties and organisational criteria for these physicians. Regions and Local Health Authorities (ASLs) are required to comply with the National Agreements but are granted the power to adapt the provisions to local needs through Regional Supplementary Agreements (“*Accordi Integrativi Regionali*”, AIRs) and Local Implementation Agreements (“*Accordi Attuativi Aziendali*”, AAAs).

Among the various provisions contained in the ACN, AIR and AAA, the definition of catchment areas for the organisation of care (that is, the so-called “*ambiti territoriali*”), the definition of the optimal physician-to-population ratio and the maximum number of patients per practitioner all contribute to determining the allocation of primary care physicians and have a direct influence on physician density and access to general practice facilities.

The so-called “*ambiti territoriali*” represent the functional zones for the organisation of primary care, i.e. the predefined catchment areas for general practice and primary care paediatricians.

Under the ACNs’ regulations, every physician is registered in a catchment area which may comprise one or more municipalities and is required to ensure outpatient services in a specific municipality or sub-municipal area thereof if the relevant health authority indicates in the publication of assignment notices that area as one where outpatient services must be provided. Citizens choose their physician from among those practising in their municipality of residence or in municipalities belonging to the same catchment area. However, it is possible to choose a physician registered in lists other than that of one’s municipality of residence, subject to the consent of the physician concerned and the ASL.

The ACNs in force at the time of writing are those signed in 2022. According to these documents, the definition of catchment areas for general practice is entrusted to the Regions, whilst the demarcation of areas for primary care paediatrics is entrusted to the ASLs:

The territorial area of registration for a doctor, for the purposes of citizens exercising their choice and the opening of medical practices, consists, on the basis of regional determinations, of one or more municipalities with a population of at least 7,000 inhabitants; in specific situations, territorial areas with a population of fewer than 7,000 but not less than 5,000 may be identified. (ACN General Practice 2022, p. 53)

The geographical area of registration for paediatricians, for the purposes of patients’ choice of physician and the establishment of medical practices, consists of one or more municipalities, as determined by the health authority. As a rule, each area must have at least two primary care paediatricians. (ACN Primary Care Paediatrics 2022, p. 43)

In both cases, the minimum size of the catchment areas is the municipal area. For general practice, a minimum population threshold is specified, but no maximum threshold. For primary care paediatrics, no explicit demographic threshold is specified; however, the population to be considered for the delimitation of areas is that in the paediatric population. Since the inclusion of at least two paediatricians is required in each area, the optimal ratio determines a minimum demographic threshold for their delimitation.

As regards general practice, the review of the ACNs that have followed one another since the 1990s has highlighted some significant differences between recent provisions and those of the past. The minimum demographic threshold for identifying areas was 1,500 inhabitants in the

Agreement signed in 1996 and was revised to 5,000 inhabitants in 2001 and finally to 7,000 inhabitants from 2005. The documents signed in both 2001 and 2005 specified the conditions under which an exception could be made to the minimum population threshold, whereas the current provision is more general and refers to “particular situations”.

For reasons of geography, road networks, distance between municipalities, difficult access to transport links, the fragmentation of residential settlements or other valid conditions, the Regions may identify ‘ambiti territoriali’ with a population of fewer than 7,000 but never fewer than 5,000. (ACN, 2005, p. 52)

The definition of the “ambiti territoriali” serves to define the zones to which GPs and PLSs are assigned and therefore has direct implications for the availability of physicians and access to primary care facilities.

In fact, every six months, the ASLs publish selection notices for the recruitment of new GPs and PLSs, based on the identification of catchment areas falling within the so-called ‘underserved zones’. The methodology adopted for defining these zones is based on the boundaries of the catchment areas for primary care and on the measurement of an availability indicator based on the optimal physician-to-population ratio.

The ACN for general practice that is in force as of January 2024 sets an optimal ratio of 1 GP per 1,000 residents aged 14 and over, with a maximum of 1,500 patients; whilst that for primary care paediatrics defines an optimal ratio of 1 paediatrician per 600 residents aged under 6 and a maximum of 880 patients aged under 14 per PLS.

According to the ACN for general practice, an area is defined as a ‘underserved area’ if the difference between the eligible population and the total care capacity – measured by assigning each practising physician in the area the value of the current optimal ratio (1:1,000) – exceeds half the value of the optimal ratio itself, that is 500. The population eligible for care is defined by subtracting from the resident population aged over 13 the number of those who have chosen a physician in an area other than their area of residence and adding the number of non-residents who have chosen a physician practising in that area.

As regards primary care paediatrics, the 2022 ACN contains no reference to the method for identifying underserved areas, leaving it to the regions to define the need for primary care paediatricians. The reference to the method was subsequently reintroduced in the ACN signed in May 2024, which specifies that

From the year following the entry into force of this Agreement, the optimal ratio of primary care paediatricians, for each territorial area, shall be determined on the basis of the number of residents aged between 0 and 14 years, minus the number of patients aged over 6 and under 14 years under the care of physicians in the single primary care role.

Furthermore, in the absence of Regional Supplementary Agreements (AIRs), the 2024 CAN for primary care paediatrics stipulates that, when determining which areas are to be considered underserved, the following calculation must be applied: “the sum of the number of resident children aged 0–5 years and 364 days, plus 70% of residents aged 6–13 years and 364 days.

Following this calculation, one paediatrician is assigned for every 850 residents or fraction exceeding 450”¹².

In the highly regionalised Italian National Health Service, the Regions, Autonomous Provinces or Local Health Authorities are not only entrusted with the task of defining the catchment areas relevant to the organisation of healthcare, but they are also guaranteed the opportunity to determine values for the optimal ratio and the maximum number of patients that differ from those determined at national level.

In 2023, the regional government of the Tuscany Region, given the shortage of health care provision within the region, issued Resolution No. 353 of 3 April 2023, introducing, in specific situations, an increase in the maximum number of patients from 1,500 to 1,800 and defining an optimal ratio at regional level of 1 GP per 1,300 residents, thereby raising the threshold for identifying underserved areas. With regard to paediatric care, the 2024 AIR, in line with the 2023 AIR, has established an optimal ratio of 1 paediatrician for every 500 residents under the age of 6, compared to the optimal ratio set at national level of 1 paediatrician for every 600 residents under the age of 6. The Region has therefore lowered the threshold for identifying underserved areas and has also provided for an increase in the maximum number of patients, on a voluntary basis, from 880 to 1,400.

3.2.2 Physicians zoning in France

Chevillard et al. (2018) provided an in-depth review of the evolution of the system for allocating general practitioners in the French context, starting with the introduction of the concept of underserved areas in the 1999 bill to social financing, which provided for the possibility of allocating financial resources to support the establishment of healthcare professionals in areas characterised by a shortage of medical services.

At that time, the zoning used to identify underserved areas coincided with that of the French cantons, and the identification method was based on measures of availability similar to those adopted in the Italian context.

In 2003, the Charles Descours project offered a pioneering cartography of medically underserved areas identifying French cantons⁴ with fewer than 3 general practitioners for every 5,000 inhabitants, without explaining the reasoning behind this threshold. (Descours, 2003) In the absence of population pools⁵, the level of the canton was, at the time, adequately situated between the municipality and the department.. (Chevillard et al., 2018, p. 6)

In 2004, the Observatory of the Demography of Health Professionals (“*Observatoire de la démographie des professions de santé*”, ONDPS) developed a national methodology for identifying cantons with a shortage of general practitioners, based on a set of indicators relating to physician density, the level of professional activity, and the rates at which the population utilises health care services. The designation of shortage areas using this methodology was entrusted to regional observatories, in collaboration with the regional directorates of the National Health Insurance system (Assurance Maladie) and the State (Chevillard et al., 2018).

¹ It should be noted that the population eligible for care from GPs and paediatricians is defined as those aged 14 and over and those aged 0–6 respectively; furthermore, GPs are permitted, to a certain extent, to take on patients aged 0–5. Upon reaching the age of six, a switch from a paediatrician (PLS) to a GP (GP) is permitted. Children aged between 6 and 14 may be treated by GPs or may continue to receive or request paediatric care. However, the population aged [5–14] is not included in the calculation of the optimal ratio for general practice and is included only to the extent of 70% in that of the optimal ratio for primary care paediatric care.

Between 2005 and 2011, the definition of underserved areas was once again entrusted to the national administrative level, following the establishment of common recommendations on the territorial scope to be considered and the criteria for identifying underserved areas. In particular, the use of indicators measuring the density and activity levels of general practitioners was recommended, whilst contractual measures and tax incentives aimed at encouraging the establishment of practitioners in areas identified as underserved were promoted.

Between late 2011 and early 2012, the definition of ‘fragile areas of primary care’ or ‘multi-professional zoning’ was introduced. The identification of these zones was entrusted to the Regional Health Agencies (Agences Régionales de Santé, ARS) as part of regional healthcare organisation programmes. In contrast with previous models, the choice of indicators and geographical scale was left to regional discretion, and territorial coverage had to take into account the zoning validated by the Ministry of Economy and Finance (Chevallard et al., 2018).

From 2017 onwards¹³, physician zoning was again assigned to the national level and in order to move beyond simple measures of density by catchment area or department (DREES, 2025) a methodology was adopted for defining physicians’ allocation zones based on the measurement of the “*Accessibilité Potentielle Localisée*” (Local Potential Accessibility, LPA) indicator.

The LPA indicator was developed by the French department responsible for producing official statistics and socioeconomic studies, the “*Direction de la Recherche, des Études, de l’Évaluation et des Statistiques*” (DREES), and by the multidisciplinary research institute specialising in health economics, the “*Institut de recherche et documentation en économie de la santé*” (IRDES) (Barlet et al., 2012), and is inspired by academic literature (in particular Radke and Mu, 2000; Luo and Wang, 2003; Luo and Qi, 2009)” (Barlet et al., 2012, p. 1).

In fact, the LPA indicator is an Enhanced Two-Step Floating Catchment Area (E2SFCA) indicator and provides a quantitative measure of geographical access to general practice. “It is a local indicator, available at the municipal level, that takes into account the supply and demand from surrounding municipalities” (DREES, 2025).

The development of this method stems from a critique of density measures, the need to analyse intra-municipal inequalities in service accessibility, and the recognition that for primary care services – which are generally organised at the municipal level – mobility beyond geographical-administrative catchment areas is high (Barlet et al., 2012). This highlights the need to overcome the problem of the impermeability of administrative boundaries.

As illustrated in Chapter 2, the adoption of the E2SFCA method allows for the association of a “floating sector” to each municipality, which is defined “as a zone limited by an isochronous curve centred on the seat of the municipality being studied (town hall)” (Barlet et al., 2012, p. 2). This enables physicians located beyond administrative boundaries to be considered accessible, provided they are within a certain distance threshold. The model also incorporates a potential effect of competition in demand, modulated according to distance (Barlet et al., 2012).

Specifically, the LPA indicator applies a stepwise distance decay function, estimated using national data on consumption rates of GPs’ consultations and visits, and introduces a joint standardisation of healthcare supply and demand. Supply is adjusted by weighting the number of physicians according to the volume of consultations and visits actually provided, whilst the population is standardised according to age structure, using a coefficient derived from data on average healthcare consumption by age group (Barlet et al., 2012; DREES, 2020a).

¹³ Decree of 13 November 2017 on the methodology applicable to the medical profession for determining the zones referred to in Article L. 1434-4(1) of the Public Health Code.

The indicator was defined in 2012 based on a set of initial parameters and was subsequently measured at national level for ten healthcare professions, based on data from 2010 and 2013.

Since 2015, with the aim of adopting the indicator for physician zoning, all the parameters used to construct the indicator have been the subject of extensive consultation involving the Ministry of Solidarity and Health, the National Health Insurance Fund, regional health agencies and representatives of the professions concerned” (DREES, 2025)¹⁴.

In the updated version, the LPA indicator is measured at the municipality level and represents the number of medical services potentially accessible within a twenty-minute travel time (DREES, 2025). In the first step, the potential catchment areas of general practitioners practising in the municipalities j are determined by applying the formula:

$$R_j = \frac{m_j}{\sum_{d_{ij} < d_0} p_i * w(d_{ij})}$$

where:

- m_j = measures the health care provision in municipality j standardised per Full-Time Equivalent (FTE). The standardisation of health care provision is carried out in accordance with the methods outlined in Table 3.1, where the number of consultations, visits and teleconsultations carried out by physicians during the year, as recorded by the “*Système national d’information inter-régimes de l’Assurance maladie*” (SNIIRAM), is converted into a standard number of services counted in the indicator, in order to represent the actual volume of activity carried out more realistically.
- p_i = standardised measure of the resident population in the municipalities i located at a distance d_{ij} of less than the threshold d_0 from the municipality j , according to the coefficients in Table 3.2.
- d_{ij} = the road travel time from the municipality i to the municipality j .
- $w(d_{ij})$ = the relative weight of the distance d_{ij} according to the coefficients in Table 3.3.

Table 3.1 – Standardisation of general practitioners’ activity

<i>Number of consultations, visits and teleconsultations carried out during the year (SNIIRAM)</i>	<i>Number of consultations, visits and teleconsultations counted in the indicator</i>
< 250	0
251 – 3,600	3,600
3,601 – 6,000	Actual number of consultations and visits recorded
> 6,000	6,000

Exception: for self-employed physicians who did not practise in the previous year, a volume of 5,400 services (consultations or visits) is attributed.

Source: Author’s elaboration based on DREES (2025)

¹⁴ For a discussion of the original version and a comparison of the various versions that have followed over time, see Barlet et al. (2012) and DREES (2017; 2025) respectively.

Table 3.2 – Population weights by age group

Age group	Weight of age group (2023)
< 5	1.12
5–9	0.58
10–14	0.51
15–19	0.60
20–24	0.75
25–29	0.79
30–34	0.82
35–39	0.85
40–44	0.89
45–49	0.93
50–54	1.03
55–59	1.15
60–64	1.18
65–69	1.23
70–74	1.46
75–79	1.57
80–84	1.63
85–89	1.89
≥ 90	2.26

Source: Author’s elaboration based on DREES (2025)

Table 3.3 – Distance decay coefficients

Travel times between municipalities (minutes)	Distance decay
< 10	1
10 – 15	2/3
15 – 20	1/3
≥ 20	0

Source: Author’s elaboration based on DREES (2025)

In the second stage, for each municipality i , the values for accessibility to health care in the municipalities j where physicians are practising are aggregated, weighted according to distance. Formally speaking, the potential accessibility for the resident population of the municipality i (A_i) is calculated as the sum of the health care provision values weighted by distance relative to the municipalities j with practising physicians:

$$A_i = \sum_{d_{ij} < d_0} w(d_{ij}) \cdot R_j$$

The zoning used to define underserved areas is based on territorial units known as ‘*Territoires de vie–santé*’, which correspond to individual municipalities or groups of municipalities organised around specific service hubs (DREES, 2020a). This zoning is designed with the aim of identifying the areas within which residents can access services and facilities considered essential and distributed across the territory in relation to personal services, retail, education, healthcare, transport and mobility, sport, leisure and culture, and tourism (for further details on zoning, see Chevillard and Mousquès (2019)). Each municipality belongs to a single *Territoires de vie–santé* and this division transcends administrative boundaries: “municipalities belonging to different regions or departments may, in fact, fall within the same *Territoire de vie–santé*” (DREES, 2020a, p. 3).

The indicator used to calculate access to general practitioners within the *Territoire de vie-santé* is the average of the LPAs of the municipalities comprising it, weighted by the standardised population based on average consumption of general medical care by age group (DREES, 2020a).

Based on LPA results, the ARSs identify two categories of areas: priority intervention areas (“*zones d’intervention prioritaire*”, ZIP) and complementary action areas (“*zones d’action complémentaire*”, ZAC), where the level of shortage pressure is lower than in priority intervention areas. The two categories of areas thus identified are eligible for various forms of support to encourage the establishment of new physicians (DREES, 2020b). In particular, an area is automatically classified as a ZIP if the LPA indicator is less than 2.5 potentially accessible consultations per inhabitant per year. Additional ZIPs may be identified by the ARSs among territories where the LPA indicator lies between 2.5 and 4 consultations per inhabitant per year, based on additional criteria determined by the ARSs themselves (DREES, 2020b).

In 2022, ARSs were allowed to adapt the national methodology to better address local specificities, for example by incorporating the analysis of socioeconomic or health indicators into the methodology for identifying intervention zones (Chevallard et al., 2018).

3.2.3 Physicians zoning in Île-de-France

In the Île-de-France region, health care planning has traditionally been conducted based on multidimensional measures of access to health care.

In 2004, the “*missions régionales de santé*” (MRS) in Île-de-France – established with the aim of identifying areas with a shortage of physicians and promoting grants for physicians to set up practices – introduced an integrated approach that combined indicators relating, on the supply side, on measures such as physicians density and activity levels, and, on the demand side, to proxy measures of healthcare needs and territorial vulnerability, such as the proportion of the elderly population, the prevalence of chronic conditions (“*Affections de longue durée*”, ALD), social vulnerability and territorial isolation (Lucas-Gabrielli and Mangeney, 2019b).

In 2012 and 2015, the ARS Île-de-France further developed this methodology, adopting a zoning methodology based on four main criteria: a physician density/activity ratio, aimed at identifying areas characterised by a low number of practitioners but high demand for care; an indicator of complementarity in health care provision, which assigned a score based on the presence within the municipality of other health centres and primary care professionals; a turnover indicator (the change in the number of physicians over the previous three years) and an indicator of the ageing of the medical workforce (the percentage of healthcare professionals aged over 55); and, finally, a Regionalised Human Development Index (RHDI-2)¹⁵ as a measure of healthcare needs (Lucas-Gabrielli and Mangeney, 2019b).

From 2022 onwards, the ARS Île-de-France has chosen to replace the LPA calculation with a composite index in identifying physician assignment zones, in line with the multidimensional

¹⁵ The Human Development Index (HDI) was introduced by the economist Mahbub Ul Haq in the first United Nations *Human Development Report* of 1990 (UNDP, 1990), with the aim of providing a multidimensional measure of countries’ development. Inspired by the conception of development and human well-being derived from Amartya Sen’s capability approach (Sen 1985, 1990, 1999), the index proposes moving beyond a purely economic, income-centred view of development to promote a perspective that regards well-being as the expansion of people’s freedoms and real opportunities. The HDI assesses a country’s level of development through a composite measure that integrates three dimensions of human well-being: health, represented by life expectancy at birth; education, expressed by a composite index combining the average years of schooling of the adult population and the expected years of schooling for young people; and standard of living, measured by gross national income per capita, expressed in purchasing power parity. Since 2010, the index has been calculated as the geometric mean of the standardised values of the three dimensions. The indicators are standardised on a scale of 0 to 1 using the minimum-maximum method, with threshold values established internationally by the United Nations Development Programme (UNDP).

measures of accessibility traditionally used in the region (ARS Île-de-France, 2024). The composite index is based on seven criteria, including five indicators relating to the availability of physicians and medical demographics, and two proxy indicators of the population's healthcare needs. With regard to the former, the following basic indicators are considered: the density of general practitioners per 100,000 inhabitants, the change in the number of general practitioners compared to the previous period (between 2018 and 2020), the trend in new practices (% of first-time set-ups in private practice (2018–2020) relative to the number of GPs in 2018), the percentage of physicians aged over 62, and the density of specialists with direct access per 100,000 inhabitants (ARS Île-de-France, 2024). The proxy indicators of healthcare needs comprise a morbidity indicator, summarised as the percentage of the population suffering from long-term conditions (Affections de longue durée, ALD), and the Regionalised Human Development Index (RHDI-2).

The 2017 RHDI-2 Index is measured by ARS Île-de-France and the Île-de-France Regional Health Observatory (ORS) as the geometric mean of the standardised values of three indicators: life expectancy calculated on the basis of deaths over the last five years among the population aged over 70, the percentage of people aged over 15 who have left the education system with a qualification, and the median household income (ARS Île-de-France, 2023).

The composite index of physician availability and healthcare needs is then measured as the sum of the critical scores obtained for the seven indicators, assigning a weight of 2 to the RHDI-2 and a weight of 1 to the other six criteria:

$$I = 2 \times I_{IDH-2} + \sum_{k=1}^6 I_k$$

The overall score ranges from 0 to 8. Indeed, each territorial unit ("*Territoire de vie sociale*") is awarded one point for each indicator where it is in a critical condition relative to the sixth decile of the indicator's distribution (above the decile in the case of indicators with a negative distribution and below it in the case of indicators with a positive distribution). Based on the final score, areas are classified as priority intervention areas (for a score of 4 to 8), areas requiring complementary action (score of 2 to 3) and other areas (score of 0 or 1).

3.3 Research materials and methods

This study provides a critical assessment of the Italian method for defining the catchment areas of general practitioners and primary care paediatricians, by comparing it with various analytical scenarios for measuring availability and accessibility derived from French methodologies. The analysis considers four main methodological approaches: i) indicators of potential patient load, that is population-to-physician ratios derived from the Italian zoning method; (ii) a simplified version of the 2SFCA method, which measures spatial accessibility; (iii) an adaptation of the French LPA method, which is measured at the scale of census sections and adjusts supply according to physicians' days of outpatient practice and demand according to the age structure of the population; (iv) two composite indices of accessibility and the population's healthcare needs, which are based on the adaptation of the Île-de-France approach. The application of these methods has been adapted to the Tuscan territorial context, distinguishing between general practice and primary care paediatricians and based on some constraints imposed by data availability.

The analyses are based on a variety of data sources, supported by a dataset relating to the location and level of activity of GPs and PLSs, updated to January 2024. This dataset was compiled through the manual collection of information published on the institutional websites of the three Tuscan Local Health Authorities (LHA): “*Azienda USL Toscana Nord-Ovest*” (North–West Tuscany LHA); “*Azienda USL Toscana Centro*” (Central Tuscany LHA) and “*Azienda USL Toscana Sud-Est*” (South-Est Tuscany LHA). These data include information on the location of surgeries, the territorial catchment areas, and the weekly working days of each physician at each surgery.

According to these estimates, as of 1 January 2024, there were 2,271 GPs working across the region and distributed across 1,627 surgeries; and 394 PLSs operating in 417 surgeries. These estimates are consistent with the data provided by SISAC (“*Struttura Interregionale Sanitari Convenzionati*”, [Interregional Structure for Contracted Healthcare Providers]) and the Regional Health Agency of the Tuscany Region (ARS, 2024)¹⁶.

The cartograms in Figures 3.1 and 3.2 illustrate, respectively, the spatial distribution of general practice and primary care paediatric surgeries open to the public in Tuscany in January 2024. Each surgery is represented by a symbol proportional to the number of physicians practising in that facility. The picture highlights a marked concentration of the most numerous surgeries in areas with higher population density, particularly along the urban axis of central–northern Tuscany (the Florence, Prato and Pistoia areas) and on the northern coast. Conversely, inland and mountainous areas show a sparser distribution and smaller–scale facilities, suggesting potential issues regarding territorial access to primary care. This imbalance appears particularly marked in general practice: the number of physicians per practice ranges from 1 to 30, whilst the largest paediatric practice has 6 PLSs.

¹⁶ According to SISAC data, as of 1 January 2024, there were 2,304 GPs and 394 PLSs operating in Tuscany (SISAC, 2024). According to data from the Regional Health Agency, there were 2,251 GPs in practice as of 1 January 2024, distributed as follows: 766 GPs in the “*Azienda USL Toscana Nord-Ovest*” area, 988 in the “*Azienda USL Toscana Centro*” area, and 497 in the “*Azienda USL Toscana Sud-Est*” area (ARS, 2024).

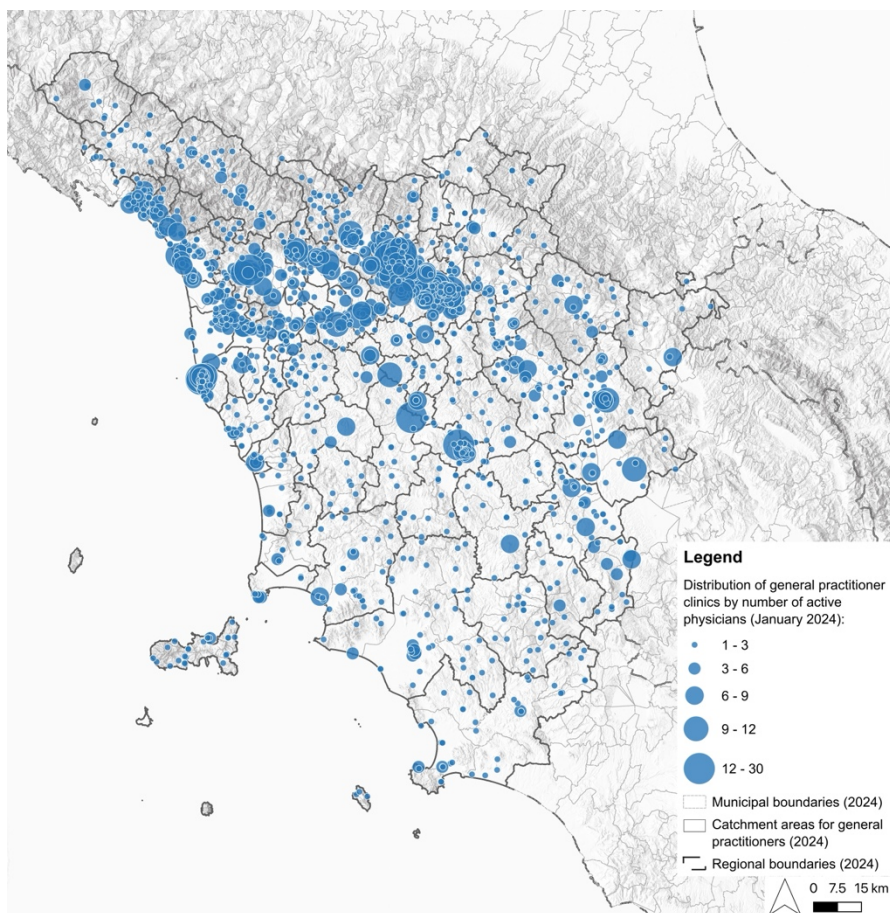


Figure 3.1 – Distribution of general practice surgeries by number of GPs.
Source: Author's own elaboration

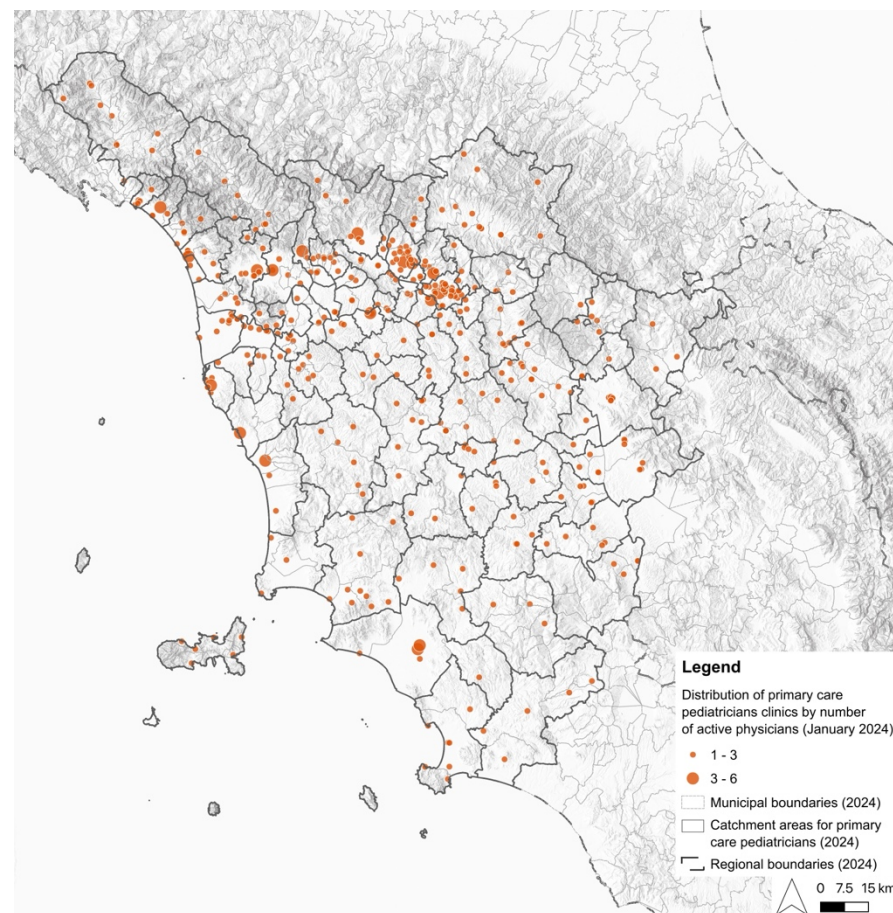


Figure 3.2 – Distribution of primary care paediatrics surgeries by number of PLSSs.
Source: Author's own elaboration

3.3.1 Assessing potential care burden according to the Italian method

In order to propose measures consistent with the Italian method for defining GPs' and PLSs' assignment zones, we analyse indicators of potential care burden by catchment area.

The indicators C_{GP} and C_{PLS} are calculated, for each territorial area, as the ratio between the potentially treatable population and the number of active practitioners, according to the following formulas:

$$C_{GP_a} = \frac{p_{gp_a}}{n_{GP_a}},$$

$$C_{PLS_a} = \frac{p_{pls_a}}{n_{PLS_a}}$$

where,

- the adult population p_{gp_a} represents the resident population aged 14 years and over;
- the paediatric population p_{pls_a} is calculated as the sum of the number of residents under the age of 6 and 70% of residents aged between 6 and 14;
- n_{GP_a} and n_{PLS_a} indicate, respectively, the number of active general practitioners and primary care paediatricians.

As data are not available on the number of residents who have chosen a physician within or outside their catchment area of residence, but only on the resident population at municipal level, the data do not allow for a full replication of the procedure adopted by the Tuscan Local Health Authorities ("*Aziende USL*") for identifying underserved areas. Therefore, the potential care burden is estimated by comparing the actual number of GPs and PLSs with the potentially assisted resident population (ISTAT, 2024).

The results obtained in this way make it possible to assess the potential alignment between the geographical distribution of healthcare professionals and the values for the optimal physician-to-population ratio and the maximum number of choices established by the ACNs. Values lower than the optimal ratios set out in the ACNs indicate that the supply is adequate, whilst higher values indicate potential overcrowding.

3.3.2 Assessing proximity and spatial accessibility

In order to assess intra-municipal and intra-zonal inequalities in potential accessibility to primary care physicians, a simple 'Enhanced Two-step Floating Catchment Area' (E2SFCA) indicator is first estimated at the finest level of detail available among Italian administrative areas, namely that of census sections (ISTAT, 2021).

Estimates of road travel times are calculated by setting the points of origin at the centroids of the census sections inhabited as of 2021 ("*Basi Territoriali*" ISTAT 2021 and "*Sezioni puntuali*" 2021 file, Istat 2024) and the points of origin directly on the GP and PLS surgeries, based on data from the Regione Toscana road network updated to 2022 (Regione Toscana, 2022). The destination points were geolocated in QGIS using surgeries' addresses derived from the websites of the three Local Health Authorities.

According to ISTAT data (2024), as of 31 December 2021, there were 47,712 census sections in Tuscany, of which 31,019 were inhabited and 16,693 were uninhabited (Figure 3.3).

It is worth noting that the large number of uninhabited census sections is primarily explained by the presence of infrastructures and service areas without resident populations, which account

for numerous small-sized census units, such as sports facilities and sports clubs (8.5% of uninhabited census sections), major roads and transport infrastructures (8.2%), cemeteries (8.2%), inland waters and inland/coastal wetlands (8.0%), and railway stations together with their associated infrastructures (7.3%). In terms of surface area, however, forest-covered land clearly predominates, accounting for approximately 65% of the total area of uninhabited census sections, followed by agricultural land (11%), highlighting how census sections associated with natural and rural land-cover classes are characterized by substantially larger spatial extents. On the other hand, inhabited census sections are predominantly small in size: 86.3% cover less than 1 km² and 13.3% range between 1 and 10 km², whereas sections exceeding 10 km² are only sporadically observed. This pattern confirms the finer spatial subdivision adopted in populated areas, in contrast to the larger census sections typically associated with uninhabited forested and rural land covers.

By applying the E2SFCA method, isochrone curves are constructed that transcend administrative boundaries, consistently with the possibility for the population to choose, upon specific request, a physician registered in a different area from that of their residence. Analysing accessibility at the level of census sections and surgeries allows for a reduction in aggregation errors arising from the distribution of demand and supply within the municipal area and from the exclusive allocation of the resident population and health care provision to the municipal centroid (Apparicio et al., 2008; Lucas–Gabrielli and Mangeney, 2020).

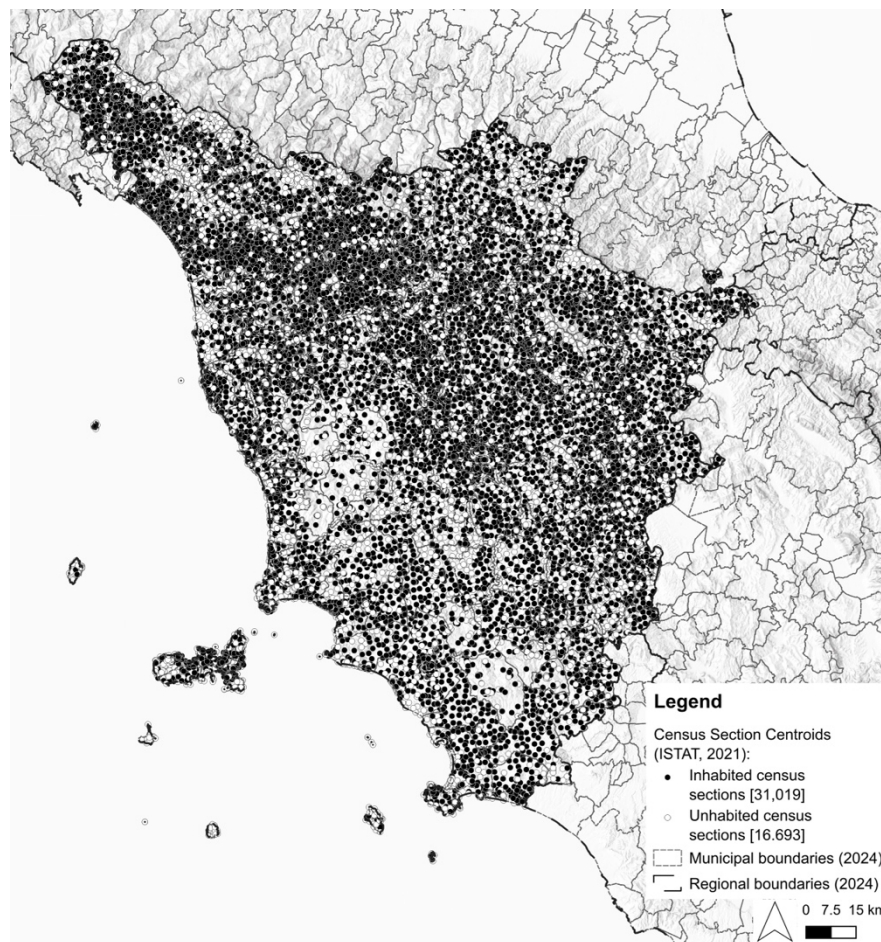


Figure 3.3 – Centroids of census sections (2021).
Source: Author's own elaboration based on Istat data (2024)

Figure 3.4 illustrates Tuscany regional road network, which is available on the Open Toscana platform (file ‘elem_strad.shp’ updated on 5 August 2022). The dataset consists of edges, representing road segments, and nodes located at intersections. Each segment is described by various characteristics, including its technical–functional classification (i.e. road type), average speed and direction of travel (Figure 3.4). As the original dataset contains some missing data, particularly regarding average speed values and direction of travel, it was necessary to impute missing data and correct any inconsistencies to ensure the reliability of the analysis. To this end, where the average speed value was missing, an estimated average speed was assigned based on the average values recorded for each road category in the dataset. As regards the direction of travel, the main issue was the presence of road sections, particularly in urban areas, with zero traffic in both directions, presumably in restricted traffic zones. In these cases, the direction of travel was assigned in both directions, assuming that the resident population has access to these road sections. Furthermore, when estimating travel times, in order to avoid zero values for the distances calculated for census sections whose centroid is distant from the road network elements, the points were snapped to the road elements using the ‘Snap points to grid’ tool available in QGIS.

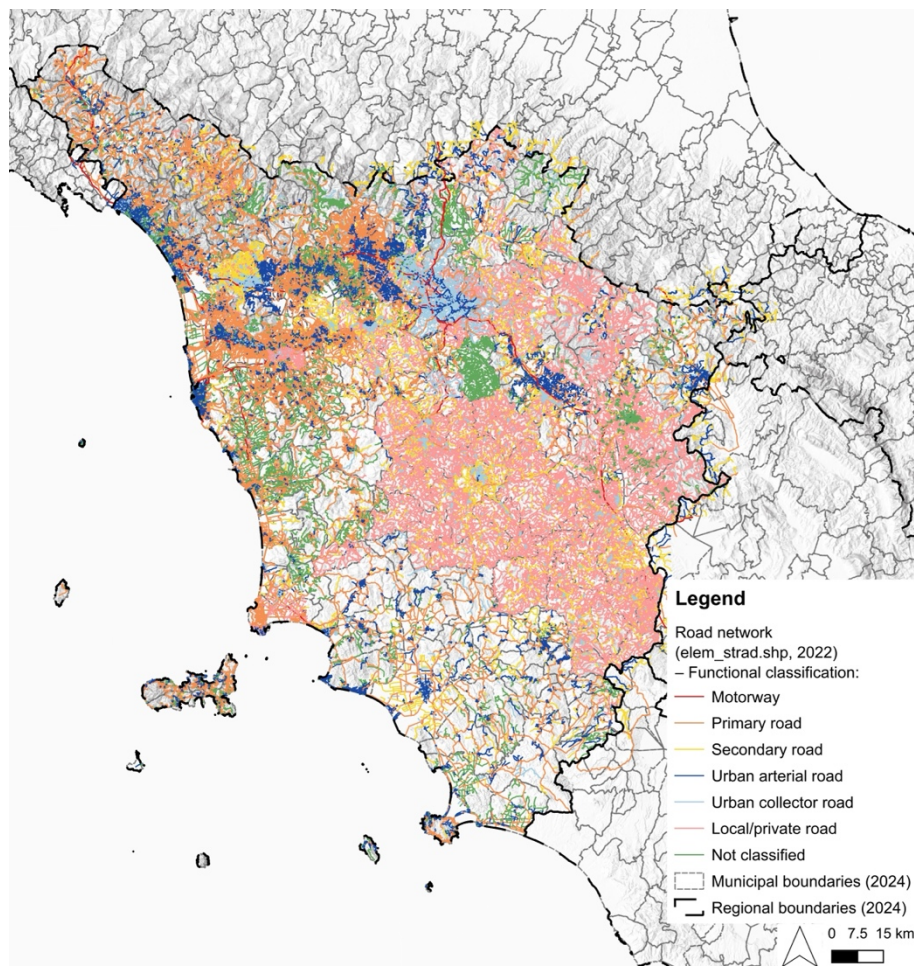


Figure 3.4 – Functional classification of road elements in the road network of the Regione Toscana.
Source: Author’s own elaboration based on Open Toscana data (2022)

The distances estimated in this way are incorporated into the measurement of a simple E2SFCA accessibility indicator that considers the absolute number of physicians and the resident

population potentially served by these two professional groups. In the first step, the following are estimated, respectively for GPs and PLSs:

$$R_{GP,j} = \frac{GP_j}{\sum_{d_{ij} < d_0} p_{GP,i} \cdot w(d_{ij})},$$

$$R_{pls,j} = \frac{pls_j}{\sum_{d_{ij} < d_0} p_{pls,i} \cdot w(d_{ij})}$$

where:

- GP_j = number of GPs practising in each surgery j ;
- PLS_j = number of primary care paediatricians practising in each surgery j ;
- $p_{GP,i}$ = resident population potentially served by general practitioners (age group 5 and over);
- $p_{pls,i}$ = resident population potentially served by primary care paediatricians (age group 0–14);
- d_{ij} = road travel time from the census section i to the surgery j ;
- $w(d_{ij})$ = the relative weight of distance (according to the weights adopted for calculating the LPA indicator in the French context; see Table 3.6 in the following section).

In the second step, the accessibility indices for general practice ($A_{GP,i}$) and paediatric care ($A_{pls,i}$) at census district level are calculated, respectively, as the number of GPs potentially accessible per 1,000 adult residents and the number of PLSs potentially accessible per 600 paediatric residents within 20 minutes:

$$A_{GP,i} = \sum_{d_{ij} < d_0} w(d_{ij}) \cdot R_{GP,j} * 1.000$$

$$A_{pls,i} = \sum_{d_{ij} < d_0} w(d_{ij}) \cdot R_{pls,j} * 600$$

The reference population is the resident population as of the latest 2021 census, that is 31 December 2021. It is classified into five-year age groups (0–4, 5–9, 10–14, 15–24, etc.). In this case, we decided to define the population potentially eligible for GPs' care from the age of 5 onwards, so as to reflect the possibility for the population aged 6–14 to be cared for by both GPs and PLSs. The age groups considered are therefore 0–4, 5–9, 10–14 and 15 and above, rather than the 0–5, 6–13 and 14 and above groups as defined in the ACN and in the definition of potential care load indices. Furthermore, in this case we do not standardise the paediatric population as is done in the definition of the availability index. The results of this indicator are therefore not directly comparable with the results of the availability indices.

3.3.3 *Assessing spatial accessibility and healthcare needs: two adaptations of French methodologies*

In order to consider both a measure of spatial accessibility and a proxy of the spatial concentration of healthcare needs, the accessibility measurement methods adapted from those used in the French national context and in the Île-de-France region are adopted.

Firstly, potential accessibility is measured by adapting the LPA method to the geographical level of census sections.

In our case, it is not possible to replicate the accessibility analysis as carried out by DREES and IRDES in France due to the unavailability of the necessary data regarding the number of consultations and services provided by each physician in a year, the rates of consumption of primary care physicians by age group or according to the distance between patients' homes and surgeries. We therefore adapt the LPA method, defining the supply in terms of full-time equivalent (FTE) physicians based on data on the number of days each physician is working in each surgery, and adopting the French coefficients for population standardisation and for the definition of distance decay effects.

The use of predefined coefficients represents a potential limitation of the analysis, as the data are not derived from behaviour directly observed in the research context. However, the proposed indicator has two strengths. Firstly, it assesses accessibility at a fine-grained geographical level, which is more appropriate for analysing intra-municipal inequalities in access to health care facilities (Lucas-Gabrielli and Mangeney, 2019a). Secondly, adjusting the supply by assigning weights based on the number of physicians' working days allows the indicator's results to be interpreted as the number of FTE physicians. This is part of our critical assessment of the Italian method for allocating physicians, which allows physicians to work across multiple surgeries within their catchment area of registration and allows for the activities of the various physicians to eventually be concentrated in the most populated areas at the expense of more peripheral territories.

Furthermore, the coefficients adopted for weighting the population potentially served by GPs and PLs are not only theoretically consistent with the greater healthcare needs presumably characterising the extreme age groups (that is, young people and the elderly), but also consistent with Italian legislation, which allows individuals aged between 6 and 14 to be treated by general practitioners. Considering the paediatric population aged between 5 and 9 years and between 10 and 14 years, weighted at 0.58 and 0.51 respectively (Table 3.5), in the estimation of accessibility to both GPs and paediatricians, allows the potential demand from these age groups to be distributed between the two professional groups.

The proposed LPA indicator takes the following form. In the first step, the following are estimated, respectively:

$$R_{mmg,j} = \frac{gp_j * \tau_k}{\sum_{d_{ij} < d_0} p_{gp_i}^* \cdot w(d_{ij})},$$

$$R_{pls,j} = \frac{pls_j * \tau_k}{\sum_{d_{ij} < d_0} p_{pls_i}^* \cdot w(d_{ij})}$$

where:

- the number of general practitioners gp_j and primary care paediatricians pls_j working in the surgeries j are weighted by the coefficients τ_k defined by the number of days spent in each surgery, according to the weights shown in Table 3.4;
- $p_{gp_i}^*$ and $p_{pls_i}^*$ are respectively the population potentially served by general practitioners (age group 5 and over) and the paediatric population (age group 0–14), standardised according to the weights assigned to population age groups in the French LPA model for 2023 (Table 3.5; DREES, 2025);

- d_{ij} = road travel time from the census section i to the surgery j ;
- $w(d_{ij})$ = the relative weight of distance (according to the weights adopted for calculating the LPA indicator in the French context; Table 3.6).

In the second step, the potential accessibility indicators are calculated for each census section i , which can be interpreted as the number of FTE GPs potentially accessible within 20 minutes per 1,000 residents potentially eligible for GP care, and the number FTE PLSs potentially accessible within 20 minutes per 600 potentially eligible for paediatric care:

$$APL_{mmg,i} = \sum_{d_{ij} < d_0} w(d_{ij}) \cdot R_{mmg,j} * 1.000$$

$$APL_{pls,i} = \sum_{d_{ij} < d_0} w(d_{ij}) \cdot R_{pls,j} * 600$$

Table 3.4 – Standardisation of physicians' activity by working days

<i>Days of presence at the surgery</i>	τ_k
Twice a month	0.10
1 day in 5	0.20
2 days out of 5	0.40
3 days out of 5	0.60
4 days out of 5	0.80
5 days out of 5	1.00

Source: Author's elaboration based on DREES (2025)

Table 3.5 – Population weights by age group

<i>Age group</i>	<i>Weight of age group</i>
< 5	1.12
5–9	0.58
10–14	0.51
15–19	0.60
20–24	0.75
25–29	0.79
30–34	0.82
35–39	0.85
40–44	0.89
45–49	0.93
50–54	1.03
55–59	1.15
60–64	1.18
65–69	1.23
70–74	1.46
> 75	1.84*

*Arithmetic mean of the weights assigned to the age groups 75–79, 80–84, 85–89 and over 90 years, according to the weights defined by DREES (2025)€

Source: Author's elaboration based on DREES (2025)

Table 3.6 – Distance decay coefficients

<i>Distance (minutes)</i>	$w(d_{ij})$
< 10	1
10–15	2/3
15 – 20	1/3
>= 20	0

Source: Author's elaboration based on DREES (2025)

Finally, two composite indices are calculated, adapting the methodology applied in the Île-de-France region for GPs and PLSs respectively.

The Île-de-France composite index has been adapted to the Tuscan context for reasons of data availability and in order to move beyond measuring availability towards measures of spatial accessibility. Firstly, the available data do not allow us to replicate the methodology adopted by the ARS Île-de-France, as we lack data on the evolution of the number of general practitioners over multiple periods, the dynamics of opening new practices, the age of practising physicians, or the density of specialist physicians.

Nevertheless, it is considered useful to build upon the logic of the indicator to propose an index that integrates measures of accessibility with measures of healthcare needs, such as the standardised rate of total chronic patients and an adapted Human Development Index that synthesises life expectancy at birth, the level of education and income per capita. As discussed in Chapter 1, these variables explain the influence of social disadvantage on the incidence, prevalence and mortality of diseases and therefore represent useful proxy measures for mapping the distribution of healthcare needs (Costa et al., 2014).

Unlike the French methodology, the proposed index considers, on the supply side, the LPA indicator estimated in the previous phase, which is recalibrated at the municipal level. This approach goes beyond simple physician density measures while retaining the advantages of estimating physician density within distance-based areas, whilst also considering the age structure of the population.

To obtain the summary values of the two LPA indicators at municipal level (relating respectively to access to GPs and PLSs), census sections' population-weighted averages are calculated for the resident population in each census section:

$$APL_{gp,c} = \frac{\sum_{i=1}^n (APL_{gp,i} \times p_{ic})}{\sum_{i=1}^n p_{ic}}$$

$$APL_{pls,c} = \frac{\sum_{i=1}^n (APL_{pls,i} \times p_{ic})}{\sum_{i=1}^n p_{ic}}$$

where:

- $APL_{gp,c}$ = weighted average potential accessibility to general practitioners for the municipality c ;
- $APL_{pls,c}$ = weighted average potential accessibility to primary care paediatricians for the municipality c ;
- $APL_{gp,i}$ and $APL_{pls,i}$ represent, for general practice and primary care paediatrics respectively, the values of potential accessibility in the inhabited census sections i of the municipality c ;
- p_{ic} = resident population in each inhabited census section i of the municipality c .

This procedure allows for a more realistic representation of the potential accessibility experienced by citizens, preventing sparsely populated but geographically extensive sections from disproportionately influencing the municipal value of the indicator.

Two composite indices have been calculated, designed as potentially useful tools for physician zoning considering both spatial accessibility and multidimensional healthcare needs.

The indices are calculated at the municipal level, adopting a methodological approach like the French one, namely as the sum of the critical scores relative to the sixth decile of the distribution of three indicators. These indicators, which are estimated at the municipal level, are the following:

- An adapted Human Development Index calculated for the year 2021;

- The age-standardised rate of total chronic patients in 2024 (ARS Toscana, 2024)¹⁷ ;
- The value of the LPA indicator at municipal level in 2024, for general practice and primary care paediatricians respectively.

The adjusted human development index is calculated at municipal level as the geometric mean of the standardised values of three indicators relating to health, education and income:

- life expectancy at birth in 2021, as recorded by Tuscany’s Regional Health Agency (ARS Toscana, 2021);
- the level of education, expressed as the percentage of the population aged 9 years and over with at least a school-leaving certificate or a vocational qualification (ISTAT 2021 Census data);
- average taxable income per capita in 2021 (calculated as the ratio of total municipal taxable income to the number of taxpayers with a taxable income, based on IRPEF data relating to the Ministry of Finance’s (MEF, 2022) tax statistics for the 2021 tax year).

Each basic indicator was first standardised using the min-max normalisation method, which allows the values to be scaled on a range between 0 and 1, according to the following formula:

$$X'_i = \frac{X_i - x_{i,min}}{x_{i,max} - x_{i,min}}$$

where $x_{i,min}$ and $x_{i,max}$ are the values derived from the observed data.

3.4 Results

The following sections illustrates the results of the analyses of potential case load within the catchment areas for general practice and primary care paediatrics according to the Italian method (Section 3.4.1); the results of the analyses of proximity and spatial accessibility according to the E2SFCA indicator (Section 3.4.2); and, finally, the results of the analyses focusing on spatial accessibility and healthcare needs, which are based on the adaptation of French methods (Section 3.4.3).

3.4.1 Analyses of potential care burdens

As of January 2024, the Tuscan region was organised into 100 catchment areas for general practice and 78 catchment areas for paediatric care, the boundaries of which varied, both between and within the Local Health Authorities (“*Aziende USL*”), from areas limited to a single municipality to areas encompassing several municipalities (Tables 3.7 and 3.8; Figures 3.5 and 3.6).

The largest catchment areas in terms of the number of municipalities are, for example, the Valle del Serchio catchment area, which serves both general practice and primary care paediatrics and comprises 19 municipalities; and the Mugello paediatric care catchment area, which comprises 10 municipalities. As of January 2024, the municipalities belonging to the latter area were organised into six general practice areas. Of these six areas, the “Marradi and Palazzuolo

¹⁷ The indicator is calculated by the Regional Health Agency of the Tuscany Region (ARS Toscana, 2025) as the ratio of residents in Tuscany with at least one chronic condition from a selected set of conditions to the total resident population in Tuscany as at 1 January of the reference year. The conditions considered are as follows: diabetes mellitus, previous stroke, heart failure, hypertension, ischaemic heart disease, chronic obstructive pulmonary disease, dementia, Parkinson’s disease, multiple sclerosis, renal failure, epilepsy, atrial fibrillation, dyslipidaemia, chronic inflammatory bowel disease, rheumatic diseases, peripheral arterial disease, as of 1 January of the reference year.

sul Senio” catchment area and the “Firenzuola” one had a population below the threshold of 5,000 inhabitants. These are mountain municipalities situated at considerable distances from the other municipalities in the Mugello area¹⁸. It should be noted that, whilst the most populous general practice areas within the “Azienda USL Toscana Centro” and “Azienda USL Toscana Nord–Ovest” are, respectively, those of the cities of Florence and Livorno, within the “Azienda USL Toscana Sud–Est”, the most populous area is the “Arezzo” catchment area, which includes the municipalities of Capolona, Castiglion Fibocchi, Civitella Val di Chiana, Monte San Savino and Subbiano, together with the provincial capital Arezzo. As regards primary care paediatrics, the Valdarno catchment area comprises the largest number of municipalities and is the most populous at the Local Health Authority level. This area includes the municipalities of Bucine, Castelfranco Piandiscò, Cavriglia, Laterina, Pergine Valdarno, Loro Ciuffenna, Montevarchi, San Giovanni Valdarno and Terranuova Bracciolini.

Table 3.7 – Catchment areas (“ambiti territoriali”) for general practice

Local Health Authority	Catchment areas	Number of municipalities		Resident population (total)		
		Average	Maximum	Average	Minimum	Max
Azienda USL Toscana Nord–Ovest	29	3.5	19 (Serchio Valley)	42,941	6,310 (Calci)	153,558 (Livorno, Capraia Isola)
Azienda USL Toscana Centro	52	1.4	4 (*)	30,939	3,966 (Marradi, Palazzuolo sul Senio)	363,837 (Florence)
Azienda USL Toscana Sud–Est	19	5.2	10 (Casentino)	42,666	11,928 (Asciano, Rapolano Terme)	127,430 (Arezzo)

*Within the “Azienda USL Toscana Centro” two catchment areas comprise four municipalities: “Montecatini Terme, Massa e Cozzile, Pieve a Nievole, Ponte Buggianese”; and “Pescia, Chiesina Uzzanese, Buggiano, Uzzano”.

Source: Author’s own elaboration based on data from Azienda USL Toscana Centro (2024), Azienda USL Toscana Nord–Ovest (2024), Azienda USL Toscana Sud–Est (2024), ISTAT (2024).

¹⁸ It should be noted that, by Resolution No. 1394 of 13 December 2024 of the Director General of the Toscana Centro Local Health Authority, it was decided that, with effect from 1 January 2025, three of the six catchment areas would be merged into a single area for general practice (the catchment areas of “Dicomano, Londa, San Godenzo”, “Borgo San Lorenzo and Vicchio” and “Marradi and Palazzuolo sul Senio”). The decision was taken following the retirement of a physician working in the “Marradi and Palazzuolo sul Senio” catchment area and to anticipate the retirement of the other physician (Toscana Centro Local Health Authority, 2024).

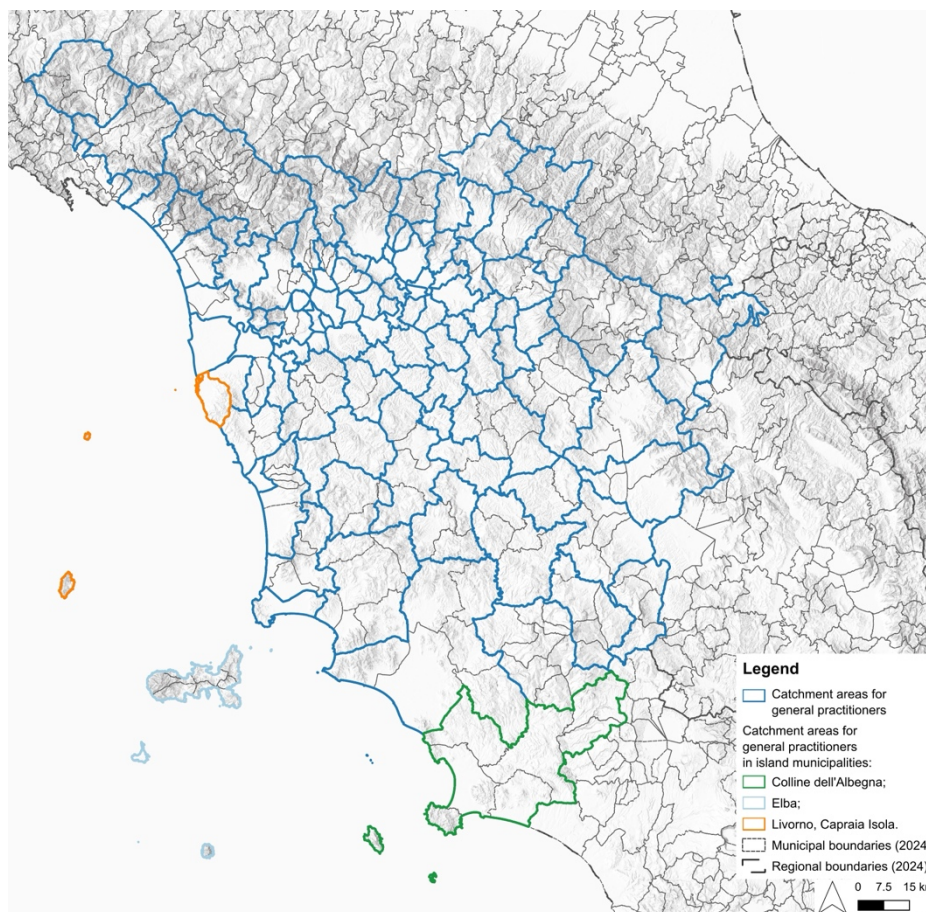


Figure 3.5 – Delimitation of catchment areas for general practitioners

Source: Author's own elaboration

Table 3.8 – Catchment areas (“ambiti territoriali”) for primary care paediatricians

Local Health Authority	Catchment areas	Number of municipalities		Resident paediatric population (aged 0–14 years)		
		Average	Maximum	Average	Minimum	Max
Azienda USL Toscana Nord-Ovest	24	4.2	19 (Serchio Valley)	5,213	1,490 (Casciana Terme, Lari, Chianni, Lajatico)	15,661 (Livorno)
Azienda USL Toscana Centro	29	2.5	10 (Mugello)	5,953	1,431 (Larciano, Lamporecchio)	37,577 (Florence)
Azienda USL Toscana Sud-Est	25	3.9	8 (*)	3,304	909 (Buonconvento, Montalcino)	10,223 (Valdarno)

*Within the “Azienda USL Toscana Sud-Est” two catchment areas comprise 8 municipalities: “Valdarno; Abbadia San Salvatore, Castiglione d’Orcia, Cetona, Chiusi, Piancastagnaio, Radicofani, San Casciano dei Bagni, Sarteano”; and “Arcidosso, Castel del Piano, Castell’Azzara, Cinigiano, Roccalbegna, Santa Fiora, Seggiano, Semproniano”.

Source: Author's own elaboration based on data from *Azienda USL Toscana Centro* (2024), *Azienda USL Toscana Nord-Ovest* (2024), *Azienda USL Toscana Sud-Est* (2024), ISTAT (2024).

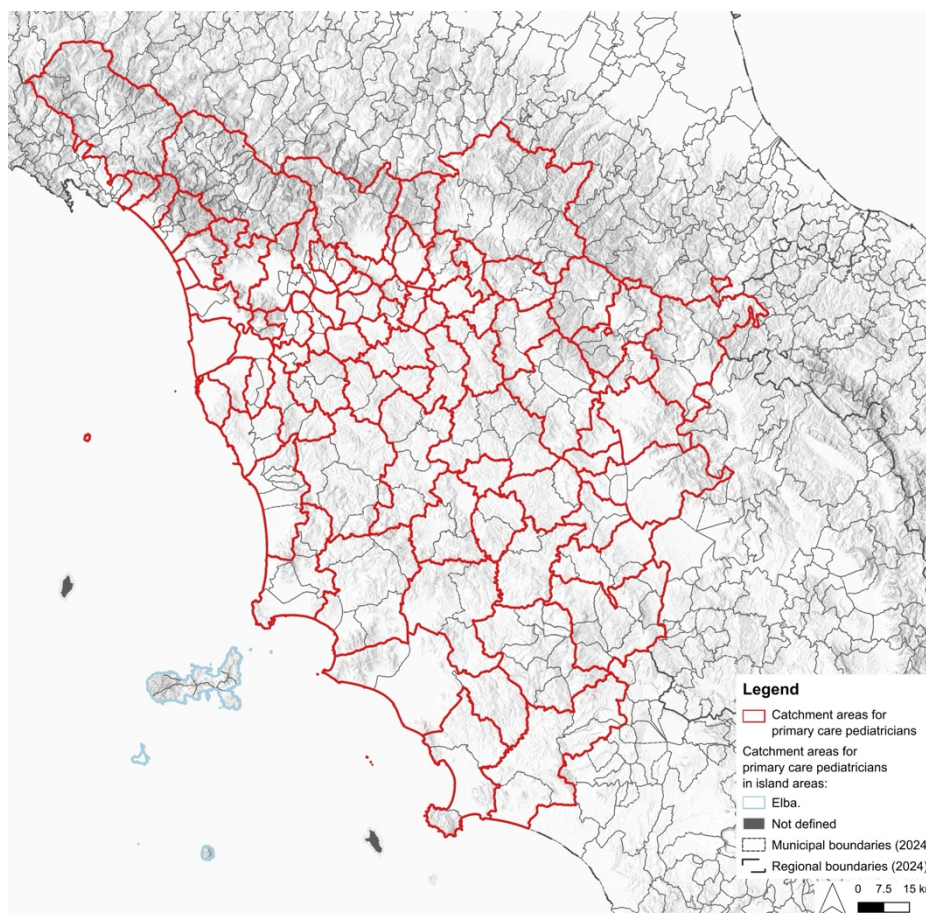


Figure 3.6 – Delimitation of catchment areas for primary care paediatricians.

Source: Author's own elaboration

Across the region, the average ratio between the resident population potentially eligible for care to the number of GPs stands at over 1,400 (Table 3.9). This result is not only above the optimal maximum ratio established at national level (1:1,000) but also very close to the maximum number of patients per physician. The “Collesalveti” catchment area is the only one for which the estimated potential patient load index is below the optimal ratio of 1 to 1,000. For thirteen areas, indices are estimated to be below the optimal ratio determined at regional level (1:1,300), whilst for the remaining eighty-six areas the index exceeds 1,300 potential patients per GP (Figure 3.7). The highest potential workload is estimated for the municipality of “Firenzuola”, which has 2,007 potential patients per GP (Figure 3.7).

Table 3.9 – Number of GPs and eligible population-to-GPs ratio

Local Health Authority	GPs	Eligible population-to-GPs ratio*		
		Average	Minimum	Maximum
Azienda USL Toscana Nord-Ovest	782	1,432	977 (Collesalveti)	1,668 (Elba)
Azienda USL Toscana Centro	991	1,449	1,182 (Montale)	2,007 (Firenzuola)

Azienda USL Toscana Sud–Est	498	1,462	1,094 (Poggibonsi)	1,950 (Colline Metallifere)
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*The analysis of the ratio between the population potentially served by GPs and the number of GPs was based on the resident population aged 14 years or over. The names of the catchment areas with the lowest/highest eligible population-to-provider ratios are shown in brackets.

Source: Author’s own elaboration based on data from *Azienda USL Toscana Centro* (2024), *Azienda USL Toscana Nord–Ovest* (2024), *Azienda USL Toscana Sud–Est* (2024), ISTAT (2024).

This pattern is also observed for primary care paediatricians, where across the entire region the average value of the optimal ratio exceeds the optimal value established at national level (1:600; Table 3.10). For no catchment area is the estimated patient load index equal to or lower than the optimal value established at regional level of 500 residents potentially eligible for paediatric care per paediatrician (Figure 3.8). Compared to general practice, where only the “Collesalveti” catchment area has a potential workload index below the expected optimal ratio, for primary care paediatricians we find eight areas with a potential workload below the optimal threshold of 1 paediatrician per 600 residents, indicating a more favourable situation in terms of workload. For the catchment areas of “Valle del Serchio”, the “Valle di Merse” and “Capalbio, Manciano, Pitigliano and Sorano”, where particularly high potential caseload indices are recorded, exceeding the optimal ratio by 50%.

Table 3.10 – Number of PLSs and eligible population-to-PLSs ratio

Local Health Authority	PLS	Eligible population-to-PLSs ratio*		
		Average	Minimum	Max
Azienda USL Toscana Nord–Ovest	128	792	599 (Casciana Terme, Lari, Chianni, Lajatico)	1,272 (Serchio Valley)
Azienda USL Toscana Centro	179	762	576 (Larciano, Lamporecchio)	1,016 (Castelfranco di Sotto, Santa Croce sull’Arno, Montopoli)
Azienda USL Toscana Sud–Est	87	777	533 (Asciano, Rapolano Terme)	1,256 (Val di Merse)

*To measure the population potentially served by the PLSs, the population aged under 6 was added to 70% of the number of residents aged between 6 and 14. The names of the catchment areas with the lowest/highest eligible population-to-provider ratios are shown in brackets.

Source: Author’s own elaboration based on data from *Azienda USL Toscana Centro* (2024), *Azienda USL Toscana Nord–Ovest* (2024), *Azienda USL Toscana Sud–Est* (2024), ISTAT (2024).

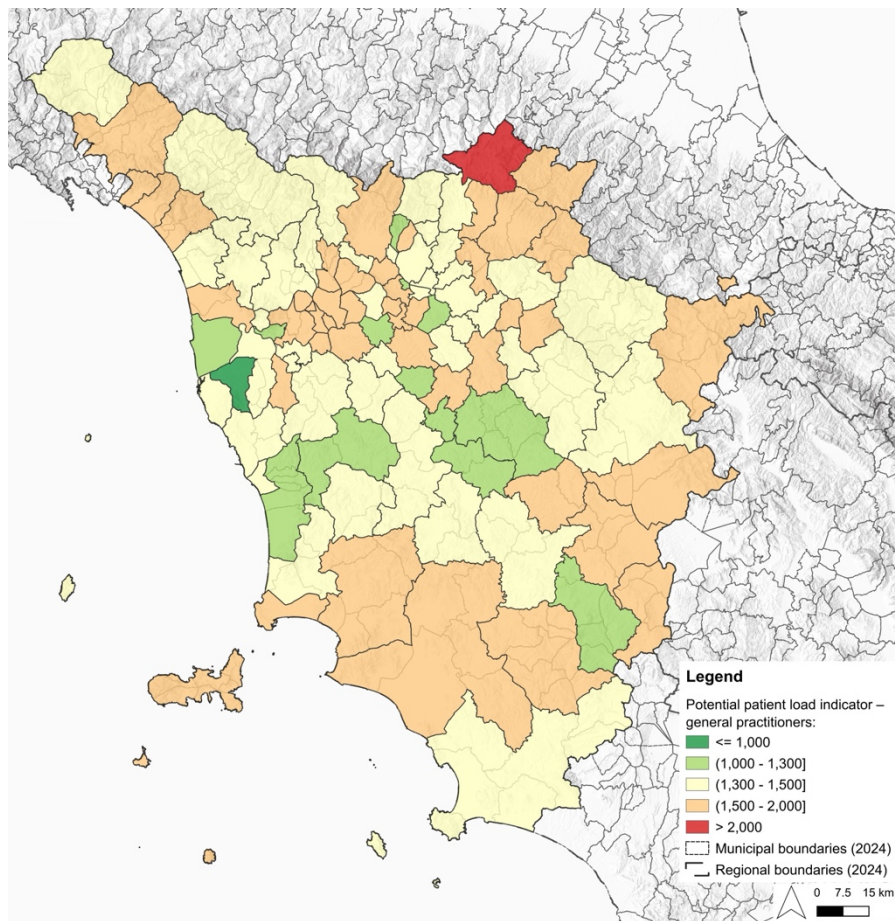


Figure 3.7 – Potential patient load (eligible population-to-GP ratio) by catchment area

Source: Author's own elaboration

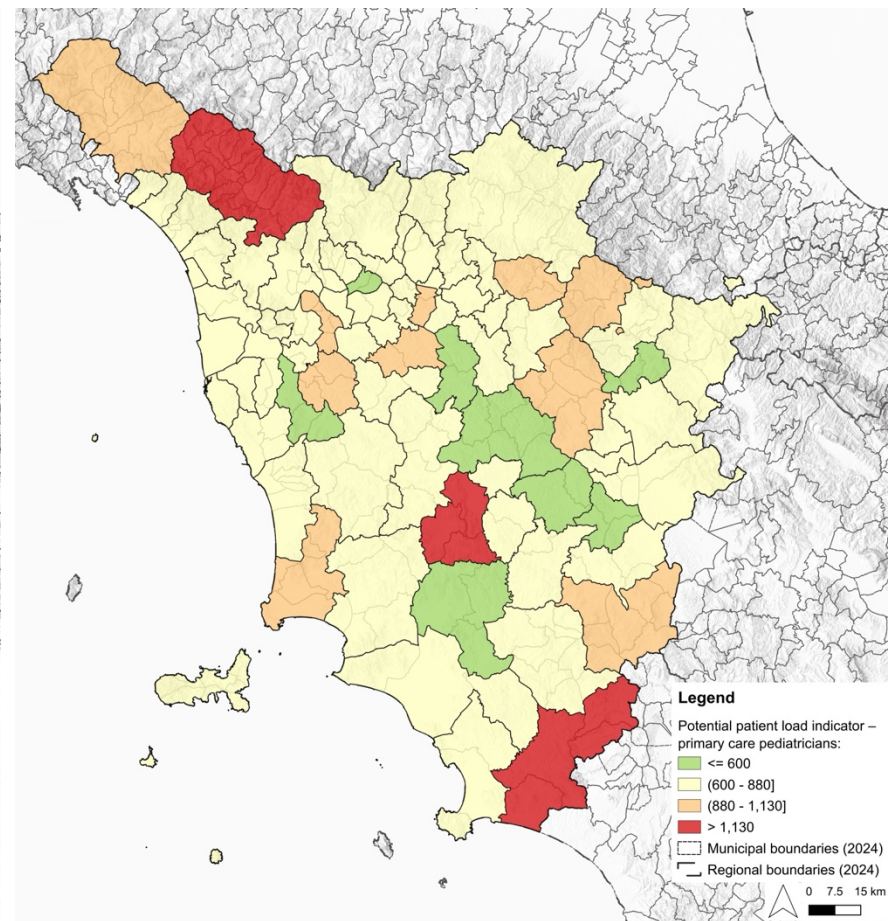


Figure 3.8 – Potential patient load (eligible population-to-PLS ratio) by catchment area

Source: Author's own elaboration

3.4.2 Analyses of proximity and spatial accessibility

The analysis of proximity, based on the estimated minimum road travel time between the centroids of the census sections and the surgeries, provides first insights of the territorial coverage of primary care services.

Table 3.11 shows the percentage distribution of the resident population by distance category from the nearest general practice and primary care paediatric surgery of their choice per Local Health Authority.

Overall, the results highlight a high level of territorial proximity to general practice surgeries, with percentages close to or exceeding 99% of the population living within 10 minutes of the relevant surgery in the three Local Health Authorities (Table 3.11; Figure 3.9).

The picture is more varied in the case of primary care paediatrics, where the percentage of the population within 10 minutes of a surgery ranges from 97.1% in “Azienda USL Toscana Centro” to 87.2% in “Azienda USL Toscana Sud-Est” (Table 3.11; Figure 3.10). In particular, in the “Azienda USL Toscana Sud-Est”, around 10% of the population lives between 10 and 20 minutes from the nearest surgery, and 3.15% live more than 20 minutes away.

Therefore, overall the distribution suggests a good territorial coverage of general practice surgeries across the region, whilst access to primary care paediatric surgeries shows greater regional variation, with critical issues concentrated in the inland and mountainous areas (Figure 3.10).

Table 3.11 – Population distribution by distance to the nearest primary care facility across Local Health Authorities: general practice and primary care paediatrics

<i>Distance category (minutes)</i>	<i>General practitioners’ surgeries, Population (%)</i>	<i>Primary care paediatricians’ surgeries, Population (%)</i>
Azienda USL Toscana Nord-Ovest		
< 10	99.48	94.80
[10–15)	0.42	2.90
[15–20)	0.05	0.82
>= 20	0.04	1.48
Azienda USL Toscana Centro		
< 10	99.59	97.13
[10–15)	0.35	1.57
[15–20)	0.03	0.15
≥ 20	0.03	1.15
Azienda USL Toscana Sud-Est		
< 10	98.87	87.19
[10–15)	1.02	7.37
[15–20)	0.09	2.29
≥ 20	0.02	3.15

Source: Author’s own elaboration

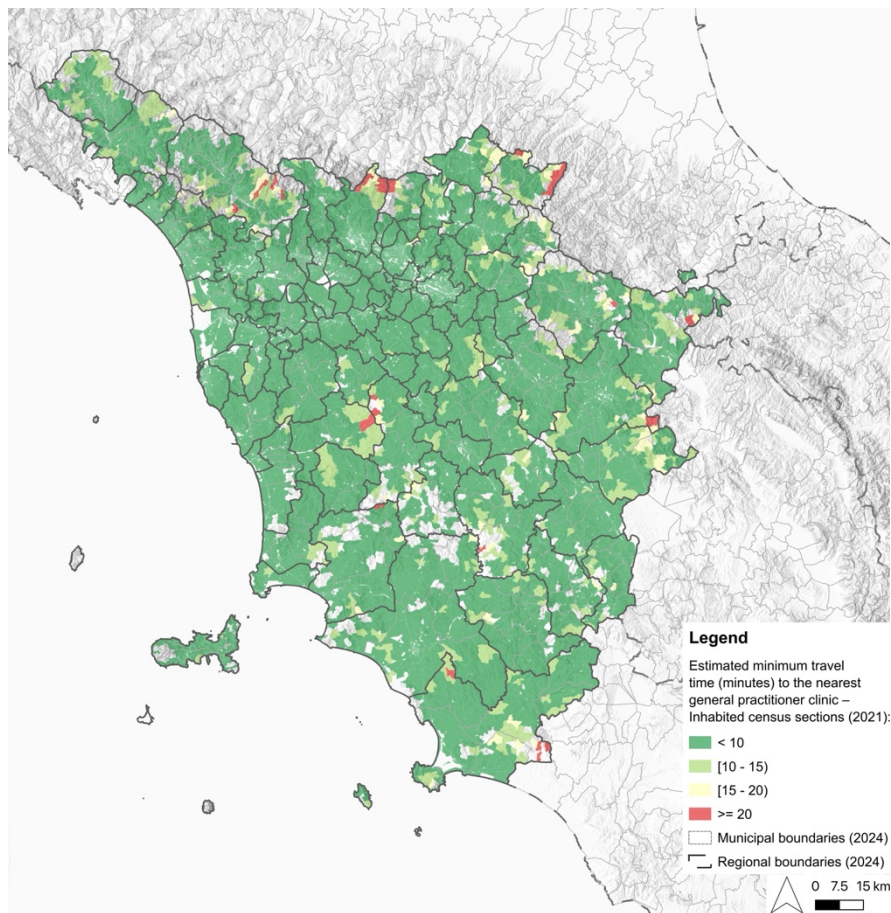


Figure 3.9 – Minimum distance to the nearest general practitioners' surgery (inhabited census sections, 2021)

Source: Author's own elaboration

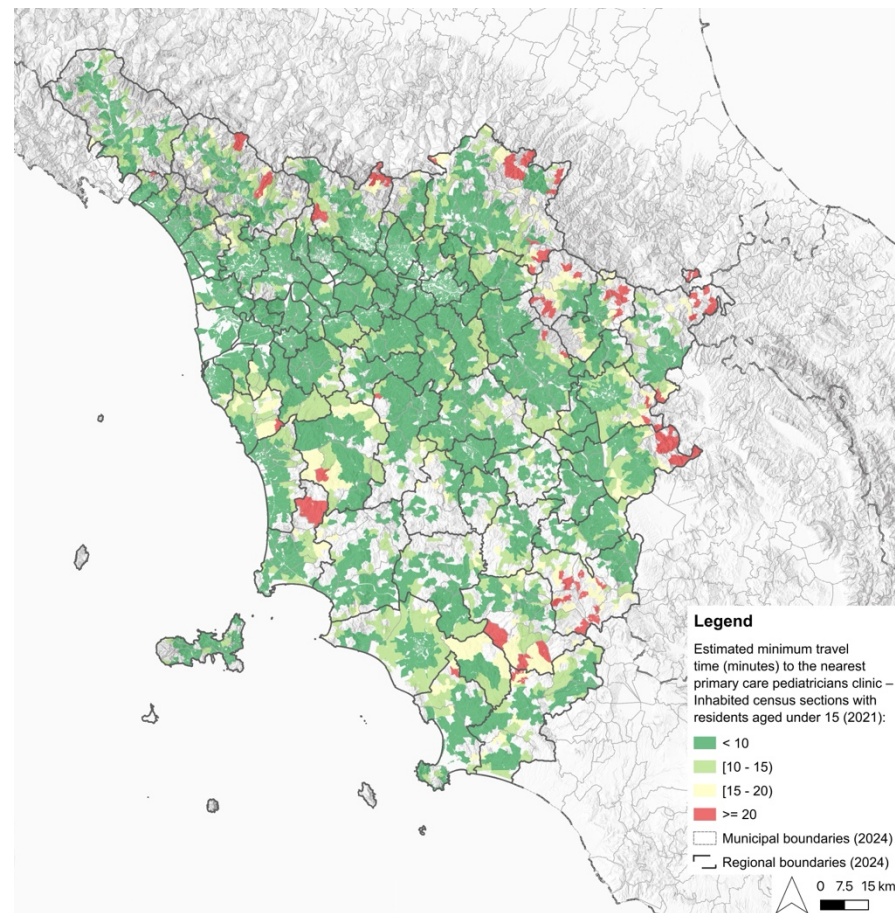


Figure 3.10 – Minimum distance to the nearest primary care paediatricians' surgery (inhabited census sections with residents aged under 15, 2021)

Source: Author's own elaboration

Table 3.12 summarises the descriptive statistics for the E2SFCA estimates for general practice and primary care paediatrics. The minimum values of zero, common to all three Local Health Authorities, indicate the presence of areas without access to surgeries within 20 minutes, as already highlighted in the cartograms in Figures 3.9 and 3.10. Overall, the results can be interpreted, respectively, as the number of GPs potentially accessible within 20 minutes per 1,000 residents aged over 4 and the number of paediatricians potentially accessible within 20 minutes per 600 residents aged under 15.

As regards general practice, the average values are broadly similar across the three Local Health Authorities: 1.04 for “*Azienda USL Toscana Nord-Ovest*”, 0.96 for “*Azienda USL Toscana Centro*” and 1.06 for “*Azienda USL Toscana Sud-Est*”. The maximum values, ranging from 2.23 in the North-West Tuscany to 6.39 in the South-East of the region, indicate the presence of areas with very high levels of accessibility. The standard deviations, amounting to 0.31 in Toscana Nord-Ovest, 0.32 in Toscana Centro and 0.45 in Toscana Sud-Est, reflect a dispersion of values that can be considered normal, given the scale of analysis based on census sections and the comparison conducted at such supra-provincial level, but which is particularly high for “*Azienda USL Toscana Sud-Est*”.

As regards primary care paediatricians, average values are below 1 potentially accessible PLS per 600 residents under 15: the values range from an average of 0.72 in the “*Azienda USL Toscana Centro*” to 0.77 in “*Azienda USL Toscana Nord-Ovest*” and up to 0.96 in “*Azienda USL Toscana Sud-Est*”. The standard deviation is particularly high in South-East Tuscany, where it reaches a value of 0.51.

Table 3.12 – Descriptive statistics for the E2SFCA estimates: general practice and primary care paediatricians

<i>E2SFCA indicator/ Region</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard deviation</i>
<i>General practitioners</i>				
Azienda USL Toscana Nord-Ovest	0.00	2.23	1.04	0.31
Azienda USL Toscana Centro	0.00	3.53	0.96	0.32
Azienda USL Toscana Sud-Est	0.00	6.39	1.06	0.45
<i>Primary care paediatricians</i>				
Azienda USL Toscana Nord-Ovest	0.00	3.76	0.77	0.36
Azienda USL Toscana Centro	0.00	2.92	0.72	0.27
Azienda USL Toscana Sud-Est	0.00	3.24	0.96	0.51

Source: Author’s own elaboration

The cartograms shown in Figures 3.11 and 3.12 illustrate the E2SFCA results at the census section level using for general practice and primary care paediatrics respectively, whilst the minimum, mean, maximum and standard deviation values for each catchment area are shown, respectively, in Tables A.1 and A.2 in the Data Appendix.

The analysis reveals significant differences within each area and between municipalities. In the case of general practice, for example, within the Valdichiana Aretina catchment area – which comprises five municipalities – the standard deviation reaches 0.91, with an average of 1.05, a minimum value of 0.02 and a maximum exceeding 6 potentially accessible GPs for certain census sections within the municipality of Cortona. Similarly, within the catchment area comprising Abetone Cutigliano, San Marcello Piteglio, and Marliana, the standard deviation is estimated at

0.85, with values ranging from zero to approximately 3.5 potentially accessible physicians in certain census sections of the municipality of Abetone Cutigliano, for an average of 1.5 (Table A.1 in the Data Appendix). For primary care paediatrics, for example, within the Mugello territorial area, accessibility values are estimated to range from 0 to 2.92 potentially accessible PLSs for certain census sections of the municipality of Firenzuola, with an average for the area of 0.96 and a standard deviation of 0.59. In the Pistoia catchment areas for primary care paediatrics, which includes the municipalities of Pistoia, Marliana, San Marcello Piteglio, Abetone Cutigliano and Sambuca Pistoiese, values are estimated to range from 0 to 2.71, with an average of 0.64 potentially accessible PLS and a standard deviation of 0.43 (Table A.2 in the Data Appendix).

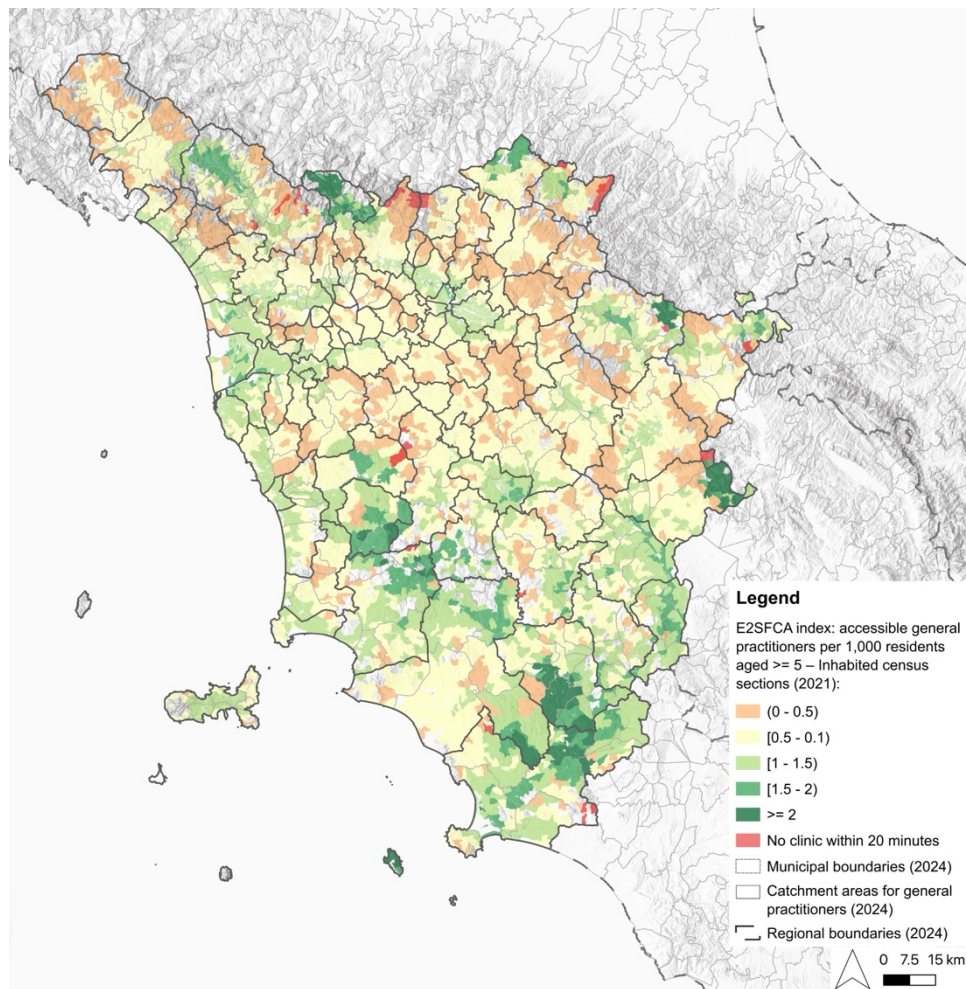


Figure 3.11 – E2SFCA estimates: general practice

Source: Author's own elaboration

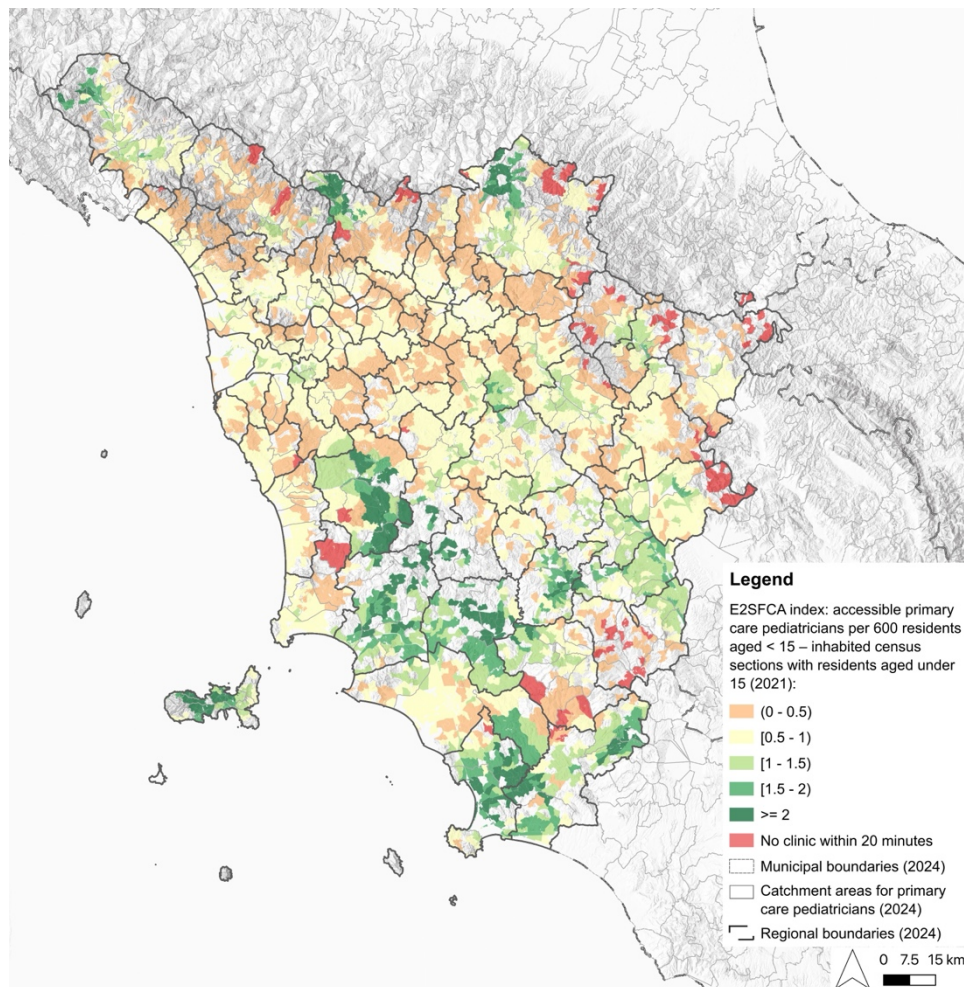


Figure 3.12 – E2SFCA estimates: primary care paediatricians

Source: Author's own elaboration

Tables 3.13 and 3.14 describe the percentage of surface area and the percentage of the resident population in the territories of the three Local Health Authorities across each E2SFCA accessibility category for general practice and primary care paediatrics, respectively. In the three areas, the proportion of the population living in census sections without surgeries reachable within 20 minutes is close to 0%, with the exception of the share of the under-15 population living more than 20 minutes from paediatric surgeries, which reaches 1%.

For both general practice and primary care paediatrics, a varied picture emerges across the territories of the three Local Health Authorities.

As regards general practice, in the “Azienda USL Toscana Nord-Ovest”, approximately 30% of the population lives in census sections with an estimated accessibility of between 0.5 and 1 potentially accessible GP, over 64% in the [1–1.5) category and 2.9% in census sections with an estimated accessibility equal to or greater than 1.5 potentially accessible GPs per 1,000 residents aged over 4. In this context, therefore, most of the population lives in areas with an estimated accessibility level equal to or higher than the standard of 1 GP per 1,000 adult residents, even when assessing accessibility within areas defined by distance and including the population aged between 5 and 13 years. In Central Tuscany, approximately 45% of the population falls within the [0.5–1) range and 50% within the [1–1.5) range, for a total of just over 50% of residents in areas with an estimated accessibility greater than 1. In South-East Tuscany, 41.8% of residents fall into

the [0.5–1) class, 46.1% into the [1–1.5) class and 8.6% into the [1.5–2) class, bringing the proportion of the population with accessibility greater than 1 to approximately 56%.

As regards spatial accessibility to primary care paediatrics, the majority of the population potentially eligible for care from PLSs lives in census sections with an estimated accessibility within 20 minutes between 0.5 and 1 PLS. These figures stand at 51% in Toscana Sud–Est, around 71% in the North–West and over 84% in Central Tuscany. Forty-two per cent of residents under 15 in South–East Tuscany live in areas with an estimated accessibility of 1 or more PLS per 600 residents under 15. These figures stand at around 12% in North–West Tuscany and 5% in Central Tuscany respectively. The remaining 10% of the population aged under 15 in Central Tuscany and North–West Tuscany live in areas with an estimated accessibility of between 0 and 0.5 PLS. This percentage stands at around 6% in South–East Tuscany.

Table 3.13 – Distribution of the population aged over 4 by accessibility classes to general practitioners: E2SFCA indicator

<i>Number of GPs potentially accessible per 1,000 residents aged 5 years or over</i>	<i>E2SFCA indicator</i>
Azienda USL Toscana Nord–Ovest	
No surgery within 20 minutes	0.04
(0 – 0.5)	2.11
[0.5 – 1)	30.30
[1 – 1.5)	64.49
[1.5 – 2)	2.85
≥ 2	0.21
Azienda USL Toscana Centro	
No surgery within 20 minutes	0.03
(0 – 0.5)	3.40
[0.5 – 1)	44.88
[1 – 1.5)	50.05
[1.5 – 2)	1.31
≥ 2	0.34
Azienda USL Toscana Sud–Est	
No surgery within 20 minutes	0.02
(0 – 0.5)	2.49
[0.5 – 1)	41.79
[1 – 1.5)	46.13
[1.5 – 2)	8.59
≥ 2	0.98

Source: Author’s own elaboration

Table 3.14 – Distribution of the paediatric population by category of access to primary care paediatricians: E2SFCA indicator

<i>Number of potentially accessible paediatricians per 600 residents aged 14 or under</i>	<i>E2SFCA indicator</i>
Azienda USL Toscana Nord–Ovest	
No surgery within 20 minutes	0.11
(0 – 0.5)	9.31
[0.5 – 1)	78.82
[1 – 1.5)	8.63
[1.5 – 2)	1.37
≥ 2	1.76
Azienda USL Toscana Centro	
No surgery within 20 minutes	0.10
(0 – 0.5)	9.75
[0.5 – 1)	84.78
[1 – 1.5)	4.58
[1.5 – 2)	0.45
≥ 2	0.35
Azienda USL Toscana Sud–Est	
No surgery within 20 minutes	0.93
(0 – 0.5)	5.71
[0.5 – 1)	51.33
[1 – 1.5)	31.29
[1.5 – 2)	6.40
≥ 2	4.33

Source: Author’s own elaboration

3.4.3 Analyses of spatial accessibility and healthcare needs

Table 3.15 presents the descriptive statistics of the LPA estimates for general practice and primary care paediatrics. The values can be interpreted, based on the standardised population, as the number of FTE GPs potentially accessible within 20 minutes per 1,000 residents aged over 4 years and the number of FTE PLSs potentially accessible within 20 minutes for the standardised resident population aged under 15.

With regard to general practice, the LPA average values are lower than the E2SFCA estimates (0.69 for “Azienda USL Toscana Nord–Ovest”, 0.67 for “Azienda USL Toscana Centro” and 0.68 for “Azienda USL Toscana Sud–Est”). This reduction can be attributed to the joint standardisation

of supply – weighted by the number of each physician’s working days in each surgery – and the standardisation of potential demand by age. In a regional context characterised by a significant proportion of elderly people, weighting by age tends to increase standardised demand, thereby reducing the estimated levels of accessibility. At the same time, accessibility is reduced when considering standardised supply consistently with the organisational reality of primary care physicians, which is characterised by significant variability in activity across different surgeries. The standard deviations of the LPA indicator are lower than those of the E2SFCA indicator, suggesting that Inland variability within the areas is slightly mitigated by the combined effect of the standardisation of supply and demand.

As regards primary care paediatrics, for “*Azienda USL Toscana Nord–Ovest*” and “*Azienda USL Toscana Centro*”, average values are slightly higher than in the previous scenario (0.80 and 0.76 respectively), whilst for “*Azienda USL Toscana Sud–Est*” the average value is 0.82. The differences between the two scenarios can be attributed to the different balance between the two effects: on the one hand, the reduction in potential demand resulting from the partial assignment of the 5–14 age group to general practitioners; on the other, the weighting of supply by the number of PLSs’ working days. In those contexts where supply is relatively widespread, the reduction in the standardised population tends to result in an increase in estimated accessibility. Conversely, where the daily availability of primary care paediatricians across the territory is more limited, the standardisation of demand is insufficient to offset that of the population, leading to a reduction in accessibility estimates. In this sense, the decrease in the average value observed in the “*Azienda USL Toscana Sud–Est*” suggests that, in this context, the effects of standardising by paediatricians’ daily activity outweigh the adjustments introduced by age standardisation.

Table 3.15 – Descriptive statistics for LPA estimates: general practice and primary care paediatricians

<i>LPA indicator/ Area</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard deviation</i>
<i>General practitioners</i>				
Azienda USL Toscana Nord–Ovest	0.00	1.25	0.69	0.20
Azienda USL Toscana Centro	0.00	1.31	0.67	0.21
Azienda USL Toscana Sud–Est	0.00	2.57	0.68	0.24
<i>Primary care paediatricians</i>				
Azienda USL Toscana Nord–Ovest	0.00	2.29	0.80	0.28
Azienda USL Toscana Centro	0.00	1.52	0.76	0.23
Azienda USL Toscana Sud–Est	0.00	2.04	0.82	0.33

Source: Author’s own elaboration

The cartograms shown in Figures 3.13 and 3.14 illustrate the LPA accessibility estimates at census section level for general practice and primary care paediatricians, respectively. The minimum, mean, maximum and standard deviation values for each catchment area are shown, respectively, in Tables A.3 and A.4 in the Data Appendix. As discussed above, levels of accessibility and Inland variability within the catchment areas are generally – particularly regarding access to general practitioners – mitigated by the effects of the joint standardisation of supply and demand.

A comparison of the different scenarios resulting from the E2SFCA and LPA estimates highlights significant differences in accessibility within the catchment areas. For example, in

Casentino, the application of the LPA method yields a maximum accessibility value of 1.15 GPs potentially accessible within 20 minutes for the standardised reference population and an average of 0.54, compared with an average of 1.13 and a maximum of 2.70 estimated using the E2SFCA method (Tables A.1 and A.3 in the Appendix). Similarly, for the catchment area for primary care paediatrics of “Follonica, Gavorrano, Massa Marittima, Monterotondo Marittimo, Montieri and Scarlino”, the maximum value estimated using the LPA method is 1.62 and the average 0.89, compared to a maximum value of 3.24 and an average of 1.65 obtained using the E2SFCA method (Tables A.2 and A.4 in the Appendix). A similar trend is observed in the area comprising the municipalities of Montecatini Val di Cecina, Volterra, Pomarance and Castelnuovo Val di Cecina, for which a maximum value of 1.63 PLS potentially accessible within 20 minutes for the standardised paediatric population is estimated, and an average of 0.98, compared to a maximum of 3.16 and an average of 1.68 estimated using the E2SFCA method (Tables A.2 and A.4 in the Data Appendix).

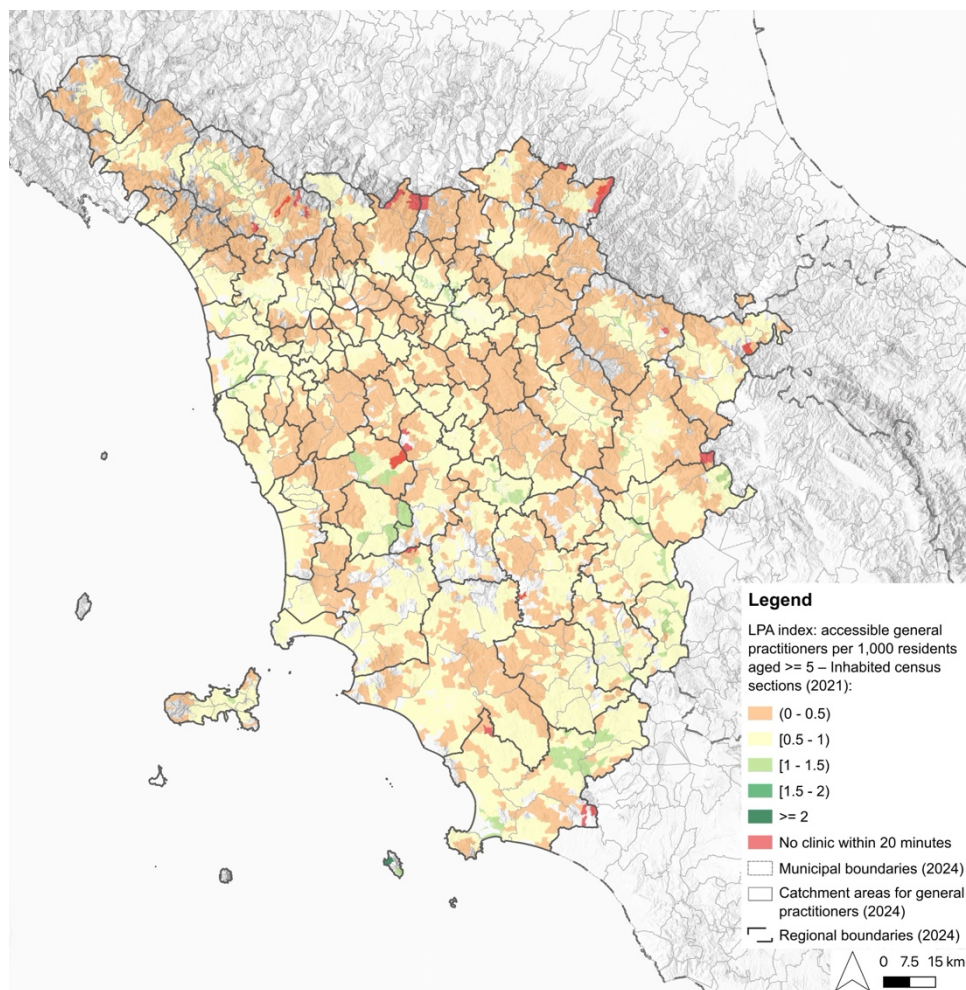


Figure 3.13 – LPA estimates: general practice

Source: Author's own elaboration

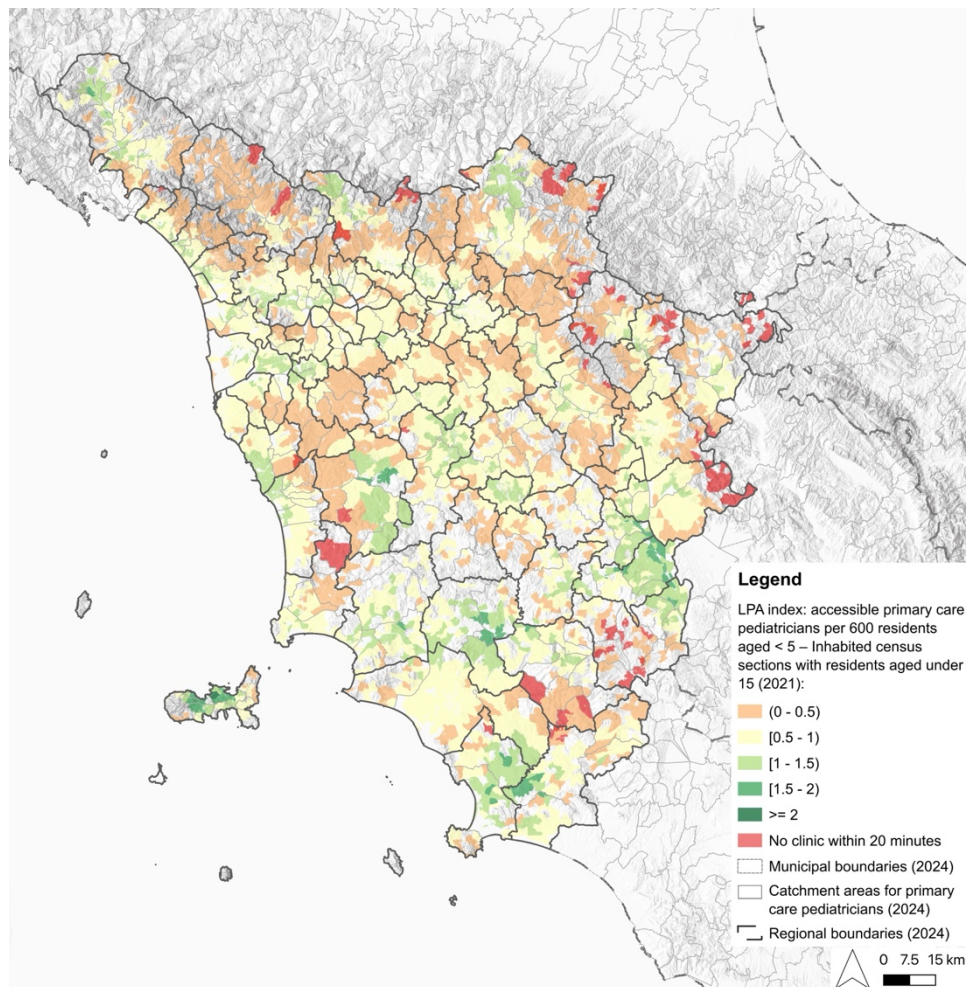


Figure 3.14 – LPA estimates: primary care paediatricians

Source: Author's own elaboration

Tables 3.16 and 3.17 describe the percentage of surface area and the percentage of the resident population in the territories of the three Local Health Authorities across each LPA accessibility category for general practice and primary care paediatrics, respectively.

As regards general practice, in the three Local Health Authorities, the effect of standardisation is evident: in North–West Tuscany, 88% of the population lives in census sections with an estimated accessibility between 0.5 and 1 potentially accessible GP. This percentage stands at 81.3% in Central Tuscany and 84.4% in South–East Tuscany. The proportion of the population living in census sections with accessibility of 1 or more GPs per 1,000 potentially accessible residents (standardised population) is very low: around 2% in North–West Tuscany and around 5% in the other two Local Health Authorities. For approximately 10% of residents in North–West Tuscany and South–East Tuscany, and for 14% of residents in Central Tuscany, accessibility is estimated to be between 0 and 0.5 GPs potentially accessible.

As regards primary care paediatrics, the majority of the population potentially served by a PLS lives in census sections with accessibility within 20 minutes estimated between 0.5 and 1 PLS (70% of residents in North–West Tuscany, 80% of residents in Central Tuscany and 59% in South–East Tuscany). The percentage of residents aged under 15 living in census sections with an estimated accessibility in the [1–1.5) class stands at 20% in North–West Tuscany, 11% in Central Tuscany and 31% in South–East Tuscany.

Table 3.16 – Distribution of the population aged over 4 by accessibility classes to general practitioners: LPA indicator

<i>Number of GPs (FTE) potentially accessible per 1,000 residents aged 5 years or over</i>	<i>LPA indicator</i>
Azienda USL Toscana Nord-Ovest	
No surgery within 20 minutes	0.04
(0 – 0.5)	9.46
[0.5 – 1)	88.14
[1 – 1.5)	2.35
[1.5 – 2)	0.00
≥ 2	0.00
Azienda USL Toscana Centro	
No surgeries within 20 minutes	0.03
(0 – 0.5)	14.17
[0.5 – 1)	81.31
[1 – 1.5)	4.49
[1.5 – 2)	0.00
≥ 2	0.00
Azienda USL Toscana Sud-Est	
No surgeries within 20 minutes	0.02
(0 – 0.5)	10.12
[0.5 – 1)	84.41
[1 – 1.5)	5.29
[1.5 – 2)	0.00
≥ 2	0.16

Source: Author's own elaboration

Table 3.17 – Distribution of the paediatric population by category of access to primary care paediatricians: LPA indicator

<i>Number of FTE paediatricians potentially accessible per 600 residents aged 14 or under</i>	<i>LPA indicator</i>
Azienda USL Toscana Nord-Ovest	
No surgery within 20 minutes	0.11
(0 – 0.5)	8.95
[0.5 – 1)	70.14
[1 – 1.5)	19.93
[1.5 – 2)	0.82
≥ 2	0.04
Azienda USL Toscana Centro	
No surgery within 20 minutes	0.10
(0 – 0.5)	8.27
[0.5 – 1)	80.34
[1 – 1.5)	11.28
[1.5 – 2)	0.01
≥ 2	0.00
Azienda USL Toscana Sud-Est	
No surgery within 20 minutes	0.93
(0 – 0.5)	7.36
[0.5 – 1)	59.28
[1 – 1.5)	30.75
[1.5 – 2)	1.67
≥ 2	0.01

Source: Author's own elaboration

Regarding the composite index adapted from the Île-de-France methodology, the cartograms presented in Figure 3.15 show the quintiles of the distribution of raw indicators relating to health, education and income for the 273 municipalities of Tuscany as of 2021.

Life expectancy at birth ranges from 76 to 87 years, with a gap of as much as 11 years between the municipality with the lowest life expectancy at birth (Caprese Michelangelo) and the municipality with the highest (San Quirico d'Orcia) (ARS Toscana, 2021). The spatial distribution of the indicator shows clear patterns of concentration of the lowest values in the inland areas of the “Valle del Serchio”, “Lunigiana” and in some municipalities in the “Colline dell'Albegna”, “Casentino” and “Val di Sieve”. The highest values are found in the provincial capitals, the inner suburbs of Florence, and in some municipalities in the “Val di Cecina”, the “Colline dell'Albegna” and the “Colline Metallifere”, for example.

The proportion of the population aged nine and over with at least a school-leaving certificate or a vocational qualification ranges from 31% to 65% (ISTAT, 2021). The lowest values are recorded in the “Valle del Serchio”, “Empolese e Basso Valdarno”, Prato, “Amiata Grossetana” and “Colline Metallifere”, and in some municipalities of the “Mugello” valley. The highest values are concentrated around the main regional centres, the provincial capitals, and in some municipalities in the Casentino area.

As regards income, the highest values for average per capita taxable income for IRPEF tax purposes are also concentrated in the main regional centres. These vary, at regional level, from around 14,500 euros in the municipality of Roccalbegna to 55,336 euros in the municipality of Lajatico (MEF, 2022). A marked concentration of the lowest average per capita taxable incomes

is found in southern Tuscany, in the areas of “Amiata Grossetana”, “Colline Metallifere” and “Colline dell’Albegna” (Figure 3.15).

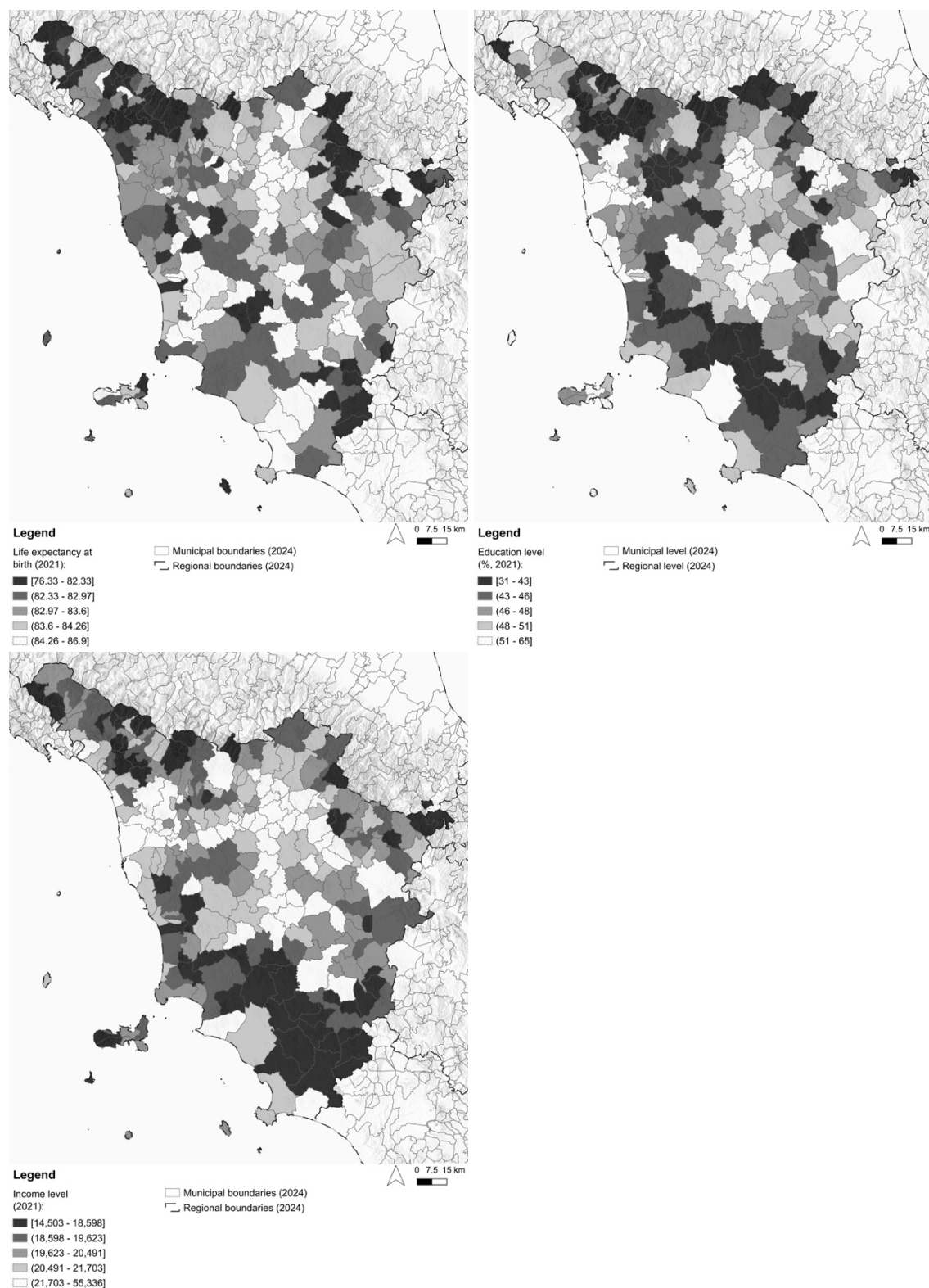


Figure 3.15 – Components of the Regional Human Development Index (2021).
Source: Author’s own elaboration based on ARS Toscana (2021), Istat (2021) and MEF (2021)

The regionalised Human Development Index summarises these data and takes values ranging from 0.14 to 0.74 (Figure 3.16). The highest values are concentrated in the areas of Florence, Pisa and Siena and in the provincial capitals of Arezzo, Grosseto, Livorno, Lucca and Pistoia. A concentration of the lowest values is recorded in the inland areas of “Garfagnana”, “Media Valle del Serchio”, the Pistoia Apennines, the Province of Prato, Mugello, “Colline dell’Albegna” and in some municipalities of the “Val di Sieve”, “Casentino” and “Valtiberina”.

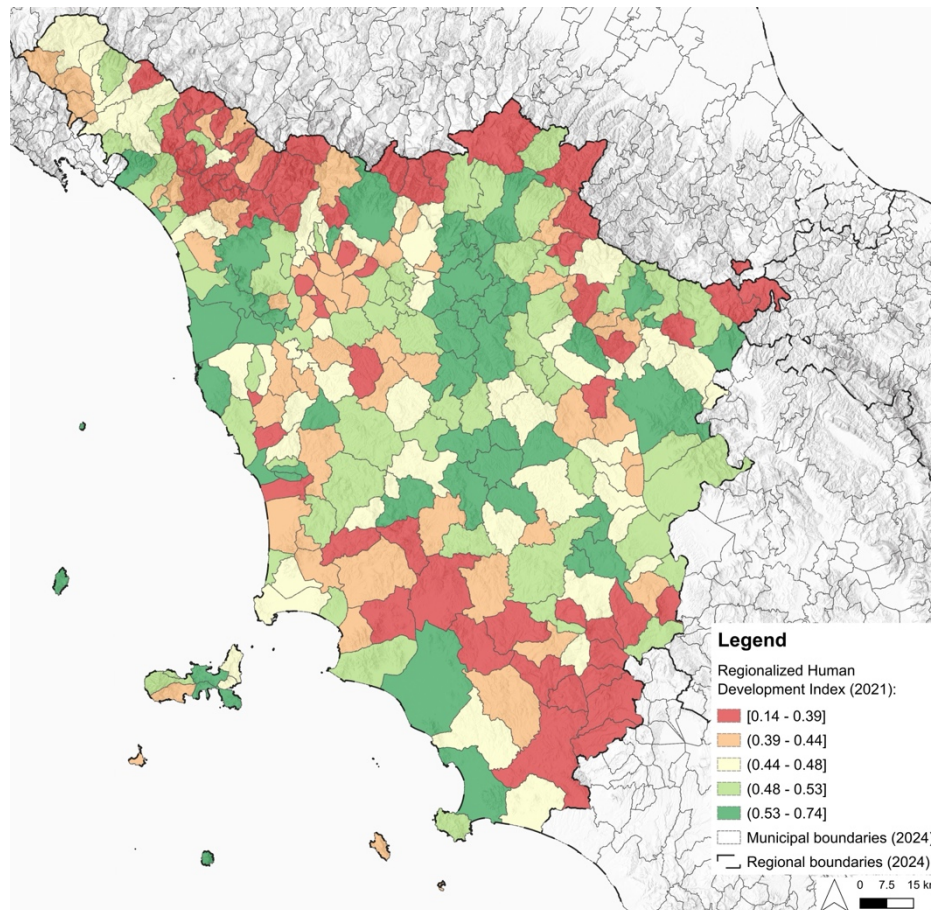


Figure 3.16 – Regional Human Development Index (2021).

Source: Author’s own elaboration

The cartograms shown in Figure 3.17 illustrate the classification of Tuscan municipalities by deciles of the three indicators that make up the composite index of accessibility and healthcare need for general practice. The boundaries of municipalities that achieve a critical value relative to the sixth decile of the distribution are highlighted in red.

Particularly significant is the spatial concentration of critical values relating to the total chronic morbidity rate in the northern and eastern areas of the region, affecting in particular “Lunigiana”, “Garfagnana”, “Mugello”, “Casentino” and, more generally, the province of Arezzo, as well as some municipalities in the “Amiata Senese”, “Val d’Orcia”, “Valdichiana Senese” and the “Colline dell’Albegna”.

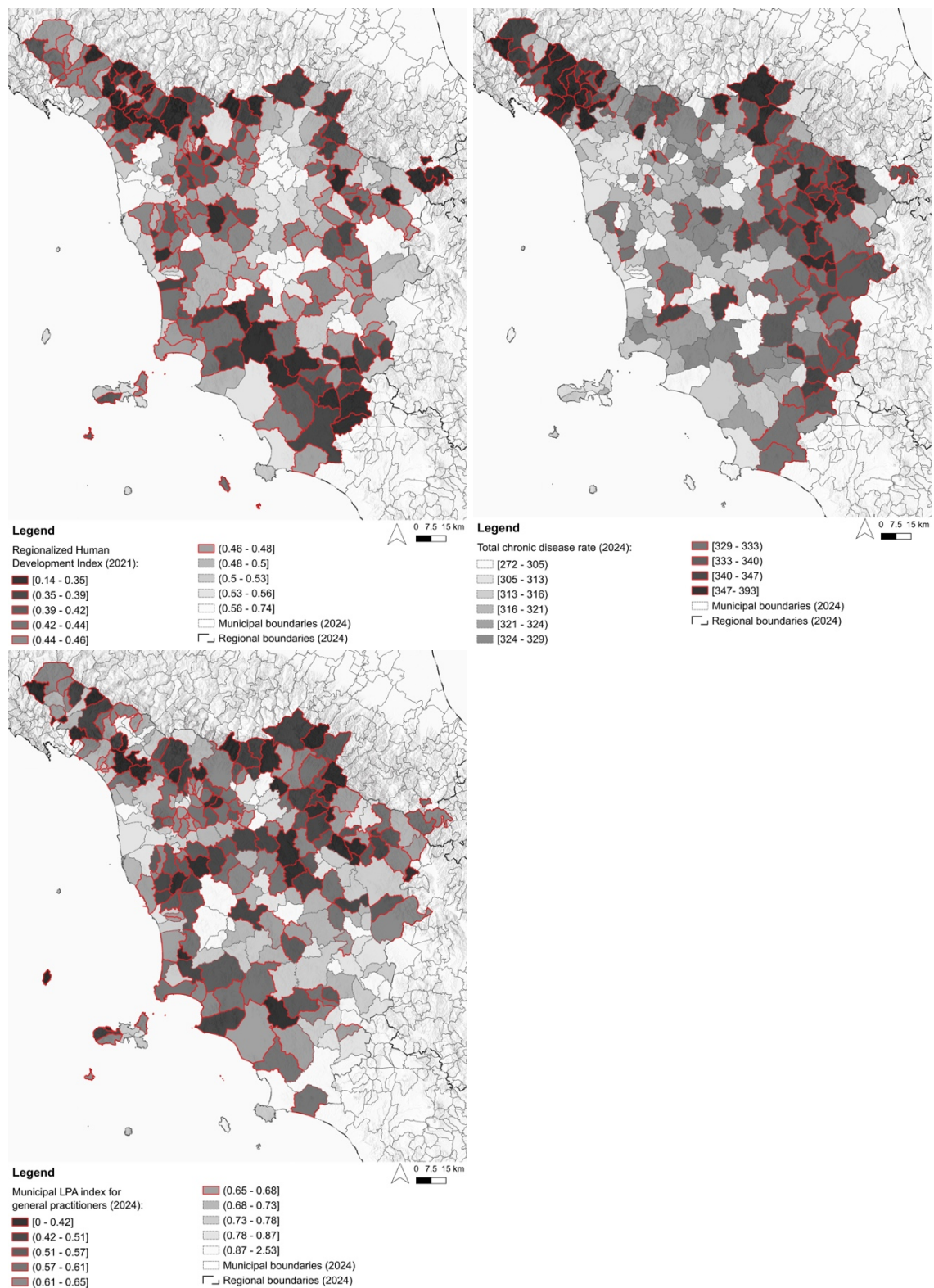


Figure 3.17 – Distribution of the component indicators used to construct the composite index of potential accessibility and healthcare needs in general practice.

Source: Author's own elaboration

Figure 3.18 shows the scores assigned to each municipality, whilst also highlighting the boundaries of the general practice catchment areas, in order to make the differences within each area clear.

Although clusters of critical scores can be identified in areas such as “Garfagnana” and “Casentino”, their distribution cannot be attributed to a single continuous geographical cluster. Rather, localised and discontinuous clusters emerge, predominantly located in the inland and peripheral areas of the region, suggesting the presence of specific territorial criticalities. A combined reading of the cartograms in Figure 3.17 and the summary in Figure 3.18 allows us to highlight the contribution of each single dimension to the overall score of the composite index, which takes values between 0 and 4. A score of 4 indicates the simultaneous presence of critical issues across all three dimensions considered; a score of 3 indicates a critical issue in the Regionalised Human Development Index (score 2) associated with one of the other two dimensions; whilst a score of 2 indicates, alternatively, a critical issue in human development or the co-existence of critical issues in the other two dimensions.

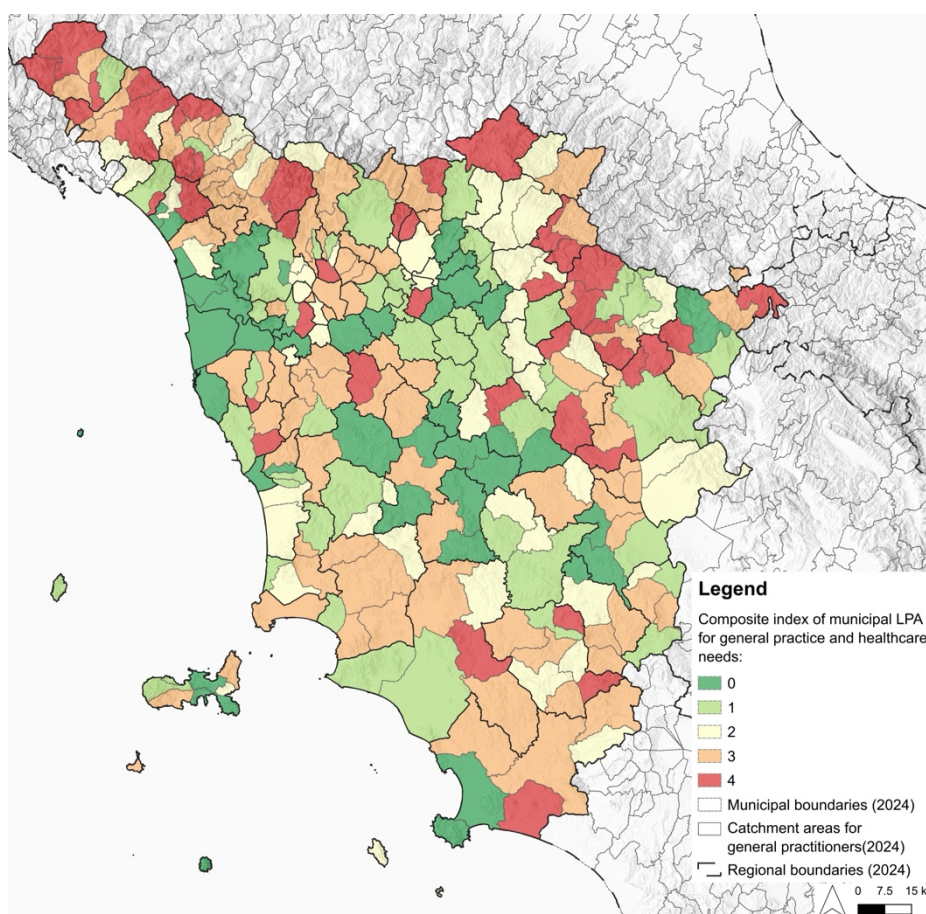


Figure 3.18 – Composite index of potential accessibility and healthcare need: general practice.

Source: Author’s own elaboration

Figure 3.19 illustrates the distribution of critical values across the three dimensions comprising the accessibility and healthcare need index for primary care paediatrics, again illustrating the decile classification of the Regionalised Human Development Index and the total chronic morbidity rate alongside the municipal LPA indicator.

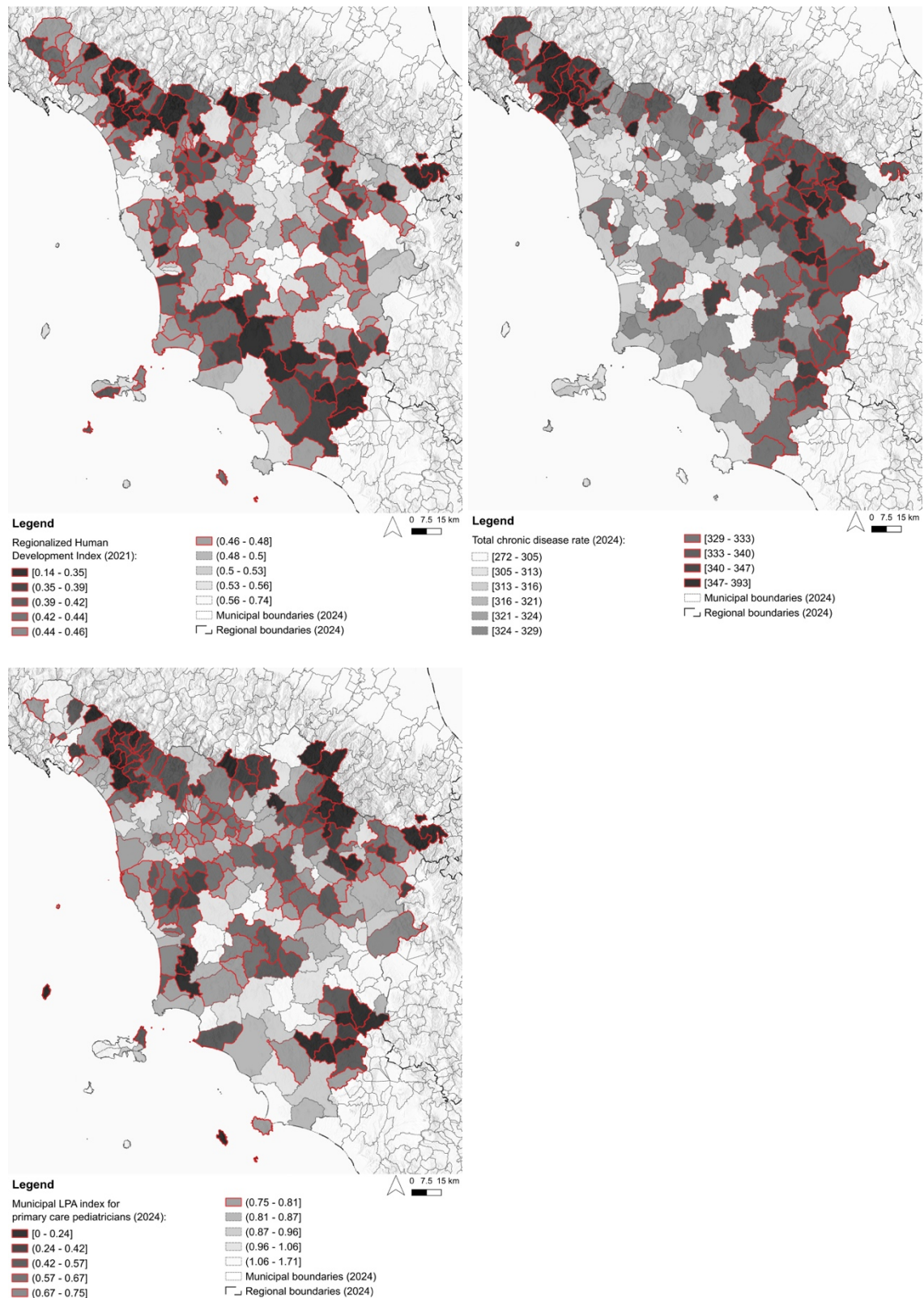


Figure 3.19 – Distribution of the component indicators used to construct the composite index of potential accessibility and healthcare needs in primary care paediatrics.

Source: Author's own elaboration

The cartogram in Figure 3.20 presents the scores obtained by the composite index for paediatrics, highlighting once again the boundaries of the catchment areas for primary care paediatrics, thereby facilitating the interpretation of intra-area inequalities. As observed for general practice, the distribution of critical values appears fragmented across the entire regional territory and some interesting infra-catchment area differences emerge.

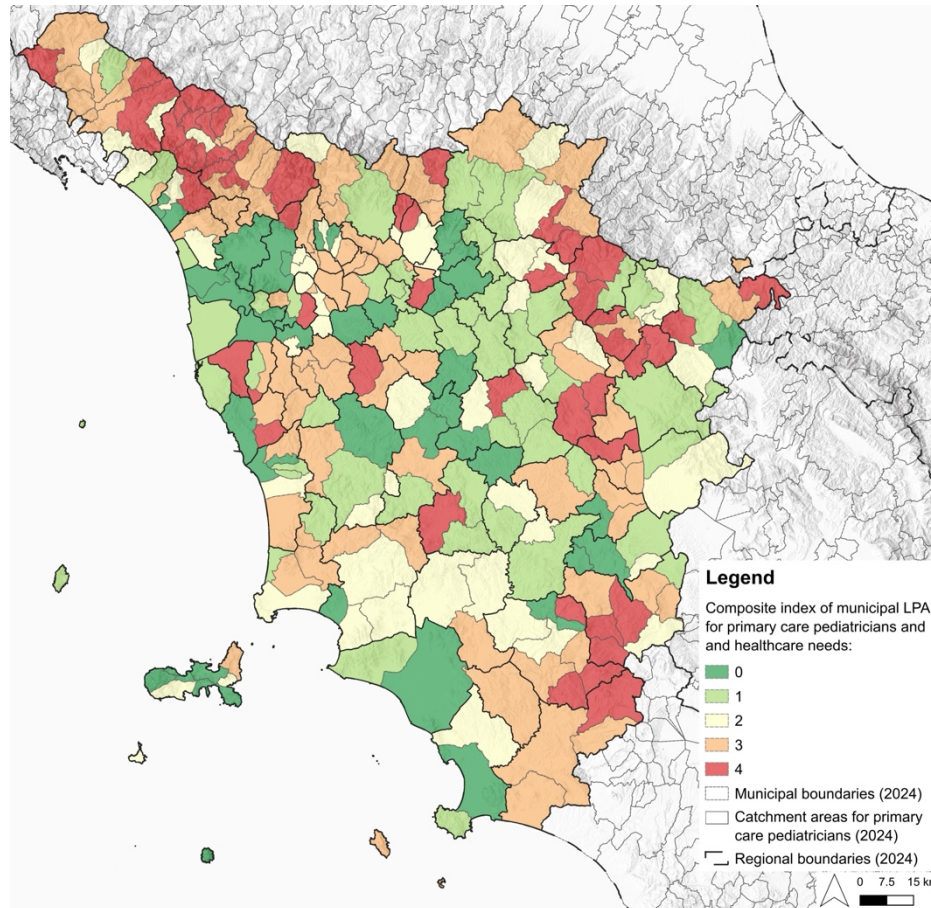


Figure 3.20 – Composite index of potential accessibility and healthcare need: primary care paediatrics.

Source: Author's own elaboration

3.5 Discussion of results and study limitations

The results of this study show, firstly, that the shortage of general practitioners and primary care paediatricians is a phenomenon affecting most of the region. The estimated potential caseload indices are below the optimal maximum values – as defined by legislation – in only one of the one hundred catchment areas (Collesalveti) for general practice and in thirteen of the seventy-eight catchment areas for primary care paediatrics. This indicates that only in a limited proportion of the regional territory the potential caseload per GP and PLS is consistent with the thresholds considered optimal. In the vast majority of the region, however, conditions of potential healthcare overload are observed, which are particularly pronounced for general practice.

The assessment of proximity – in terms of the minimum road travel time between census sections and primary care surgeries – shows, in general, that around 90% of the regional population lives within 10 minutes of a general practice or primary care paediatric surgery. This

result confirms the validity of the distance decay coefficients derived from the French method, which assigns a weight of 1 within 10 minutes, 2/3 between 10 and 15 minutes, and 1/3 between 15 and 20 minutes (DREES, 2025). This was an aspect initially identified as a potential limitation of the analysis. However, the widespread availability of primary care services suggests that these coefficients are, overall, appropriate to the regional context.

In the face of the structural shortage of GPs and PLSSs, a comparison of the results obtained across the different scenarios highlights the limitations of the Italian methodology for primary care physician zoning. This is an approach based on simple measures of physician density, which in the literature have now been abandoned in favour of more complex measures of spatial accessibility that consider the distances separating people from health care services and the demographic, socioeconomic and epidemiological variables that help predict healthcare needs.

The organisation of primary healthcare in catchment areas characterised by varying sizes and population densities has significant implications for service accessibility, which emerge clearly from the analysis of the results derived from the application of the E2SFCA and LPA methods.

The benefits of these measures of spatial accessibility are evident first and foremost from the results of the E2SFCA indicator, which allows for the estimation of indicators of physician availability within areas defined by distance. This approach highlights how the analysis of primary care physician availability, as conducted by the Local Health Authorities, tends to obscure significant intra-municipal and intra-area inequalities – that is, between the municipalities that constitute the catchment areas for general practice and primary care paediatricians. Based on the location of outpatient facilities, the method allows for the assessment of different levels of accessibility within municipalities and within service areas, and overcomes the problem of impermeable boundaries. However, each physician working in multiple outpatient facilities is counted as many times as the number of surgeries in which they work, and the analysis overlooks the actual level of activity of physicians in each facility.

However, the accessibility analysis based on the adaptation of the French LPA method has made it possible to measure health care provision on the basis of the actual level of outpatient activity and, at the same time, to include a weighting for the population's age in the accessibility estimate, used as a demographic proxy for healthcare needs. On the one hand, this dual weighting mitigates intra-municipal and intra-area differences in accessibility levels due to standardisation by population age. On the other hand, it provides a more realistic measure of inequalities in spatial accessibility to primary care, defining potential demand according to the age structure of the population and supply based on levels of outpatient activity.

Finally, the adaptation of the method adopted in the Île-de-France region has enabled the adoption of a perspective that focuses on spatial accessibility and inequalities in the prevalence of chronic morbidity and in human development. This is a measure of health care accessibility and healthcare needs that is consistent with the discussion in Chapter 1 regarding the state of health and healthcare equity in Italy.

Indeed, whilst life expectancy at birth is a widely used health indicator – as it reflects population mortality rates and the average age at which deaths occur (ARS Toscana, 2023) – educational attainment and income are, after age, the variables that best predict health disparities and thus the population's healthcare needs (Costa et al., 2014).

The results highlight intra-regional and intra-catchment area inequalities in the distribution of healthcare needs and, consequently, the validity of such an approach in guiding the territorial organisation of health care provision towards more equitable configurations.

This latter approach allows for a multidimensional perspective in the study of potential access to health care; however, it has certain limitations. In fact, in contrast to the epidemiological studies

that have analysed the role of the Italian deprivation index on healthcare utilisation and mortality (Costa et al., 2014), the adopted indicator is a proxy for healthcare need, meaning that no empirical estimates of causality have been conducted.

Nevertheless, the indicator incorporates dimensions that are strongly associated with social inequalities in health. Two possible avenues for further research could involve, on the one hand, verifying the correlation between the constructed index and rates of healthcare utilisation and, on the other, constructing a composite index based on territorial variables that best explain the correlation between social disadvantage, healthcare utilisation and health outcomes.

For the purposes of this discussion, the evidence of the spatial concentration of the most critical values of socioeconomic and epidemiological indicators is particularly significant. This spatial concentration of social vulnerability suggests that these areas should be considered as underserved areas characterised by a relatively higher potential demand for healthcare when dealing with physicians' allocation.

3.6 Conclusions

This chapter has proposed a review of the methodologies for the allocation of general practitioners in the Italian and French contexts and the application of various methods for analysing the availability and accessibility of general practitioners and primary care paediatricians, inspired by these methodologies.

The review of recent literature on so-called medical deserts and the development of sophisticated measures of accessibility to health care services has highlighted as an interesting case the French one, where the most sophisticated measures of potential accessibility to health care – namely methods from the 2SFCA family and the synthesis of composite indicators of health and socioeconomic vulnerability considered proxies for the population's healthcare needs – which are commonly used in the scientific sphere for the ex-post identification of areas lacking physicians or so-called 'medical deserts', are also employed in the administrative sphere for ex-ante purposes in healthcare planning. The specific context of Île-de-France is of particular interest in light of the discussion in Chapter 1 regarding the definition of territorial equity in healthcare and the empirical assessment of the existence of the Inverse Care Law (Tudor Hart, 1971). This methodology prioritises socioeconomic proxy measures of healthcare needs, synthesising, alongside a morbidity rate, a composite index inspired by the United Nations Human Development Index, which is consistent with a multidimensional definition of the well-being of individuals and communities (Biggeri and Ferrannini, 2014). The Human Development Index synthesises life expectancy at birth, educational attainment and income, which represent measures that are found to predict the use of and need for care (Costa et al., 2014).

The results were presented in the form of scenarios, to make explicit the impact of the various hypotheses introduced and to discuss the limitations of an approach based exclusively on the measurement of simple indicators of potential care burden within catchment areas of varying size.

In the face of a structural shortage of general practitioners and primary care paediatricians, the analyses highlight the presence of marked intra-area differences in both levels of accessibility and levels of healthcare need. In view of the hoped-for reform of primary care (Mapelli, 2024; Maciocco, 2024), the adoption by the public administration of methodologies such as those proposed in this study – either to replace or to support the methodology currently in use – could help to steer the territorial organisation of health care provision within the catchment areas towards fairer configurations responsive to the spatial dimensions of accessibility and the geographical concentration of healthcare needs.

Chapter 4. Beyond bed targets: distances, needs and attractiveness in assessing hospital accessibility

4.1 Introduction

While in the case of primary care, accessibility is strongly linked to territorial proximity, in the case of hospital care it assumes a more complex and multidimensional nature. In this framework, distance plays a crucial role in acute events and emergencies, whereas for planned services access to health care is influenced by a range of non-geographical factors, such as the availability of beds, the level of specialisation of facilities, and healthcare waiting times.

While distance from emergency care facilities represents a matter of survival, distance from services for chronic conditions significantly affects the quality of life of vulnerable populations (Zuccatelli, 2012).

The literature on the geography of health care provides useful tools to guide hospital planning towards a more equitable distribution of services, which are particularly relevant in a context characterised by health care restructuring.

Hospital planning is generally based on economic and organisational logics that, at least in theory, acknowledge the relevance of the spatial dimension, both in terms of production costs and distances between users and services. In practice, however, the tools most commonly used – in particular minimum population thresholds and catchment areas – do not directly incorporate distance (Landini, 1986; Evangelista, 2017). “The mechanistic application of such tools may lead to evident distortions in terms of equalising disparities in service provision, since thresholds and catchment areas should be related to the physical, demographic, and socio-economic characteristics of places” (Evangelista, 2017, p. 60).

In recent decades, many European countries, including Italy, have undergone processes of healthcare restructuring driven by regionalisation and rationalisation of provision, alongside a tendency towards the centralisation of services in major urban centres. This dynamic has been justified by the aim of achieving economies of scale and concentrating highly specialised services in large facilities that ensure efficiency and quality (Evangelista, 2017).

However, healthcare reforms based on population-to-hospital beds targets, which are defined within large and territorially heterogeneous catchment areas, do not account for spatial accessibility and produce differentiated effects across urban, rural, and remote areas.

In these contexts, marked by a reduction in hospital beds relative to the population and the centralisation of specialised services, the geography of health care plays a crucial role in guiding healthcare planning towards the promotion of equitable access. As noted by Evangelista (2016a, p. 9), “within the field of health geography, through the lens of [geographical] proximity it is possible to determine where services should be delivered and how they should be organised according to territorial specificities”.

The previous chapter developed a critique of planning tools related to primary care. This chapter proposes an analysis of accessibility to hospital care and discusses the use of advanced spatial accessibility methods as potential tools for hospital planning. The proposed methods make it possible to integrate distance, the age structure of the population – used as a proxy for healthcare needs – and measures of hospital attractiveness, linked to the hierarchical organisation of these facilities and derived from actual catchment areas based on intra-regional hospital mobility flows.

In particular, the use of gravity-based methods, and especially the 2SFCA method, has recently been identified as a potential tool to support healthcare planning in Italy. A working group of the National Agency for Regional Health Services (“Agenzia Nazionale per i servizi sanitari Regionali”, AGENAS) (Catania et al., 2025, p. 2), in presenting a gravity model for analysing accessibility to maternity units, highlighted that such methods, “based on digital cartography and spatial statistics”, are “highly specialised and innovative” and rely on a set of analytical tools that are still not widely used within public administration, where approaches based more on individual experience and knowledge than on structured theoretical frameworks remain prevalent.

This observation supports the hypothesis that hospital planning is still largely based on relatively simple and not fully objective tools, despite the advances made by geography and the social sciences in recent decades.

The chapter presents an analysis of proximity to emergency care facilities and a set of analyses of accessibility to acute hospital beds. The latter are based on an E2SFCA model that applies distance decay functions estimated from real hospital mobility data (Chen et al., 2024), with the aim of developing accessibility indicators that account for differences in attractiveness between facilities of different levels (Xing and Ng, 2022; Chen et al., 2024).

In continuity with the approach adopted for primary care, the chapter examines the relationships between geographical proximity, demographic structure, and administrative geography in the production of inequalities in access to health care.

Accessibility to hospital beds is analysed through four scenarios. On the one hand, indicators that restrict access to facilities located within the three reference administrative catchment areas for hospital care (the so-called “*Area Vasta*” districts) are compared with indicators that consider all regional facilities as accessible. On the other hand, indicators based on the total population are distinguished from those based on the population standardised by age.

This comparison makes it possible to situate the analysis within administrative catchment areas and to identify cases in which higher levels of accessibility are ensured beyond the administrative boundaries of the “*Area Vasta*” of residence, while also highlighting variations related both to territorial scale and to the distribution of healthcare needs.

The chapter is structured as follows. Section 4.2 provides the theoretical framework. Section 4.3 introduces key elements of national and regional regulations on hospital planning, together with a description of the regional hospital network and its catchment areas. Section 4.4 presents the data and methods. The analysis is developed across three levels: (i) proximity to emergency care facilities; (ii) accessibility to acute hospital beds; (iii) accessibility to services for repeated treatments – that is, oncology beds and dialysis stations – where distance plays a crucial role for continuity of care. Sections 4.5 and 4.6 present the results and discussion, while Section 4.7 offers concluding remarks.

4.2 Hospital attractiveness, catchment areas and measures of accessibility

As previously discussed, the literature on the geography of health care has extensively documented the existence of a distance decay effect in access to health care services: as distance increases, the probability of access tends to decrease. For emergency services, proximity is often the main determinant of the choice of facility, especially when hospital transfer is by road. However, in the case of planned admissions and specialist hospital services, distance explains only part of the observed behaviour.

In fact, the attractiveness and, consequently, accessibility to inpatient facilities are influenced by factors related to the characteristics of hospital structures, the treatment process and treatment

outcomes (Victor et al., 2012). These include, in addition to geographical proximity, the level of service complexity, the facilities' ability to meet specific healthcare needs, waiting times, the perceived quality and reputation of hospitals, as well as the costs associated with care and travel. In other words, the choice of place of care reflects the interplay between supply and demand and falls within the various dimensions of access defined by Penchansky and Thomas (1981) and Levesque et al. (2013): the availability of services and geographical proximity to facilities, but also acceptability in terms of quality, reputation and perceived appropriateness, willingness to pay for health care services or to travel to distant facilities, and the organisation and responsiveness of the system.

In addition to these elements, there are also the organisational dynamics generated by the hierarchical organisation and the networked structure of hospital care (Evangelista, 2017).

The processes of downsizing of health care provision that have affected many European healthcare systems have implied an increasing centralisation, aimed at achieving economies of scale and concentrating specialist care. In this context, healthcare authorities intervene to address the consequences of centralisation processes by defining care pathways and methods of inter-hospital collaboration, such as the inter-hospital transfer of patients, which "occurs whenever a hospital that has already admitted a patient organises and manages the transfer of that patient to another hospital" (Evangelista, 2017, p. 71). Dynamics of this kind are documented in various international contexts, where network organisation responds to the need to ensure the appropriateness and efficiency of care.

The interaction between the exercise of free choice of healthcare facility, the nature of healthcare needs, the hierarchy of provision and inter-hospital transfers determines flows of hospital mobility, which effectively define the actual catchment areas of hospital facilities¹⁹. These dynamics pose significant challenges both for identifying catchment areas and for measuring accessibility to facilities.

Generally speaking, a catchment area can be defined as the geographical area from which users of a given product or service originate (Evangelista, 2017). In the literature, there are four widely used methods for defining hospital catchment areas²⁰: definition by administrative division, the radial approach, definition based on patient origin, and the gravity approach (Lu et al., 2021; Evangelista, 2017; Garnick et al., 1987).

According to the administrative classification, a hospital's catchment area coincides with the relevant geographical-administrative area (that is, the metropolitan area and the county, for example). Consequently, the catchment area of a given hospital includes the residents of the geographical-administrative area covered by that hospital. This method has the limitation of not providing "indications on how users are distributed among the individual hospitals within the same administrative area, ultimately defining the area of inter-hospital competition rather than

¹⁹ "A patient/user can be defined as being in a state of mobility when they receive healthcare treatment or a care service outside the geographical-administrative area where they would ordinarily receive it" (Evangelista, 2017, p. 45). The literature distinguishes between various forms of healthcare mobility. One distinction is that between 'proximity mobility', which occurs between neighbouring administrative units (regions, health authorities, health districts) and is generally characterised by a demand for low-complexity health care services, such as day care admissions or outpatient services (Zocchetti, 2012; Moirano, 2012), and 'long-distance mobility', which occurs between non-adjacent administrative units, generally for highly complex services. A further distinction is made between types of mobility that "are entirely compatible with a well-functioning system", such as occasional mobility, which is a form of random mobility resulting from temporary moves away from the place of residence, and planned mobility within the network, which stems from the hierarchical structure of the hospital network. Critical forms of mobility are those due to a local lack of provision or mistrust in local services (Cislaghi and Giuliani, 2012, p. 33).

²⁰ It should be noted that, in the English-language literature, the concept of '*hospital catchment area*' is often used interchangeably with that of '*hospital market area*', without a conceptual distinction between the two terms (Evangelista, 2017, p. 60) (Evangelista, 2017, p. 60)

identifying the hospital market area of a single hospital” (Evangelista, 2017, p. 61). Furthermore, by relying on administrative boundaries, this method has the disadvantage of failing to consider the size of the administrative areas and the distances characterising them, potentially overestimating the size of catchment areas and neglecting accessibility to facilities outside their boundaries (Lu et al., 2021).

The radial approach identifies a hospital’s catchment area as a circle centred on the facility’s geographical location, with a radius defined by fixed or variable distance thresholds. Such methods have the advantage of considering the distance between demand and supply, overcoming the limitations arising from a definition of catchment areas based exclusively on administrative zoning. However, they entail certain limitations.

The adoption of a fixed radius fails to account for the functional hierarchy that characterises the organisation of hospital care (Lu et al., 2021; Evangelista, 2017; Phibbs and Robinson, 1993) and, consequently, the varying levels of attractiveness of healthcare facilities. In other words, it overlooks the fact that the spatial distribution of hospitals reflects an urban and functional hierarchy: hospital activity is generally organised into networks comprising larger hospitals equipped with more specialised services and complex technological facilities in major urban centres, intermediate-level hospitals located in smaller regional centres, and small hospitals in rural areas geared towards meeting local demand (Schuurman et al., 2006; Evangelista, 2017).

To overcome this limitation, Phibbs and Robinson (1993) proposed a method based on variable catchment areas, differentiated according to hospital type and derived empirically from the analysis of actual patient flows. Despite this conceptual advancement, this procedure also tends to overestimate the level of demand satisfaction within the radius under consideration and to underestimate the share of demand originating from areas outside that perimeter. Ultimately, these represent potential rather than actual catchment areas, similar to those derived from the definition based on geographical-administrative boundaries.

While the county and fixed-radius measures are readily available for all hospitals, they do not account for differences in local market characteristics and the types of services provided by each hospital. Thus, these measures cannot adjust for factors that are known to affect the size of a hospital's service area [...]. Through their use of actual patient flows, the zip code measures implicitly adjust for the differences in hospital and local market characteristics. (Phibbs and Robinson, 1993, p. 314)

The identification of actual catchment areas is instead based on real origin-destination flows of hospital admissions. The definition by origin is generally carried out by identifying the geographical units from which a large proportion of patients originate, for example 75% or 90% (Lu et al., 2021). This method overcomes the limitations of the approaches described above, as it allows for the consideration of demand actually met even beyond predefined geographical or administrative boundaries and captures non-spatial dimensions of health care facilities’ attractiveness.

Finally, the gravity approach defines hospital catchment areas based on distance decay functions that predict access to inpatient facilities. The main limitation of this method lies in considering distance, predominantly or exclusively, as the determining factor in the choice of healthcare facility, generally overlooking other factors that influence user preferences (Evangelista, 2017). However, in more recent literature, methods have emerged that allow for the consideration of the different levels of attractiveness of healthcare facilities (Jia et al., 2019; Jin et al., 2019; Tao et al., 2020; Yang et al., 2021; Cheng et al., 2024). In this vein, Jia et al. (2019)

proposed a Huff gravity model for delineating catchment areas based on distance decay functions derived from actual hospitalisation flows. The proposed model employs different distance decay coefficients depending on the level of care complexity.

As regards the measurement of accessibility, as introduced in Chapter 3, a limitation of the approaches commonly found in the literature is that they adopt predefined distance decay coefficients and fail to take into account the hierarchical structure of healthcare facilities and the fact that these differ not only in terms of volume but also in the complexity and quality of the care provided.

Some developments of the 2SFCA models (see Chapter 3 for a presentation of the original model and the main extensions developed over time) move precisely in this direction, adopting distance decay thresholds differentiated according to the level of complexity of hospital facilities and thus introducing a hierarchical perspective into the study of accessibility to health care facilities.

In other words, recent contributions highlight that the hierarchical configuration of healthcare systems gives rise to a spatial organisation in which higher-level facilities are larger in size but are numerically less widespread across the territory and, on average, further away from the population, which is often dispersed across the area; whereas lower-level hospitals are closer to residents and are therefore able to guarantee higher levels of accessibility.

Based on this consideration, several authors argue that the study of spatial accessibility to hierarchically organised health care services should be based on catchment areas and distance decay functions that are differentiated by facilities' complexity level. Models of this kind have recently been applied in numerous studies on accessibility to health care in China (Jin et al., 2019; Tao et al., 2020; Yang et al., 2021; Cheng et al., 2024).

Jin et al. (2019) proposed an E2SFCA model that assigns different distance decay coefficients to healthcare facilities of different levels, deriving the decay coefficients from the literature and from the accessibility targets adopted in healthcare regulations. Tao et al. (2020) applied the MC2SFCA method to study accessibility to a series of hierarchically organised health care services, defining catchment areas of varying size for health care services of different levels. In their model, Tao et al. (2020) define the extent of the catchment areas based on an estimate of travel times between each demand node and the nearest healthcare facility, thereby determining for each level a distance threshold value equal to the maximum time required for each node to reach at least one healthcare facility within the hierarchy. Based on these empirical estimates, the authors set the catchment areas for primary care facilities at 25 minutes, for second-level hospitals at 40 minutes, and for third-level hospitals at 70 minutes. From a similar perspective, Yang et al. (2021) adopted an E2SFCA method that considers different distance thresholds when modelling accessibility according to the level of the healthcare facility, distinguishing between primary care facilities, secondary-level hospitals and tertiary-level hospitals. In addition to the supply scale, Yang et al. (2021) included in their model a demand weighting based on the age structure of the population, based on healthcare consumption rates by age group. Cheng et al. (2024) proposed a model called the "Generalized Flow-Based Two-Step Floating Catchment Area" (GF2SFCA), aimed at optimising the parameters of the 2SFCA method through the use of origin-destination flows obtained from empirical mobility data. In particular, the model uses distance decay coefficients and defines specific catchment areas for each hospital based on a dataset tracking taxi journeys, which allows the departure and arrival points of journeys to hospitals to be reconstructed with a high degree of accuracy. This methodological choice was adopted as an alternative to data on patients' residential addresses, which are inaccessible for privacy reasons. However, it allows for the consideration of the varying attractiveness of hospitals at different levels and addresses

criticisms levelled at 2SFCA methods regarding the arbitrariness in defining distance thresholds and the use of predefined distance thresholds.

The following section provides a brief overview of Italian legislation and a preliminary analysis of the hospital network and catchment areas in Tuscany. This overview confirms the importance of using advanced methods to measure accessibility, in line with the approaches outlined above.

4.3 Hospital planning, service provision and catchment areas in Tuscany

Hospital care is defined, under Italian legislation, as an Essential Level of Care (“Livelli Essenziali di Assistenza”, LEA) and is organised, according to Article 36 of the Prime Ministerial Decree of 12 January 2017, into the following areas: emergency care, inpatient care for acute conditions, day surgery, day hospital services, rehabilitation and post-acute long-term care, transfusion services, transplantation of cells, organs and tissues, and poison control centres.

In the Italian context, over the past twenty-five years, central authorities (that is, the Ministry of Health, the Ministry of Economy and Finance, and the National Agency for Regional Health Services) has fostered hospital care restructuring processes, with the aim of progressively reducing two main dimensions of hospital provision: the number of beds relative to the population and hospitalisation rates (Furnari and Ricci, 2016). Between 2000 and 2014, the overall availability of public and accredited private hospital beds decreased nationwide by approximately 25%, amounting to a reduction of more than 70,000 units (Furnari and Ricci, 2016). This restructuring was promoted in a context shaped by demographic and epidemiological transitions, but it largely resulted in a contraction of hospital capacity, without a corresponding strengthening of community-based care (Furnari and Ricci, 2016).

A key step in the rationalisation process occurred following Law No. 135/2012 (known as the “Spending Review”), which required Regions to comply with a maximum threshold of bed provision. This objective was later formalised in Ministerial Decree No. 70/2015 and approved by the State–Regions Conference (Furnari and Ricci, 2016).

Ministerial Decree No. 70 of 2 April 2015 (“Regolamento recante definizione degli standard qualitativi, strutturali, tecnologici e quantitativi relativi all’assistenza ospedaliera”, [Regulation defining the qualitative, structural, technological and quantitative standards of hospital care]) redefined the functional hierarchy of hospital organisation and established a national target for hospital beds. In line with these standards, the Decree requires Regions to reduce the number of accredited beds financed by the respective Regional Health Services to a level not exceeding 3.7 beds per 1,000 inhabitants, of which 3.0 per 1,000 are allocated to acute care and 0.7 to rehabilitation and post-acute long-term care.

The threshold set by the Decree is not calculated on the basis of the absolute resident population, but rather on the weighted population according to the criteria adopted for determining health care funding to the regions (see Chapter 1) and according to interregional mobility flows²¹. Table 4.1 presents the age-specific weights for hospital care: the highest values

²¹ Article 1, paragraph 3(a) and (b), of Ministerial Decree No. 70 of 2 April 2015 stipulates that “For the purposes of calculating the number of beds referred to in paragraph 2, in each region: a) reference shall be made to the resident population based on the criteria used to calculate the standard cost for the macro-level of hospital care for the purposes of determining the standard regional healthcare requirement referred to in Article 27 of Legislative Decree No. 68 of 6 May 2011; b) the number of beds per thousand inhabitants, calculated in accordance with point (a), shall be increased or decreased as follows to take account of mobility between regions: 1. the average cost per bed at national level shall be calculated by dividing the total national cost of hospital care, as recorded in the regional consolidated LA economic model for the year 2012, by the number of actual beds in use in hospital wards as at 1 January 2013 and recorded in the models used for the annual review by the Committee referred to in Article 9 of the Agreement ratified on 23 March

are observed in the extreme age groups, consistent with the greater healthcare needs of infants and the elderly.

This measure of population-to-hospital beds ratio per thousand inhabitants, based on weighting the resident population according to the healthcare consumption across different age groups, is consistent with the measure of accessibility introduced in Chapter 4. The inclusion of interregional mobility flows in the calculation of the provision, however, raises some concerns, as it reflects organisational dynamics, attractiveness, and the quality of the service offering rather than actual healthcare needs.

Table 4.1 – Age-specific weights for hospital care utilisation

<i>Level of care</i>	<i>Under 1 year</i>	<i>1 to 4 years</i>	<i>5 to 14 years</i>	<i>15 to 24 years</i>	<i>25 to 44 years</i>	<i>45 to 64 years</i>	<i>65 to 74 years</i>	<i>Over 75</i>
Hospital care	3.122	0.366	0.226	0.363	0.528	0.930	2.079	2.906

Source: Author’s own elaboration based on the Agreement between the State and the Regions of 9 November 2023, Rep/acts 262/CRS.

Ministerial Decree 70/2015 also established a hierarchical model for the organisation of hospital services, based on a hub-and-spoke network that structures facilities according to increasing levels of complexity. According to the provision, “the classification of general acute care hospitals overlaps with that of hospitals in the emergency and urgent care network” (Furnari and Ricci, 2016), and four types of facilities are distinguished: “base hospitals” or “Non-DEA emergency departments”, which are equipped with an Emergency Department (ED) and the main widely practised specialities and are intended for areas with a travel time of more than 60 minutes from the nearest designated DEA hospital; “first level” hospitals equipped with I Level DEA ED; “second level” hospitals equipped with II Level DEA ED and affiliated with University Hospital (*“Aziende Ospedaliero-Universitarie”*, AOU) or ‘Scientific Institutes for Research, Hospitalisation and Healthcare’ (*“Istituti di Ricovero e Cura a Carattere Scientifico”*, IRCCS); and, finally, hospitals in ‘disadvantaged areas’ (*“ospedali di area disagiata”*). The latter are equipped with essential ED functions and are located in areas more than 90 minutes’ drive from the relevant hub or spoke centres or more than 60 minutes’ drive from Non-DEA ED. Table 4.2 summarises the responsibilities, facilities and catchment areas for each level (Furnari and Ricci, 2016). This structure is of a nested structure: advanced-level facilities offer the services provided by lower-level facilities, as well as at least one type of service not available at the latter (Tao et al., 2020).

The regional government of Tuscany implemented the provisions of Ministerial Decree 70/2015 through Regional Council Resolution No. 145 of 1 March 2016. This Resolution defined as priority objectives the affirmation of the “fundamental role of networks as an organisational

2005 by the Permanent Conference for relations between the State, the regions and the autonomous provinces of Trento and Bolzano; 2. the average cost of a bed at national level is divided by the financial value of the balance of active and passive mobility relating to the flow of admissions in each region, as reported in the mobility matrix used to determine regional healthcare requirements for the most recent year available, in order to identify the number of equivalent beds used for patient mobility between regions; 3. the number of equivalent beds is multiplied by a coefficient of 0.80, reduced to 0.65 from 2016 onwards; 4. alignment with the expected allocation, in regions subject to a recovery plan, will take place progressively within the three-year implementation period of the 2014–2016 Health Pact, in accordance with the timetable and procedures set out in the current 2013–2015 operational programmes or in the plans for the reorganisation, upgrading and strengthening of the Regional Health Service, as redefined pursuant to Article 12 of the new 2014–2016 Health Pact”.

model to respond to the growing complexity of healthcare processes and the need to integrate and share knowledge, skills and surgical care pathways”, the redefinition of “catchment areas within the context of overall hospital service planning” and the implementation of “a redistribution of surgical care provision that takes into account volumes and outcomes for the main conditions where improved outcomes are demonstrated as volumes increase”. The Resolution stipulates that

The key element of overall hospital service planning is the central role of the ‘Area Vasta’ districts, within which solutions must be found for the majority of the needs of resident citizens, and which is expressed through the definition and management of integrated inter-hospital pathways. The catchment area of the ‘Area Vasta’ constitutes the main reference point within which to identify the needs to be addressed by the reorganisation of hospitals within a network context. [...]

The criteria for redefining hospital provision envisage the concentration of highly complex professional services, particularly surgical ones, in reference hospitals that bring together technology and highly specialised expertise within an ‘optimal’ geographical and population catchment area (covering an ‘Area Vasta’ or region), typically university hospitals and the Monasterio Foundation, and the transfer of less complex activities to the remaining facilities, with an overall increase in service volumes and a reduction in unit costs. [...]

Accredited private facilities are situated within the network, with a view to providing non-competitive coverage of demand and synergy with the planned provision, aiming for a consolidation of the overall provision network that is coordinated and consistent with the objectives of regional planning. [...]

In the redesign of the network, the geographical distribution of the services offered must be such as to guarantee all citizens access to facilities within travel times defined in relation to the various activities under consideration.

Table 4.2 – Hierarchical levels of general (multi-specialist) acute care hospitals, pursuant to Ministerial Decree 70/2015: summary

<i>Hierarchical level</i>	<i>Catchment area</i>	<i>Appropriate DEA admissions</i>	<i>Specialities provided</i>
“Base” (Non-DEA ED)	Between 80,000 and 150,000 inhabitants	Between 20,000 and 45,000	Inland Medicine, General Surgery, Emergency Department, Anaesthesia, Radiology, Laboratory, Blood Bank, Orthopaedics.
Level I hospitals (SPOKE)	Between 150,000 and 300,000 inhabitants	Between 45,000 and 70,000 – I Level DEA	In addition to those required for maternity wards: Gynaecology and, where applicable, Obstetrics, Paediatrics, Cardiology with a Coronary Care Unit, Neurology, Psychiatry, Oncology, Ophthalmology, Otorhinolaryngology, Urology, Radiology with CT and Ultrasound, Blood Transfusion Service, Sub-Intensive Care.
Level II hospitals (HUBs)	Between 600,000 and 1,200,000 inhabitants	Over 70,000 – II Level DEA	In addition to those provided for “base” hospitals and Spokes, the following are envisaged as a guide: Cardiology with interventional haemodynamics, Neurosurgery, Cardiac surgery and Cardiac intensive care, Vascular surgery, Thoracic surgery, Maxillofacial Surgery, Plastic Surgery, Highly

			complex digestive endoscopy, Interventional bronchoscopy, Interventional radiology, Paediatric and neonatal resuscitation, Nuclear Medicine.
“Area disagiata” (Disadvantaged areas)	Fewer than 80,000 inhabitants	Fewer than 20,000	Inland medicine, general surgery, OBI, anaesthesia, radiology, laboratory, blood bank

Source: Author’s elaboration based on Furnari and Ricci (2016, p. 317)

Following the approval of Regional Law No. 84 of 28 December 2015 (“*Riordino dell’assetto istituzionale e organizzativo del sistema sanitario regionale. Modifiche alla L.R. 40/2005*” [Reorganisation of the institutional and organisational structure of the regional healthcare system. Amendments to Regional Law 40/2005]), the Regional Health Service of Tuscany is organised into three Local Health Authorities (“*Aziende USL*”), which are grouped into three “*Area Vasta*” districts. In accordance with Ministerial Decree 70/2015, the “*Area Vasta*” districts constitute the administrative framework for the definition and management of hospital catchment areas. Each “*Area Vasta*” has a designated University Hospitals (AOU): the Pisa AOU for the “*Area Vasta Toscana Nord–Ovest*”, the Careggi AOU for the “*Area Vasta Toscana Centro*” and the Siena AOU for the “*Area Vasta Toscana Sud–Est*”. These three AOUs, together with the Meyer Paediatric University Hospital, which serves as a reference centre for the entire region, are the regional II Level DEA departments.

As regards the implementation of hospital bed targets, according to data from the Ministry of Health (Ministero della Salute, 2023), as of 2023, there were a total of 11,930 active beds in public or private accredited facilities in Tuscany, of which 10,750 were for acute care and 1,180 for rehabilitation and long-term care. When the number of beds is compared to the resident population (Ista, 2023), the regional provision stands at 3.26 total beds per 1,000 residents, of which 2.94 are for acute care and 0.32 for rehabilitation and long-term care (Table 4.3). As might be expected in a context characterised by a high proportion of elderly people, these figures fall significantly when the age-standardised population is considered: the overall provision drops to 2.84 beds per 1,000 inhabitants, of which 2.56 are for acute care and 0.28 for post-acute care (Table 4.3). This difference confirms the importance of including demographic structure in healthcare planning assessments.

In 2023, the standardised population is significantly higher than the resident population in all the “*Area Vasta*” districts: it increases from 1,604,409 residents to 1,811,775 (+13%) in Central Tuscany, from 1,246,330 to 1,448,681 (+16%) in North–West Tuscany, and from 811,242 to 943,569 (+16%) in South–East Tuscany (Table 4.3).

An analysis of bed density by *Area Vasta*, taking into account the standardised population, reveals the following differences: in North–West, there are a total of 2.91 beds per 1,000 residents (2.66 for acute care and 0.26 for rehabilitation and long-term care); in Central Tuscany 2.75 (2.35 for acute care and 0.37 for post-acute care); and in South–East Tuscany 2.79 beds per 1,000 residents (2.58 for acute care and 0.16 for post-acute care).

Specifically, of the total 10,750 acute care beds, 84% are dedicated to standard inpatient care (9,062 beds), 7% to day care (802), 6% to day surgery and 2% are private-pay beds (212). The regional density of beds for inpatient care is 2.47 beds per 1,000 residents (2.16 when considering the standardised population) (Table 4.4). North–West Tuscany ranks first with 2.67 acute inpatients beds for 1,000 inhabitants based on the total population and 2.30 based on the standardised population, followed by South–East Tuscany (2.58 for the total population; 2.22 for

the standardised population) and Central Tuscany, which has the lowest values (2.27 based on the total population and 2.01 based on the standardised population).

Table 4.3 – Bed density within each Area Vasta and the regional level (year 2023)

<i>Area Vasta/ Region</i>	<i>Total population (Standardised population)</i>	<i>Beds per 1,000 inhabitants of the total population (Beds per 1,000 inhabitants, standardised population)</i>		
		<i>Acute</i>	<i>Rehabilitation and long-term care</i>	<i>Total</i>
Area Vasta Toscana Nord–Ovest	1,246,330 (1,448,681)	3.16 (2.66)	0.30 (0.26)	3.46 (2.91)
Area Vasta Toscana Centro	1,604,409 (1,811,775)	2.70 (2.35)	0.41 (0.37)	3.11 (2.75)
Area Vasta Toscana Sud–Est	811,242 (943,569)	3.07 (2.58)	0.18 (0.16)	3.25 (2.79)
Tuscany	3,661,981 (4,202,025)	2.94 (2.56)	0.32 (0.28)	3.26 (2.84)

Source: Author’s own elaboration based on ISTAT (2023) and the Ministero della Salute (2023) data

Table 4. 4 – Density of acute care beds within each Area Vasta and the regional level (year 2023)

<i>Area Vasta/ Region</i>	<i>Total population (Standardised population)</i>	<i>Beds per 1,000 inhabitants of the total population (Beds per 1,000 inhabitants of the standardised population)</i>				
		<i>Inpatient care</i>	<i>Private inpatient care</i>	<i>Day care</i>	<i>Day surgery</i>	<i>Total</i>
Area Vasta Toscana Nord–Ovest	1,246,330 (1,448,681)	2.67 (2.30)	0.07 (0.06)	0.20 (0.17)	0.22 (0.18)	3.16 (2.72)
Area Vasta Toscana Centro	1,604,409 (1,811,775)	2.27 (2.01)	0.04 (0.04)	0.20 (0.18)	0.18 (0.16)	2.70 (2.35)
Area Vasta Toscana Sud–Est	811,242 (943,569)	2.58 (2.22)	0.07 (0.06)	0.27 (0.24)	0.14 (0.12)	3.07 (2.64)
Tuscany	3,661,981 (4,202,025)	2.47 (2.16)	0.06 (0.05)	0.22 (0.19)	0.18 (0.16)	2.94 (2.56)

Source: Author’s own elaboration based on ISTAT (2023) and the Ministero della Salute (2023) data

From an organisational perspective, as of 2023 there were 65 accredited public or private facilities with inpatient or day care acute beds, of which 63 had inpatient beds and 52 had day care beds (Ministero della Salute, 2023). According to the classification of the Regional Health Agency of the Tuscany Region (ARS Toscana, 2023), these facilities included: the three AOU in Florence, Pisa and Siena and the Meyer Paediatric University Hospital in Florence; 12 I level DEA departments; 16 base hospitals (Non–DEA ED); 7 hospitals in disadvantaged areas; 16 accredited private facilities, 8 facilities of other types (directly managed hospitals outside the emergency network, IRCCS and research bodies) and 2 facilities belonging to the “*Fondazione Toscana Gabriele Monasterio*” (FTGM). The thematic maps in Figures 4.1 and 4.2 show the locations of facilities with acute inpatient beds and those with acute day care beds, respectively.

The 9,602 acute inpatient care beds were distributed as follows: 27% were located in II Level DEA departments, 15% in Non–DEA ED, 43% in I Level DEA hospitals, 9% in accredited private hospitals; and the remaining 7% were distributed among the Meyer University Hospital, hospitals in disadvantaged areas, the FTGM and other types of facilities (Table 4.5). Of the 802 acute day

care beds, 41% were concentrated in I Level DEA departments, 23% in II Level DEA departments, 18% in Non-DEA ED, 8% at the Meyer Paediatric AOU, 6% in other types of facilities, and the remaining 4% in FTGM facilities, hospitals in disadvantaged areas and private facilities.

Table 4.5 – Number and percentage distribution of acute care beds

<i>Type of facility</i>	<i>Inpatient beds (No.)</i>	<i>Inpatient beds (%)</i>	<i>Day care beds (N.)</i>	<i>Day care beds (%)</i>
Meyer Pediatric AOU	180	1.99%	60	7.48%
II Level DEA (AOU)	2,466	27.21%	186	23.19%
I Level DEA	3,856	42.55%	330	41.15%
Non-DEA ED	1,316	14.52%	142	17.71%
Disadvantaged area	196	2.16%	26	3.24%
FTGM	119	1.31%	2	0.25%
Private	793	8.75%	12	1.50%
Other	136	1.50%	44	5.49%
Total	9,062	100%	802	100%

Source: Author's own elaboration based on Ministero della Salute (2021) and ARS Toscana (2023) data

Although I Level DEA hospitals account for the largest share of beds, the thematic maps in Figures 4.3 and 4.4 show a higher spatial concentration of acute inpatient and day-care beds in university hospitals (II Level DEA hospitals) and the region's main cities. Ten percent of acute inpatient beds are located at the Careggi AOU, 11% at the Pisa AOU and 6% at the Siena AOU. Nine percent of acute day care beds are located at the Careggi AOU, 6% at the Pisa AOU and 9% at the Siena AOU.

From a regional perspective, it is worth noting that the Metropolitan City of Florence accounted for almost one third of the region's acute hospital beds, despite its resident population representing less than one fifth of the total population of Tuscany. The metropolitan capital is home to two of the region's four university hospital trusts: the Meyer Paediatric AOU, which serves as a regional and extra-regional centre of excellence for the treatment of acute paediatric patients; and the Careggi AOU, which serves as the regional Trauma Centre and admits acute cases of major trauma within the Florence area (Grazzini et al., 2022).

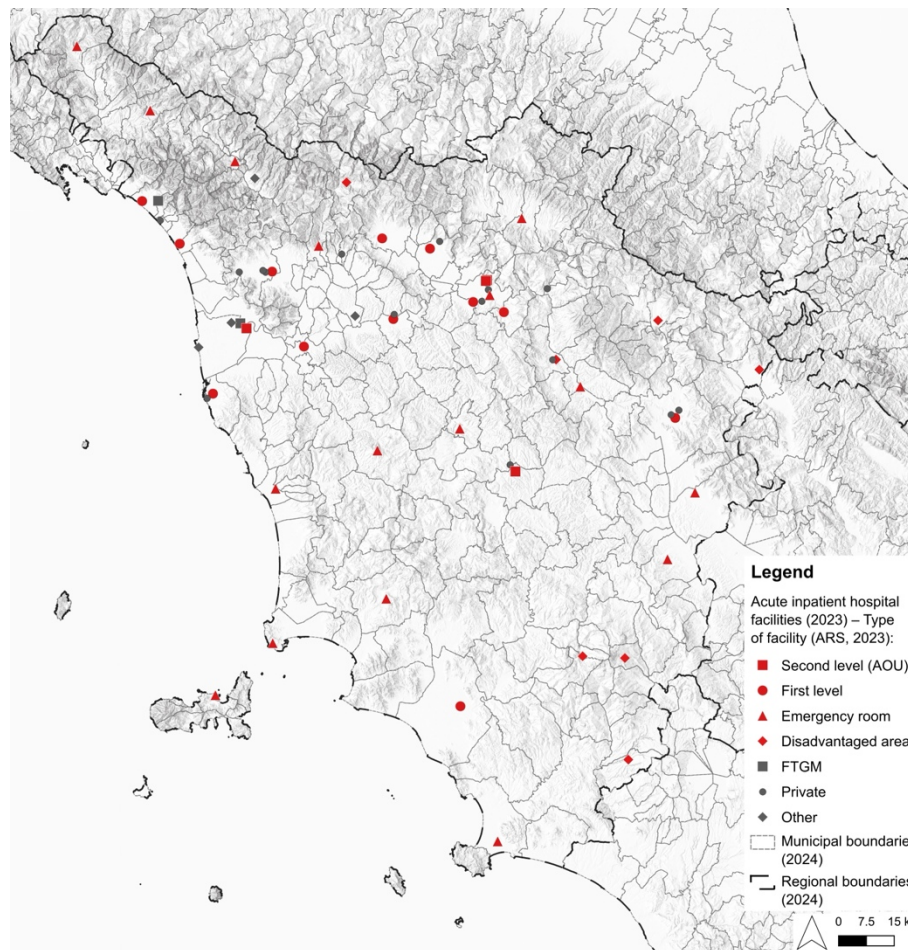


Figure 4.1 – Location of facilities with acute inpatient care beds.
 Source: Author's own elaboration based on Ministero della Salute (2023) and ARS Toscana (2023) data

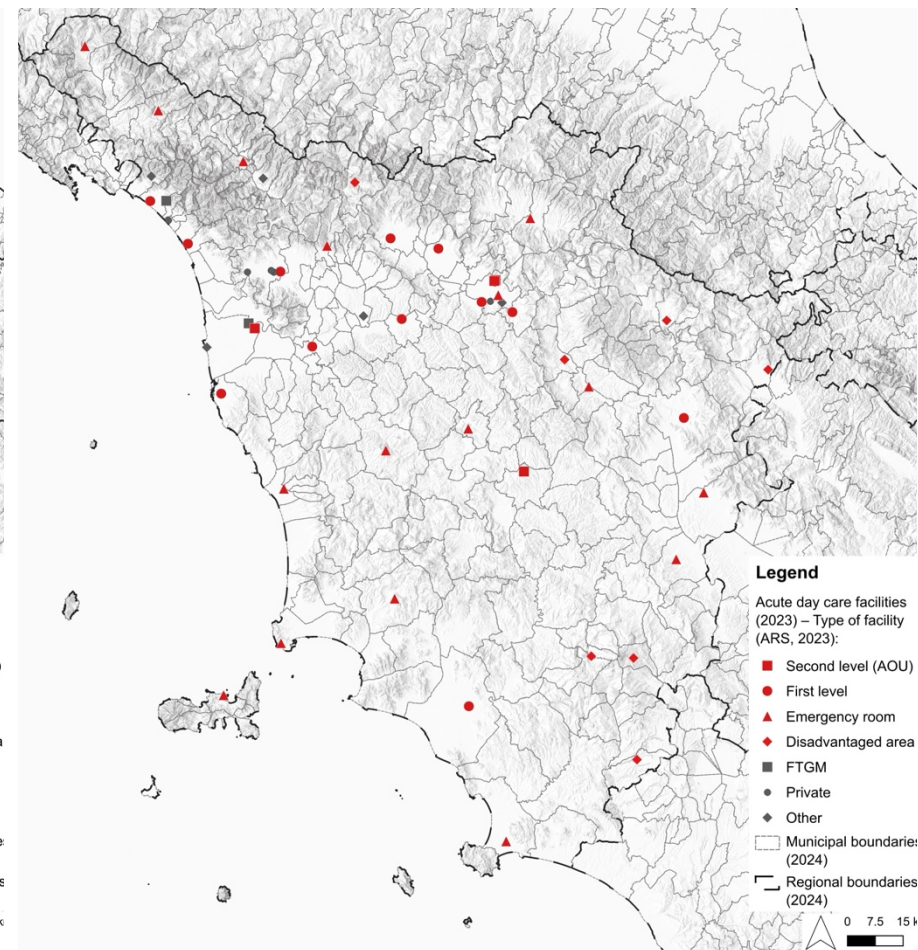


Figure 4.2 – Location of facilities with acute day care beds.
 Source: Author's own elaboration based on Ministero della Salute (2023) and ARS Toscana (2023) data

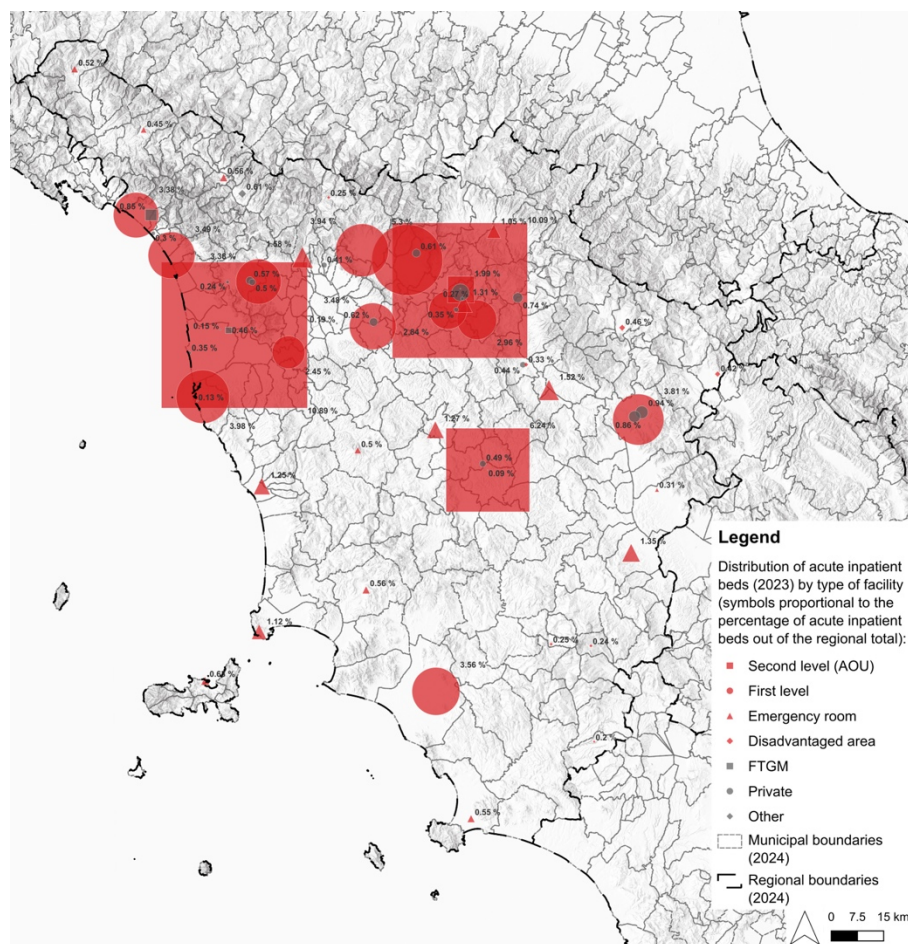


Figure 4.3 – Distribution of acute inpatient beds across the region.

Source: Author's own elaboration based on Ministero della Salute (2023) and ARS Toscana (2023) data

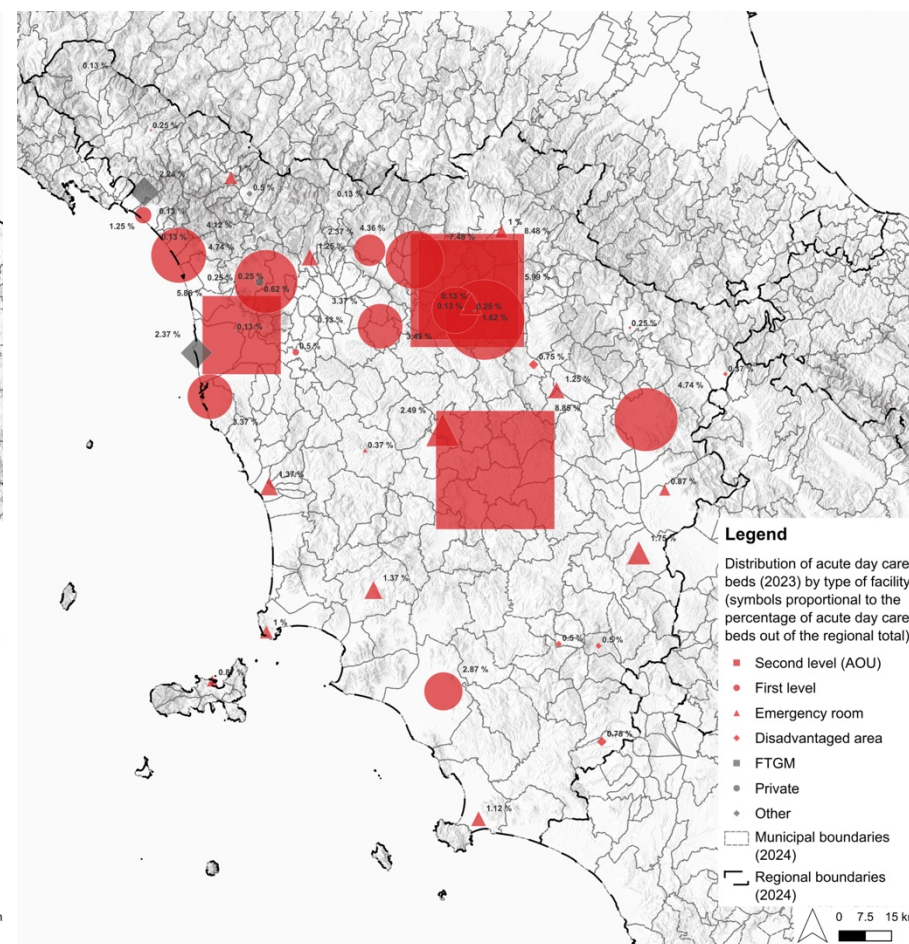


Figure 4.4 – Distribution of acute day care beds across the region.

Source: Author's own elaboration based on Ministero della Salute (2023) and ARS Toscana (2023) data

It should be noted that the data presented above refer to the total number of hospital beds. This choice is consistent with the regulatory framework, which defines hospital capacity standards in terms of overall bed availability rather than medical specialty nor between beds located in general hospitals and those in highly specialised facilities and which are therefore intended for specific age groups or patients with specific healthcare needs. In the case of Tuscany, for planning purposes, the calculation of beds per 1,000 inhabitants includes facilities such as, for example, the Meyer Paediatric University Hospital and institutions such as the “*Fondazione Stella Maris*”, the “*Fondazione G. Monasterio CNR*” and the “*Ospedale del Cuore G. Pasquinucci*”, which are characterised by a predominantly specialist focus and a surgical and care mission geared towards highly complex areas. The hospital provision guaranteed in these facilities, whilst contributing to the calculation of beds for regulatory and planning purposes, is not, however, directly comparable with general hospital provision.

However, the Ministry of Health database also provides information disaggregated by discipline, making it possible to identify the number of beds allocated to specific specialties. For this reason, it is useful to complement the analysis with data on the distribution of beds dedicated to particular disciplines, such as oncology (Figures 4.5 and 4.6). In addition, the analysis can be integrated with information on selected treatments, such as dialysis, which are not included in the database on hospital beds (Figures 4.7 and 4.8).

With regard to oncology beds, according to data from the Ministry of Health (Ministero della Salute, 2023), of the 65 inpatient facilities with inpatient beds or day care beds for acute care, only 38 had oncology beds. The total number of oncology beds (inpatient or day care) amounted to 318, representing a density of 0.87 per 10,000 residents (0.76 when considering the standardised population). These were predominantly concentrated in I Level facilities (50% of regional oncology beds) and in “base” hospitals (28%). Fifteen per cent of the total were in University Hospitals (AOU), 5% in hospitals in disadvantaged areas and 2.5% in other types of facilities.

As regards dialysis care, according to data from the National Association of Haemodialysis Patients (“*Associazione Nazionale Emodializzati*”, ANED; 2025), in 2025 there were 43 dialysis centres in Tuscany, with a total of 692 stations and a density of 1.89 dialysis stations per 10,000 residents (1.65 based on the standardised population).

Dialysis stations are mainly concentrated in first-level facilities (41%), basic facilities (24%), other types of facilities (including some social and healthcare centres, 13%) and in University Hospitals (13%). The remaining 10% are located in hospitals in disadvantaged areas (8%) and in accredited private facilities (2%).

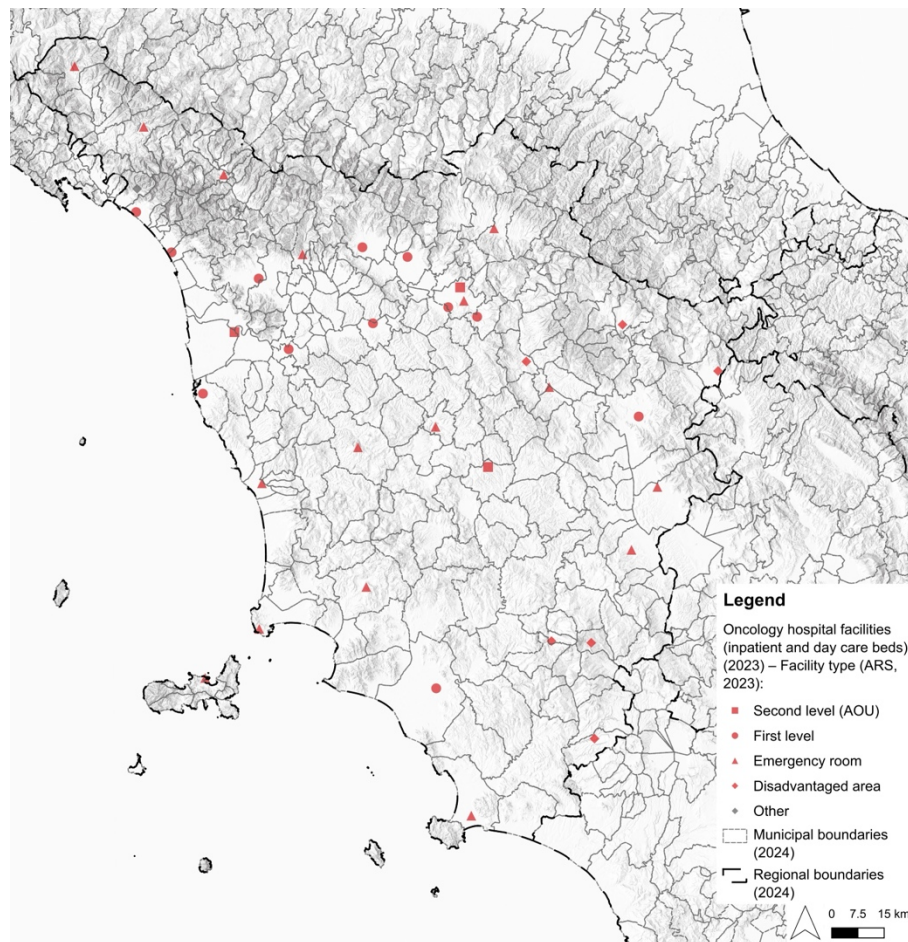


Figure 4.5 – Location of facilities with oncology beds.

Source: Author's own elaboration based on Ministero della Salute (2023) and ARS Toscana (2023) data

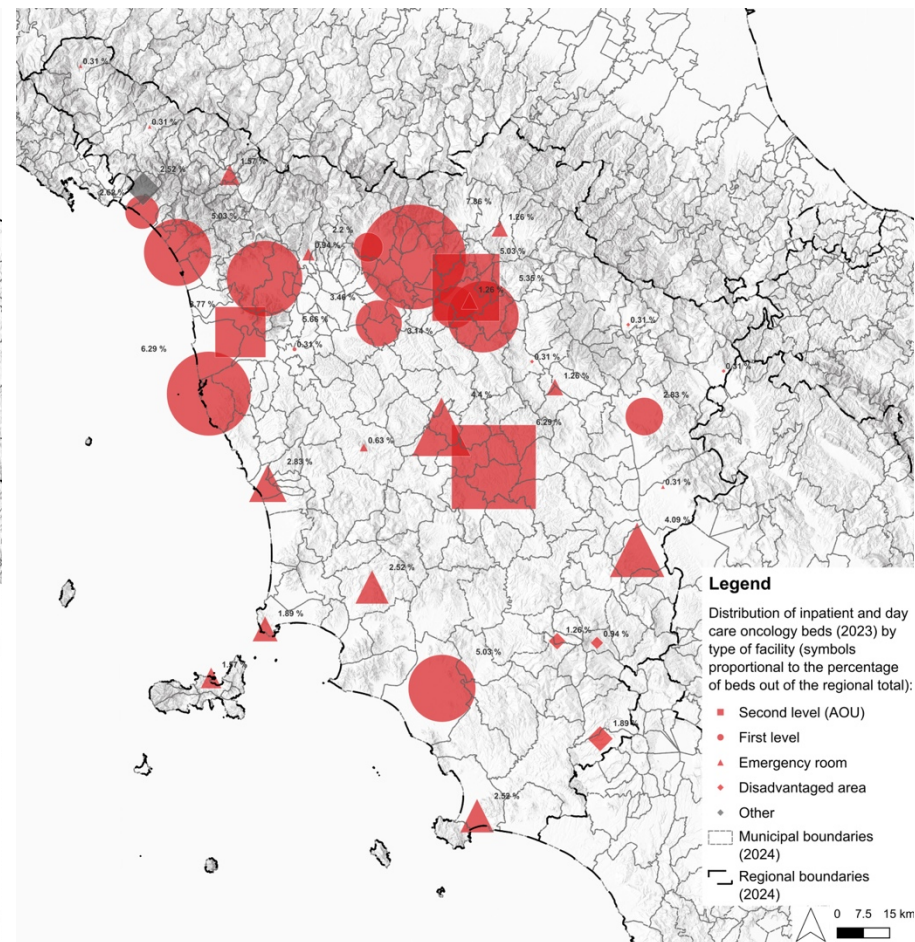


Figure 4.6 – Distribution of oncology beds.

Source: Author's own elaboration based on Ministero della Salute (2023) and ARS Toscana (2023) data

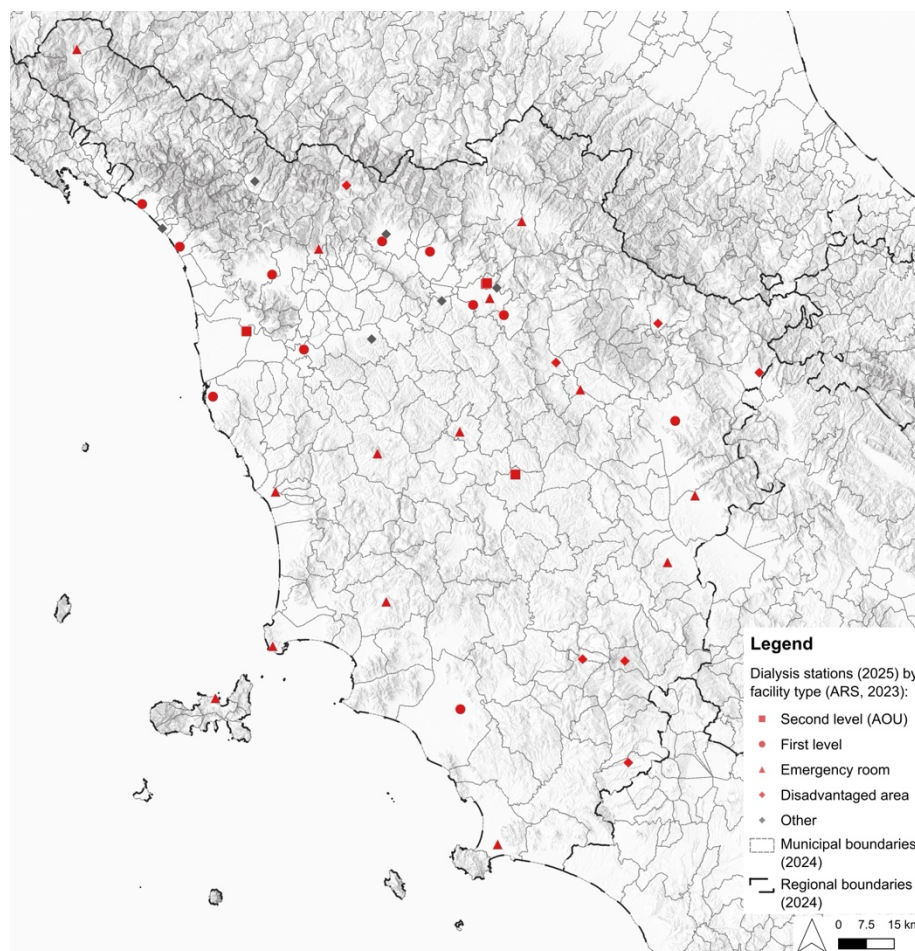


Figure 4.7 – Location of dialysis centres.
Source: Author's own elaboration based on ANED (2025) and ARS Toscana (2023) data

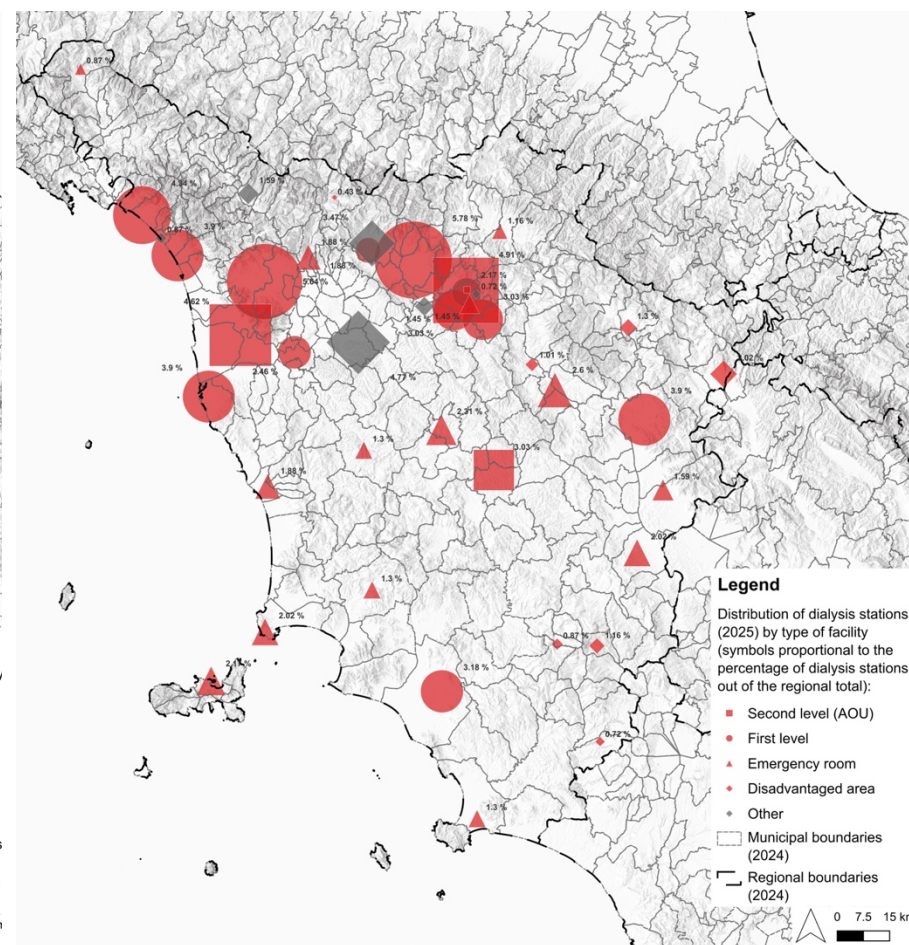


Figure 4.8 – Distribution of beds in dialysis centres.
Source: Author's own elaboration based on ANED (2025) and ARS Toscana (2023) data

Beyond the number of beds and the type of services offered, the attractiveness of facilities is, as we have previously discussed, influenced by factors such as the complexity of the care provided, the reputation of the facilities and waiting times for access to services (Evangelista, 2017). In order to gain a preliminary understanding of the attractiveness of Tuscan inpatient facilities, we consider it useful, as suggested by Evangelista (2017), to present the actual catchment areas of these facilities, distinguishing between an organisational criterion – which considers the percentage of admissions occurring at each facility out of the total regional admissions – and a territorial criterion – which assesses catchment areas in terms of the percentage of municipalities served out of the total number of municipalities in the region.

The Regional Health Agency of Tuscany, via the “FlowMap” web platform (ARS, 2023), provides data on the (regional) catchment areas of hospital facilities and on patient flows for acute admissions of residents in the region’s 273 municipalities (covering both standard inpatient admissions and day care admissions, as well as specific conditions and aggregate data). These data allow the visualisation of actual catchment areas of regional inpatient facilities for both types of admission, adopting both an organisational and a territorial perspective (Evangelista, 2017) (Figures 4.9 to 4.12). According to ARS Toscana (2023), in 2023 in Tuscany, a total of 321,878 acute inpatient admissions and 104,840 acute day care admissions were recorded. University Hospitals (AOUs) remain the most attractive facilities in the region: in 2023, 11% of ordinary admissions and 13% of day care admissions took place at the Careggi AOU; 10% of routine and day care admissions at the Pisa AOU, and 5% of inpatient admissions and 8% of day care admissions at the Siena AOU. The attractiveness of these hospitals is highlighted by their catchment areas. As regards standard admissions, the Careggi AOU and the Pisa AOU attracted standard admissions from 95% of Tuscany’s municipalities (258 out of 273), and the Senese AOU from 85% (232 municipalities). As regards day care admissions, the Careggi AOU attracted admissions from 87% of municipalities (237 out of 273), the Siena AOU from 82% (223 municipalities) and the Pisa AOU from 79% (216 municipalities). The data also confirm the role of the Meyer Paediatric AOU as a regional hub: as of 2023, the paediatric university hospital had admitted inpatients from 245 Tuscan municipalities (approximately 90% of the total) and day care admissions from 257 municipalities (94%).

A comparison between the organisational catchment areas (Figures 4.9 and 4.10) and the territorial catchment areas (Figures 4.11 and 4.12) reveals some significant differences. Whilst the size of the organisational and territorial catchment areas of second- and first-level facilities can, at first glance, be interpreted as a natural consequence of their location in the region’s most densely populated areas and the functions assigned to them within the functional hierarchy of the Italian hospital network, the data relating to the territorial catchment areas of inpatient facilities complicate this interpretation. As expected, highly specialised facilities, such as those of the FTGM and the “Fondazione Stella Maris”, have relatively small organisational catchment areas but very extensive territorial catchment areas: the “Istituto di Fisiologia Clinica CNR” covers 58% of municipalities for inpatient admissions and 35% for day care admissions; the “Ospedale Pediatrico Apuano” covers 69% of municipalities for standard admissions; the “Fondazione Stella Maris” covers 67% for day care admissions. Similar differences are observed for some accredited private facilities. For example, the “Casa di Cura Ulivella e Glicini” in Florence admitted, in 2023, in-patient admissions from 67% of municipalities and day care admissions from 30% of municipalities; the “Casa di Cura Frate Sole” in Figline e Incisa Valdarno served 57% of municipalities for inpatient admissions and 25% for day care admissions; the “Centro Chirurgico Toscano” and the “Casa di Cura San Giuseppe” in Arezzo attracted 54% and 48% of municipalities, respectively, for inpatient admissions.

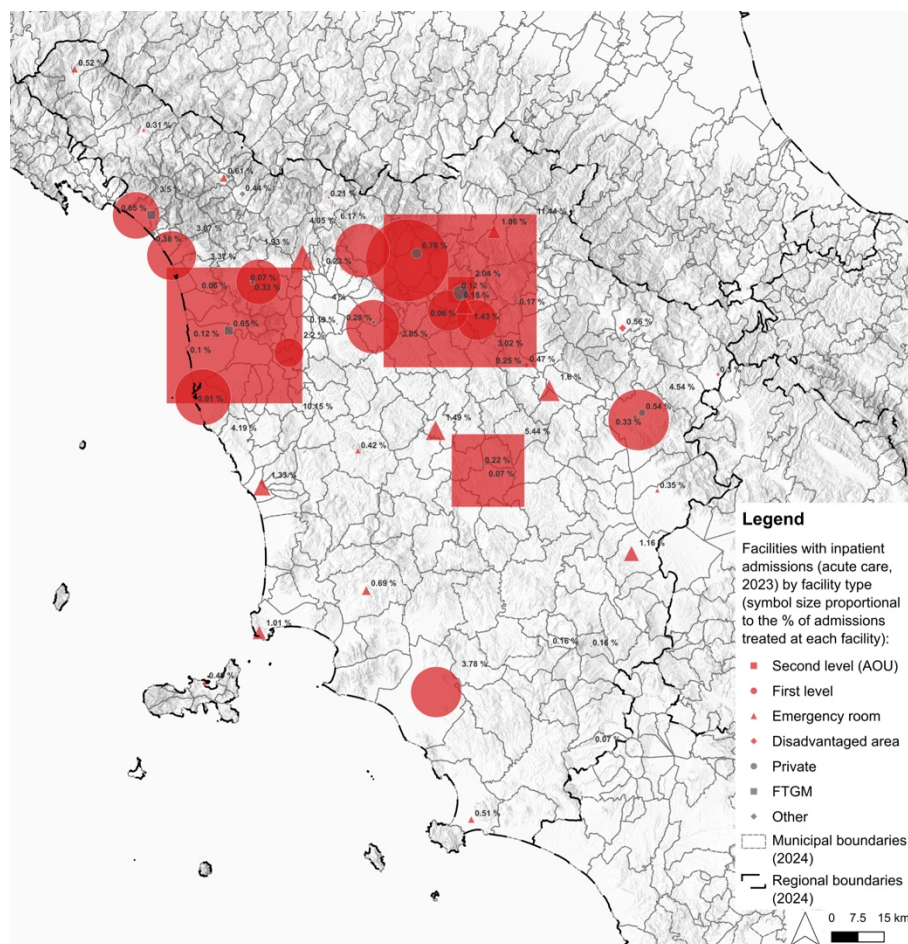


Figure 4.9 – Catchment areas by organisational criterion: inpatient admissions.

Source: Author's own elaboration based on ARS Toscana (2023) data

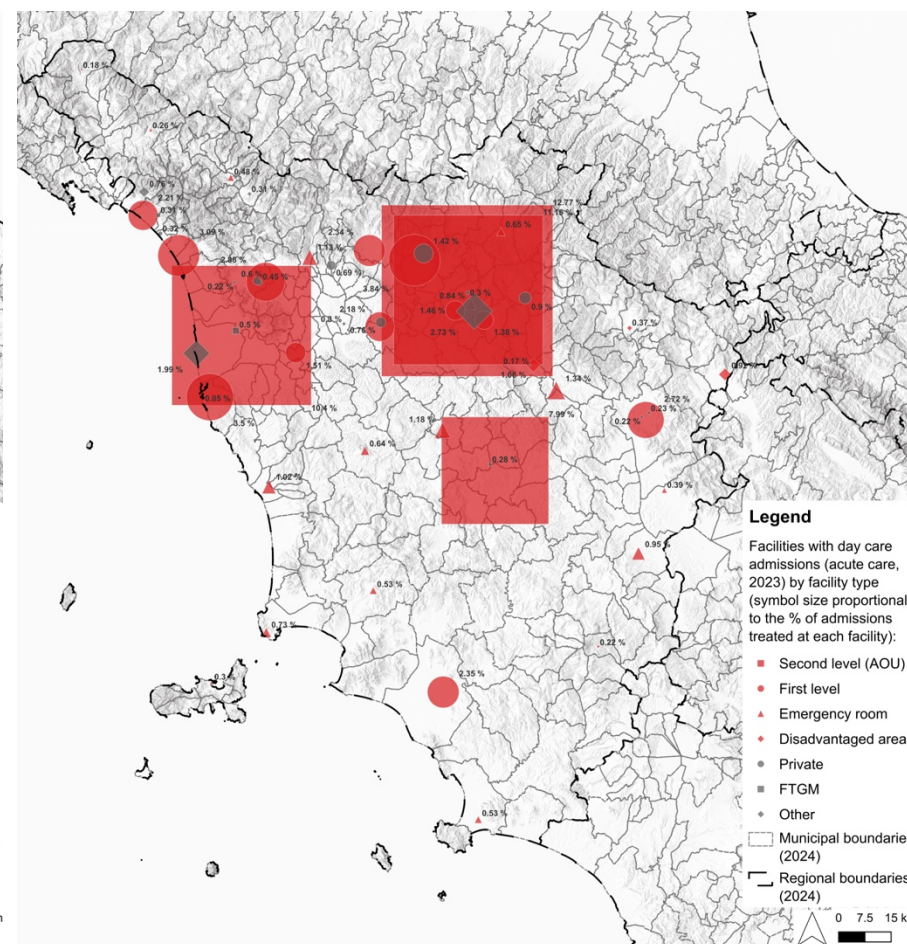


Figure 4.10 – Catchment areas by organisational criterion: day care admissions.

Source: Author's own elaboration based on ARS Toscana (2023) data

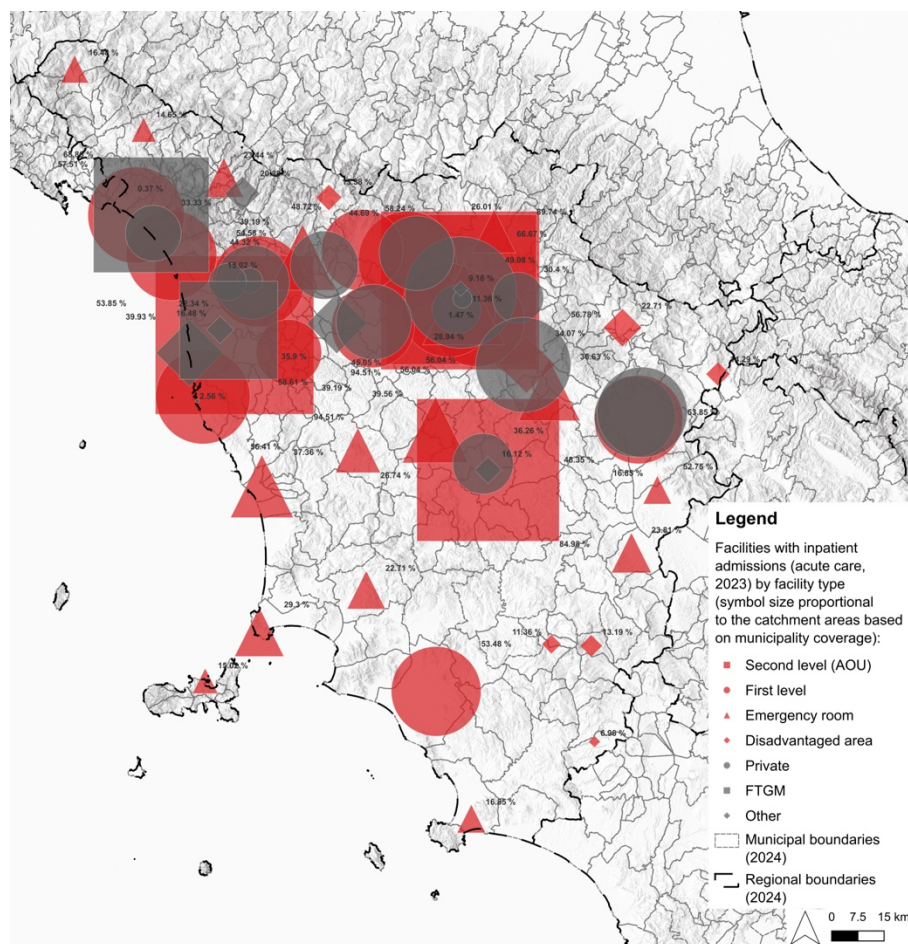


Figure 4.11 – Catchment areas by territorial criterion: inpatient admissions.
Source: Author's own elaboration based on ARS Toscana (2023) data

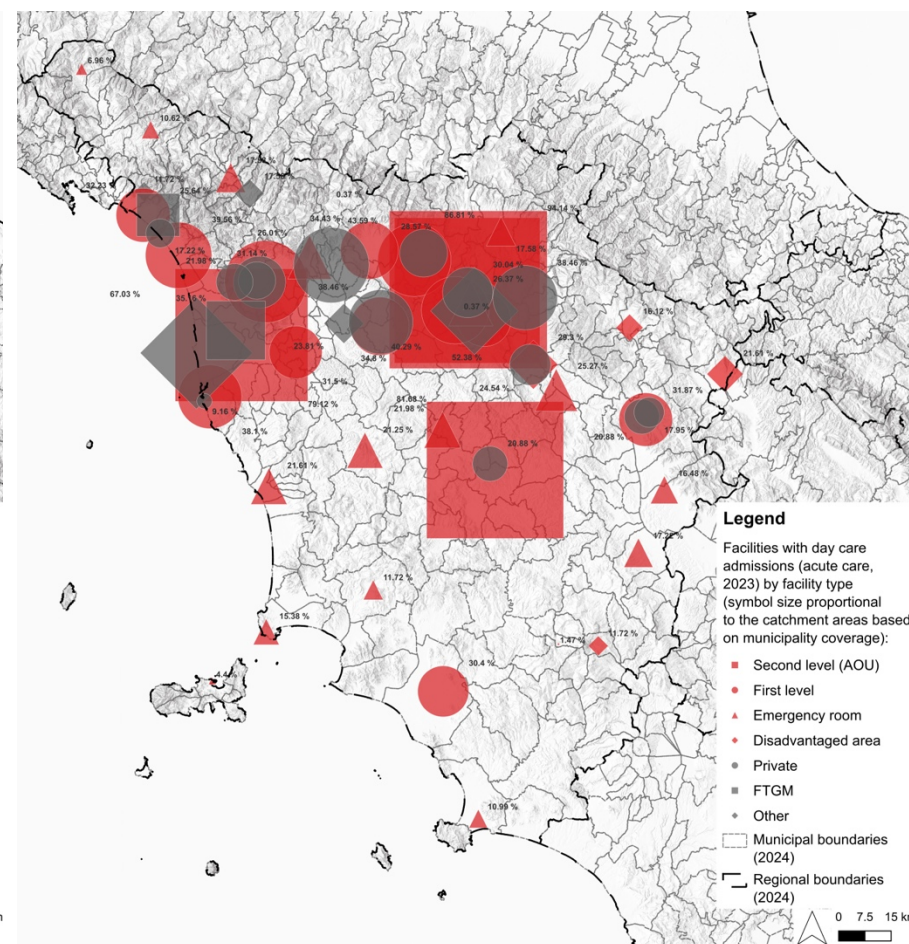


Figure 4.12 – Catchment areas by geographical criterion: day care admissions.
Source: Author's own elaboration based on ARS Toscana (2023) data

These data indicate a high level of extra-territorial mobility. Such mobility may reflect not only occasional mobility due to people moving outside their municipality of residence, or forms of ‘apparent mobility’ linked to the discrepancy between registered residence and habitual domicile (Cislaghi and Giuliani, 2012), but also the uneven distribution of hospital specialities, the reputation of inpatient facilities, and the effects of hospital overcrowding and waiting times, which may lead patients to seek care at facilities even far from their place of residence.

To conclude this brief introduction to the Tuscan hospital network and to obtain initial insights into the consistency between the geographical-administrative catchment areas and the actual catchment areas of Tuscan facilities, it is useful to present some data on hospital mobility (ARS Toscana, 2023)²². According to data from the Regional Health Agency of Tuscany, in 2023, in 188 out of the 273 municipalities in Tuscany, over 80% of hospital admissions took place within the territory of the relevant “*Area Vasta*” districts. This percentage exceeds 70% in 243 out of the region’s 273 municipalities. There are 24 municipalities in which the percentage of hospital admissions within the administrative catchment area is below 70% (Table 4.6). Among these, the municipalities of Palazzuolo sul Senio and Marradi, situated in the Mugello area within the Metropolitan City of Florence, stand out in particular, with rates of hospital admissions within the “*Area Vasta*” of 20% and 28% respectively; and Sestino and Badia Tedalda in the Valtiberina Zone within the Province of Arezzo, which have hospital admission rates within the “*Area Vasta*” of 37% and 43% respectively. These are four municipalities situated along the regional borders with Emilia-Romagna and Marche regions, in which the majority of hospital admissions take place at health care facilities outside the region: 79% for Palazzuolo sul Senio, 71% for Marradi, 61% for Sestino and 52% for Badia Tedalda.

Table 4.6 – Percentage distribution of hospital admissions within and outside the “Area Vasta” for municipalities where less than 70% of admissions occur within the “Area Vasta”

<i>Municipality</i>	<i>% of hospital admissions within the “Area Vasta”</i>	<i>% of hospital admissions outside the “Area Vasta” (within the region)</i>	<i>% of hospital admissions outside the region</i>
Palazzuolo sul Senio	20.13	0.65	79.22
Marradi	28.17	0.44	71.40
Sestino	36.84	1.75	61.40
Badia Tedalda	43.36	4.42	52.21
Certaldo	46.55	48.45	5.00
Sambuca Pistoiese	48.60	2.23	49.16
Montopoli in Val d’Arno	54.72	39.76	5.52
Castelnuovo di Val di Cecina	58.16	36.88	4.96
Gambassi Terme	58.60	35.78	5.62
Montemignai	58.82	37.25	3.92
Villa Basilica	59.76	36.59	3.66
Castelfranco di Sotto	60.54	34.35	5.12
Barberino Tavarnelle	62.27	35.37	2.36
Podenzana	62.79	4.26	32.95
Castelfranco Piandiscò	63.30	33.58	3.12
Monterotondo Marittimo	63.50	21.90	14.60
Capraia Island	65.00	20.00	15.00
Fosdinovo	65.28	3.16	31.56
Isola del Giglio	65.54	20.90	13.56
Montaione	66.97	29.59	3.44
Zeri	67.27	3.64	29.09

²² Table A.1 in the Data Appendix reports the complete data on hospital mobility for all causes in the year 2023.

Santa Croce sull'Arno	67.75	27.73	4.53
Montecarlo	68.49	24.95	6.56
San Miniato	68.68	25.80	5.52

Source: Author's own elaboration based on ARS Toscana (2023) data

In general, the municipalities with the highest percentages of hospital admissions outside their 'Area Vasta' (Figure 4.13) are those located mainly along regional and "Area Vasta" boundaries, or island municipalities (Capraia Isola and Isola del Giglio). This pattern highlights cross-border hospital mobility which, in the absence of cross-border agreements to compensate for health care mobility between regions and "Area Vasta" districts, risks leading to increased costs without a corresponding improvement in the quality of care for services of low to medium complexity (Moirano, 2012) .

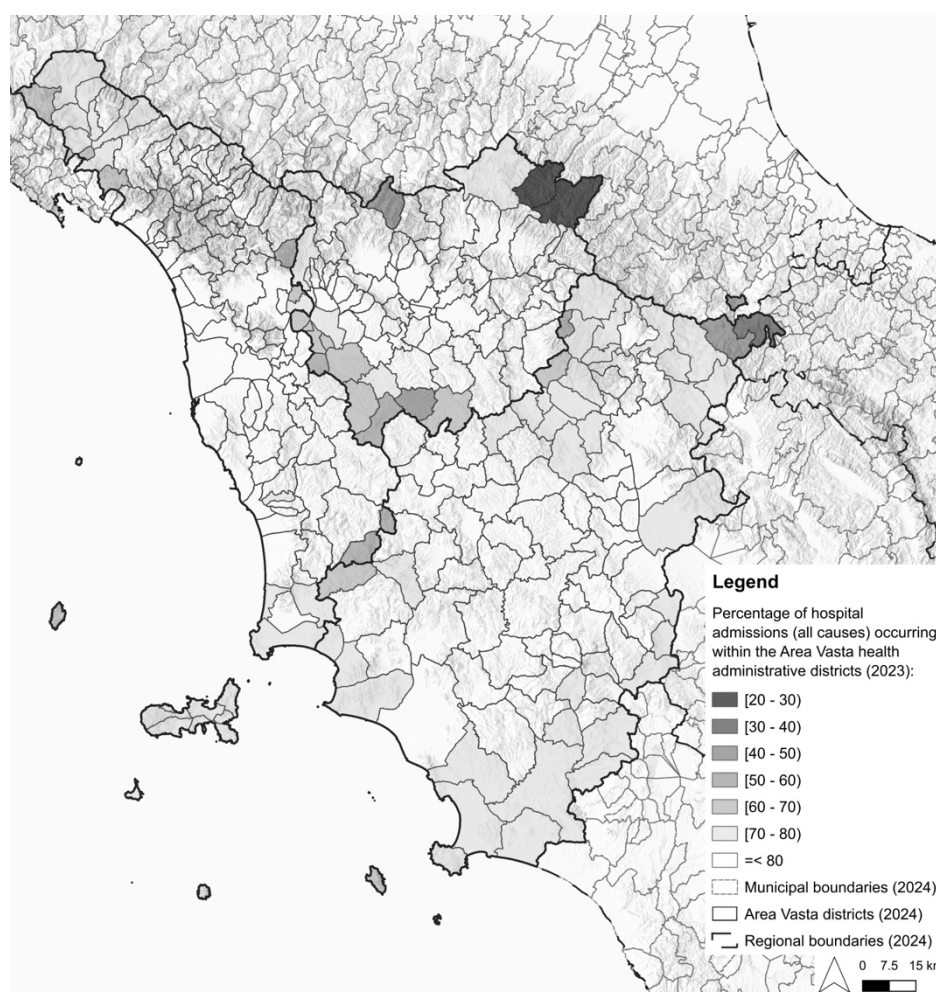


Figure 4.13– Percentage of hospital admissions (all causes) occurring within the relevant "Area Vasta", by municipality (year 2023).

Source: Author's own elaboration based on ARS Toscana (2023) data

4.4 Data and methods

Based on the literature review and context analysis, the study proposes analysing accessibility to the regional hospital facilities structured across three levels: an analysis of proximity to emergency departments, an analysis of accessibility to acute care beds, and an analysis limited to oncology beds and dialysis stations.

Accessibility is estimated at the finest level of detail available among Italian administrative areas, namely by setting the points of origin at the centroids of the inhabited census sections as of 2021 (“*Basi Territoriali*” ISTAT 2021). Road travel times are estimated based on the road network of Tuscany region updated to 2022 (Regione Toscana, 2022), as detailed in Chapter 3, for each origin–destination pairs for which direct connections exist on the road network.

Across the three levels of analysis, accessibility is examined both as a phenomenon occurring within the catchment areas defined by the three “*Area Vasta*” districts and as a continuous phenomenon across the entire regional territory; situations of territorial advantage or disadvantage are highlighted, where significant variations in accessibility levels are observed depending on the administrative area under consideration.

4.4.1 Accessibility to emergency departments

A particularly relevant approach for studying proximity to emergency department is the measurement of the minimum travel time to reach the ED, given that these are services for which speed of access is a crucial factor.

According to the data presented in Annex A to Regional Resolution No. 1120 of 10 October 2022 (“Planning of the hospital network in accordance with the standards set out in Ministerial Decree 70/2015”), there were 38 hospitals operating as part of the emergency care network in Tuscany (Table 4.7).

A comparison with the data presented in the background section revealed some differences in the classification of hospitals as of 2023. According to these data, there were 37 facilities within the emergency care network in Tuscany as of 2023 (Table 4.7). The facilities classified as second–level hospital, first–level hospitals, base hospitals and hospitals in disadvantaged areas in Figures 4.1 and 4.2 are part of the emergency care network, with the exception of the “Lorenzo Pacini” Hospital in San Marcello Piteglio and the “Serristori” Hospital in Figline and Incisa Valdarno, which are not part of the emergency network (Resolution No. 1120/2022) and the “Barga” Hospital, which, according to the ARS classification (2023), is classified as a facility of another type.

Table 4.7 – Classification of facilities in the emergency and urgent care network by Vasta Area

<i>Area Vasta health administrative district / Region</i>	<i>II Level Emergency Department (DEA II)</i>	<i>I Level Emergency Department (DEA I)</i>	<i>Non-DEA Emergency Departments</i>	<i>Disadvantaged area</i>
Area Vasta Toscana Nord–Ovest	1	5	7	–
Area Vasta Toscana Centro	2	5	3	–
Area Vasta Toscana Sud–Est	1	2	6	5
Tuscany	4	12	16	5

Source: Author’s own elaboration

Based on the location of these facilities, the zoning of the three “*Area Vasta*” districts and the centroids of the inhabited sections, two proximity indicators were estimated: the minimum road travel time (minutes) to the nearest hospital with a DEA level department and the minimum travel time to the nearest hospital in the emergency care network (including non–DEA emergency departments).

The Meyer University Hospital was excluded from the analysis due to its paediatric specialisation.

For both indicators, two scenarios were considered: proximity to facilities located within the relevant “*Area Vasta*” districts and proximity to all facilities in the region.

A network analysis was also conducted to represent the connections lines between the centroids of the inhabited areas and the facilities at the minimum distance, i.e. to identify the possible catchment areas defined by the minimum distance, and to identify cases where the nearest facility is located beyond the administrative boundaries of the three “*Area Vasta*” districts.

4.4.2 General accessibility to inpatient and day care beds

The study accessibility to acute inpatient and day care beds is based on data on the location of inpatient facilities and bed capacity presented in the previous chapter (Ministero della Salute, 2023). The analysis was based on an E2SFCA indicator, which utilises distance decay functions differentiated by type of hospital facility and estimated using actual hospital mobility data derived from the Regional Health Agency’s FlowMap portal (ARS Toscana, 2023).

Firstly, we estimate the distance decay effects by type of admission (inpatient or day care) and facility (ARS Toscana, 2023). To this end, it is necessary to convert the distances calculated between census sections and hospital facilities into a summary distance value at the municipal level. To obtain a robust indicator, we decided to calculate a weighted average based on resident population. For each municipality c and for each hospital j , the average distance is calculated as the sum of the products of the distances between the census sections i and the hospitals j and the resident population in the section i , divided by the total number of residents in the municipality c . This procedure allows us to represent the average distance experienced by citizens, ensuring that sparsely populated but geographically peripheral sections do not carry the same weight as densely populated sections.

Formally speaking, the weighted average distance d_{cj} from the municipality c to the hospital j is estimated as:

$$d_{cj} = \frac{\sum_{i=1}^{n_c} (p_i \times d_{ij})}{\sum_{i=1}^{n_c} p_i}$$

where:

- p_i = resident population in the section i belonging to municipality c ;
- d_{ij} = distance between the section i and the hospital j .

Tables A.2 and A.3 in the Data Appendix provide the complete dataset, including the origin–destination matrix derived from hospital mobility data and the weighted average distances for each origin–destination pair.

Based on these data, various distance decay functions were tested: power, exponential, Gaussian, and log–logistic (Jia et al., 2019, Table 4.8).

Table 4.8 – Distance decay functions

Distance decay function	Formula $f(d_{ij})$	Parameter(s)
Power (P)	$d_{ij}^{-\beta}$	β
Exponential (E)	$e^{-\beta d_{ij}}$	β
Gaussian (G)	$e^{-\frac{(d_{ij})^2}{\theta}}$	θ
Log–logistic (L)	$\frac{1}{1 + \left(\frac{d_{ij}}{\theta}\right)^\beta}$	β, θ

Source: Jia et al. (2019, p. 381)

Specifically, the effects of distance decay are estimated only for those origin–destination pairs for which we had estimated the road travel time. Consequently, hospital flows from the island municipalities to facilities located on the mainland are not considered, nor are flows to the facility located in the municipality of Portoferraio on the Island of Elba.

The decay function, initially estimated as a continuous function, is subsequently discretised into distance classes (0–15, 15–30, 30–45, etc.), with each class assigned the mean value of the theoretical decay.

The E2SFCA indicators are calculated separately for inpatient admissions and day care admissions, and the accessibility values are subsequently summed to produce a composite indicator of accessibility to acute care beds. The measurement is repeated considering the total resident population in the census sections as of 2021 (Istat, 2021) and the standardised resident population using the same weights employed in the calculation of hospital beds per 1,000 inhabitants for planning purposes (Table 4.1), and considering as potentially accessible either only those within the relevant “*Area Vasta*” district or all regional facilities.

The two steps in the calculation of the E2SFCA indicators are as follows. In the first step, the areas falling within the catchment area of each facility are identified:

$$R_j = \frac{S_j}{\sum_{d_{ij} < d_{0l}} D_i \cdot w_l(d_{ij})}$$

where

- s_j = number of acute care beds in the facility j (separately for inpatient and day care beds);
- d_{ij} = estimated travel time between census sections i and inpatient facilities j ;
- d_{0l} = catchment area time threshold derived from distance decay functions by type of health care facility l ;
- $w_l(d_{ij})$ = estimated average distance decay weight by type of facility l ;
- D_i = potential demand in census sections i .

The potential demand D_i is specified in two alternative ways:

- i. In terms of the total population:

$$D_i^{tot} = p_i$$

where p_i is the resident population in the census tract i .

- ii. In terms of the standardised resident population:

$$D_i^{std} = \sum_a p_{i,a} r_a$$

where:

- $p_{i,a}$ = resident population in the census tract i in the age group a ;
- r_a = is the specific weight by age group a .

In the second step, potential accessibility is estimated in each census section:

$$A_i = \sum_{d_{ij} < d_0} w_l(d_{ij}) \cdot R_j$$

Given that the results of the indicator can be interpreted as the number of potentially accessible beds within the distance thresholds defined by the estimated decay coefficients, overall the analysis of acute care beds allows the availability of hospital resources to be related to the resident population, whilst maintaining consistency with the planning parameter set out in Ministerial Decree 70/2015 (3.0 acute care beds per 1,000 inhabitants).

However, the resulting accessibility estimates may be distorted by the fact that, in accordance with regulatory provisions, no distinction has been made between the medical and surgical disciplines to which beds are allocated, nor between beds in general hospitals and those in highly specialised facilities.

A more accurate analysis of hospital accessibility would require a distinction to be made between the various medical and surgical disciplines (e.g. cardiology, Inland medicine, orthopaedics), given that healthcare needs and patterns of service access vary significantly depending on the speciality. Such a breakdown would allow for a better understanding of regional specificities and highlight any inequalities in access to particular services.

However, the approach adopted reflects the relevant regulatory framework, which establishes a planning benchmark of 3 acute care beds per 1,000 inhabitants (Ministerial Decree 70/2015). Whilst this standard represents a well-established benchmark for healthcare planning, it does not distinguish between disciplines, thus providing a summary and aggregated measure that does not allow for an assessment of differences in provision across different surgical areas.

In order to partially overcome these limitations, we decided to analyse accessibility with regard to oncology beds and dialysis stations. These treatments are characterised by repeated therapeutic sessions and therefore the distance from health care facilities is expected to have significant implications for the sustainability of the treatment pathway and patients' quality of life.

4.4.3 Accessibility to oncology care beds and dialysis stations

With regard to accessibility to oncology beds, the E2SFCA method outlined above was adopted, distinguishing between inpatient beds and day care beds and aggregating the data as for the analysis of general accessibility. The data used are again those provided by the Ministero della Salute (2023). Paediatric oncology beds were excluded, and the analysis was conducted for the adult population (aged 15 years and over).

With regard to the study of accessibility to dialysis stations, data on the location of dialysis centres and the number of available beds were analysed using the website of the National Association of Haemodialysis Patients (ANED, 2025). The analysis considered the total population and, given that this is a form of treatment carried out on an outpatient basis, we decided to assess access to dialysis stations based on distance decay functions derived for acute day care admissions. It should be noted, however, that dialysis treatments take place in a highly specialised outpatient care setting, and the relevant beds are not included in the count of hospital beds. Consequently, the indicator of accessibility to dialysis beds should be interpreted as a complementary measure that provides a focused insight into a specific care need with a high frequency of use.

4.5 Results

This section presents the results of the accessibility analyses. Section 4.4.1 is dedicated to assessing proximity to the emergency and urgent care network. Section 4.4.2 presents the estimates of distance decay coefficients. Section 4.4.3 presents the results relating to overall accessibility to acute care beds, whilst Section 4.4.4 focuses on accessibility to oncology beds and dialysis stations.

In all analyses, results are presented by distinguishing between two territorial configurations: (i) accessibility within the “*Area Vasta*” districts and (ii) accessibility with respect to all facilities located across the regional territory. Particular attention is paid to the share of surface area and population affected by conditions of low accessibility under the different scenarios, as well as to the variations that emerge from comparing accessibility estimates within “*Area Vasta*” administrative catchment areas and across the entire regional territory.

4.5.1 Proximity to emergency departments

With regard to accessibility to DEA level departments, Table 4.9 reports the percentage distribution of the surface area of inhabited census sections and the resident population by 15-minute distance classes, distinguishing between proximity to facilities within the relevant “*Area Vasta*” districts and proximity to all regional facilities. The thematic maps presented in Figures 4.14 and 4.15 show the classification of census sections by minimum travel time under the two scenarios.

Overall, the results highlight a good territorial coverage in the main urban centres and along the main transport corridors of the three “*Area Vasta*” districts.

Under the configuration that takes into account the catchment areas of the wider regions, approximately 28% of the inhabited area of “*Area Vasta Toscana Nord-Ovest*”, 33% of “*Area Vasta Toscana Centro*” and 8% of “*Area Vasta Toscana Sud-Est*” lies within a 15-minute journey of a DEA level hospital. These areas are home to 75% of the population of “*Area Vasta Toscana Nord-Ovest*”, 81% of “*Area Vasta Toscana Centro*” and 31% of “*Area Vasta Toscana Sud-Est*”. Within 30 minutes are 52% of the inhabited area and 86% of the population of North-West Tuscany, 70% of the area and 95% of the population of Central Tuscany, and 31% of the area and 65% of the population of South-East Tuscany.

Eight percent of residents in North-West Tuscany, 4% in Central Tuscany and 24% in South-East Tuscany are located between 30 and 45 minutes’ distance from the nearest DEA hospital within the “*Area Vasta*” districts.

The most critical conditions are found in South-East Tuscany, where approximately 18% of the inhabited area (home to 7% of the population) is located between 45 and 60 minutes away, whilst a further 10% of the inhabited area, home to 4% of the population, falls into the 60–75 minute category. Areas beyond these thresholds include the Casentino, the Valtiberina, the Amiata Senese, part of the Grosseto area and the Colline dell’Albegna (Figure 4.14). In Central Tuscany, critical areas with estimated journey times exceeding 60 minutes are found in the “*Alto Mugello*”, which represents approximately 4% of the “*Area Vasta Toscana Centro*” surface area. As for “*Area Vasta Toscana Nord-Ovest*”, 6% of the Vasta Area’s inhabited surface area, where 3% of the population resides, falls into this category, with the critical areas particularly affecting the Val di Cecina.

Extending the analysis to all regional facilities (Figure 4.15), areas with minimum travel times exceeding 60 minutes remain within the three “*Area Vasta*” districts. However, for some municipalities in the Val di Cecina (North-West Tuscany) and the Casentino (South-East Tuscany), the minimum travel times to the nearest DEA level departments outside the “*Area*

Vasta” administrative district are significantly shorter than the travel times to the facility located within the administrative boundaries.

Figures 4.16 and 4.17 depict the potential catchment areas of DEA hospitals, defined on the basis of the minimum distance between each inhabited census section and the hospital facilities, considering respectively only those facilities within the relevant catchment area and the entire regional territory. As some census sections are equidistant from multiple facilities, multiple connection lines are shown in such cases. The regional map (Figure 4.17) clearly shows instances of misalignment between the catchment areas defined by administrative zoning and those determined by actual distance: the red lines indicate the sections where the nearest facility, or one of the nearest, is located outside the relevant “*Area Vasta*” districts.

Table 4.9 – Distribution of population and inhabited areas by distance class from DEA-level hospitals

<i>Distance category (minutes)</i>	<i>Proximity within the ‘Area Vasta’, Area (%)</i>	<i>Proximity within the Region, Area (%)</i>	<i>Proximity within the ‘Area Vasta’, Population (%)</i>	<i>Proximity within the Region, Population (%)</i>
Area Vasta Toscana Nord-Ovest				
<= 15	27.99	27.99	75.33	75.33
(15–30]	24.07	24.07	11.10	11.10
(30–45]	26.39	29.04	7.73	7.96
(45–60]	15.66	17.72	2.92	5.60
(60–75]	5.90	1.19	2.92	0.01
> 75	0.00	0.00	0.00	0.00
Area Vasta Toscana Centro				
<= 15	33.12	34.78	81.19	82.86
(15–30]	37.01	36.66	14.83	13.25
(30–45]	19.22	17.91	3.46	3.37
(45–60]	6.32	6.32	0.27	0.27
(60–75]	2.85	2.85	0.23	0.23
> 75	1.48	1.48	0.02	0.02
Area Vasta Toscana Sud-Est				
<= 15	8.39	11.34	30.85	41.15
(15–30]	30.83	30.48	33.95	26.26
(30–45]	32.25	30.48	24.11	21.70
(45–60]	17.74	18.65	7.25	8.04
(60–75]	9.73	8.36	3.72	2.77
> 75	1.07	0.69	0.12	0.08

Source: Author’s own elaboration

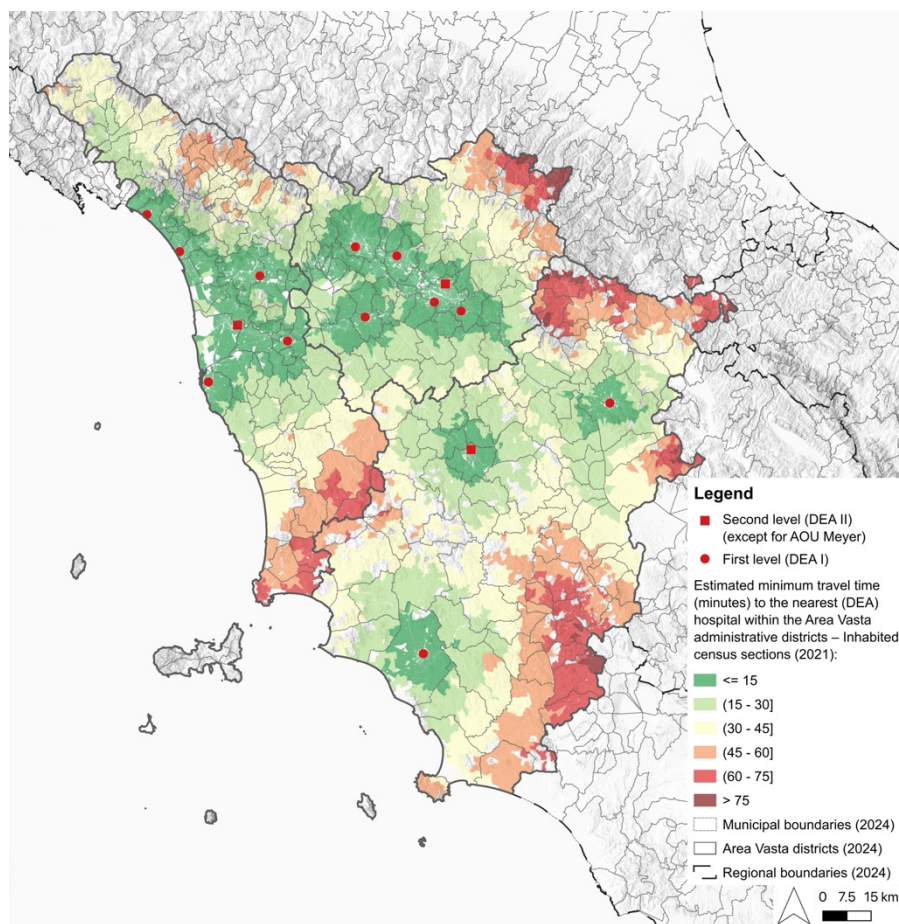


Figure 4.14 – Estimated minimum travel time to reach the nearest DEA hospital within the “Area Vasta” districts.

Source: Author’s own elaboration

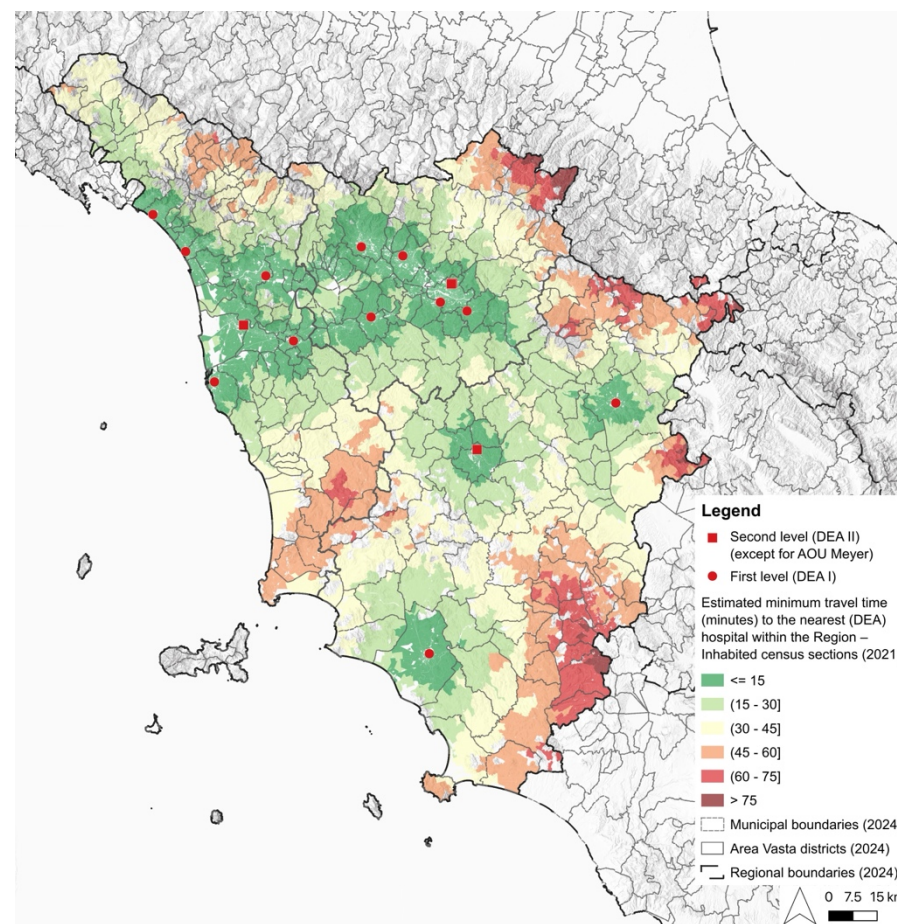


Figure 4.15 – Estimated minimum travel time to reach the nearest DEA level hospital within the region.

Source: Author’s own elaboration

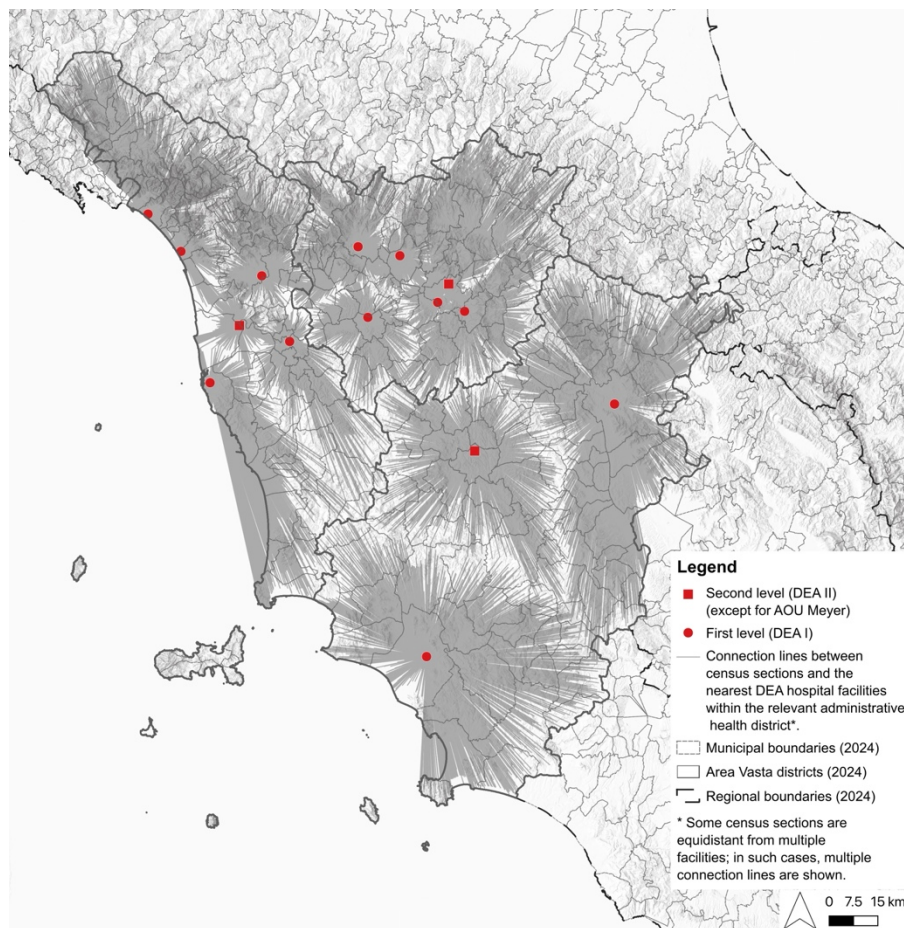


Figure 4.16 – Connecting lines between census sections and DEA hospitals at the minimum distance within the “Area Vasta” districts.

Source: Author’s own elaboration

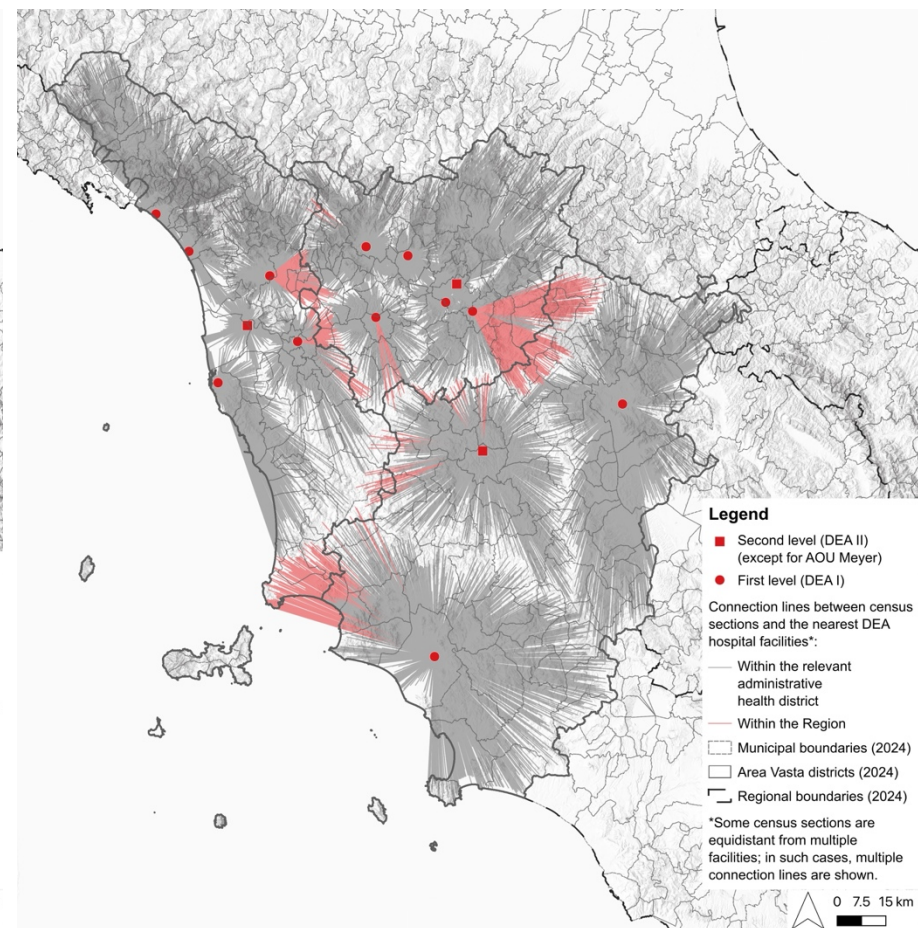


Figure 4.17 – Connecting lines between census sections and DEA hospitals at the minimum distance within the region.

Source: Author’s own elaboration

Table 4.10 shows the distribution of the inhabited area and the resident population by distance category from the facilities in the emergency care network, including not only DEA-level hospitals but also non-DEA emergency departments and those hospitals located in disadvantaged areas. The thematic maps presented in Figures 4.18 and 4.19 show the classification of census sections in the two scenarios. Overall, coverage is very high in terms of both area and population, even when considering only the facilities located within the relevant “*Area Vasta*” districts. In North-West Tuscany, approximately 50% of the inhabited area and 88% of the population are within 15 minutes of the nearest emergency department; and 95% of the area and over 99% of residents are within 30 minutes. Similar results are seen in Central Tuscany (40% of the area and 85% of the population are within 15 minutes, and 81% of the area and 98% of residents within 30 minutes) and in South-East Tuscany (31% of the inhabited area and 67% of the population are within 15 minutes, around 88% of the area and around 98% of residents within 30 minutes).

The comparison between intra-“*Area Vasta*” proximity and regional proximity shows limited differences (Figures 4.18 and 4.19): in the vast majority of cases, emergency departments located within each “*Area Vasta*” ensure levels of access very similar to those obtained when considering the entire regional network. Cases in which the nearest facility lies beyond the administrative boundary are rare.

Figures 4.20 and 4.21 show, respectively, the intra-“*Area Vasta*” and regional catchment areas of the emergency departments, which are defined based on the minimum distance between each inhabited census section and the nearest facility. The areas where one or more of the facilities at minimum distance fall within an administrative area other than the reference one are limited in scope and are concentrated in certain census sections along the Inland boundaries between the “*Area Vasta*” (Figure 4.21).

Table 4.10 – Distribution of population and inhabited areas by distance class from emergency departments (DEA and non-DEA)

<i>Distance category (minutes)</i>	<i>Proximity within the ‘Area Vasta’, Area (%)</i>	<i>Proximity within the Region, Area (%)</i>	<i>Proximity within the ‘Area Vasta’, Population (%)</i>	<i>Proximity within the Region, Population (%)</i>
Area Vasta Toscana Nord-Ovest				
<= 15	49.40	49.90	88.34	88.60
(15–30]	45.04	46.90	11.30	11.30
(30–45]	5.56	3.21	0.36	0.11
(45–60]	0.00	0.00	0.00	0.00
(60–75)	0.00	0.00	0.00	0.00
Area Vasta Toscana Centro				
<= 15	40.33	43.84	85.09	87.26
(15–30]	40.97	41.05	13.15	11.68
(30–45]	16.30	12.71	1.71	1.01
(45–60]	1.60	1.60	0.05	0.05
(60–75)	0.80	0.80	0.01	0.01
Area Vasta Toscana Sud-Est				
<= 15	30.73	30.73	67.03	67.03
(15–30]	57.67	57.71	31.13	31.14
(30–45]	11.11	11.08	1.80	1.78
(45–60]	0.48	0.48	0.04	0.04
(60–75)	0.00	0.00	0.00	0.00

Source: Author’s own elaboration

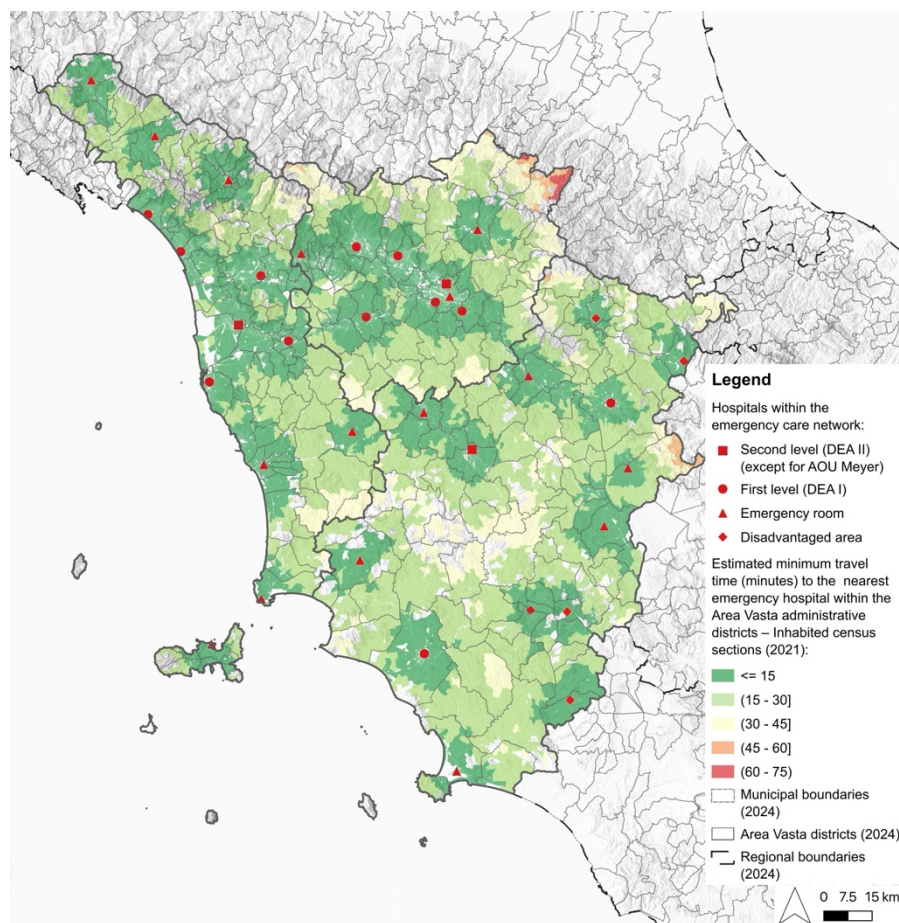


Figure 4.18 – Estimated minimum travel time to reach the nearest emergency department within the “Area Vasta” districts.

Source: Author’s own elaboration

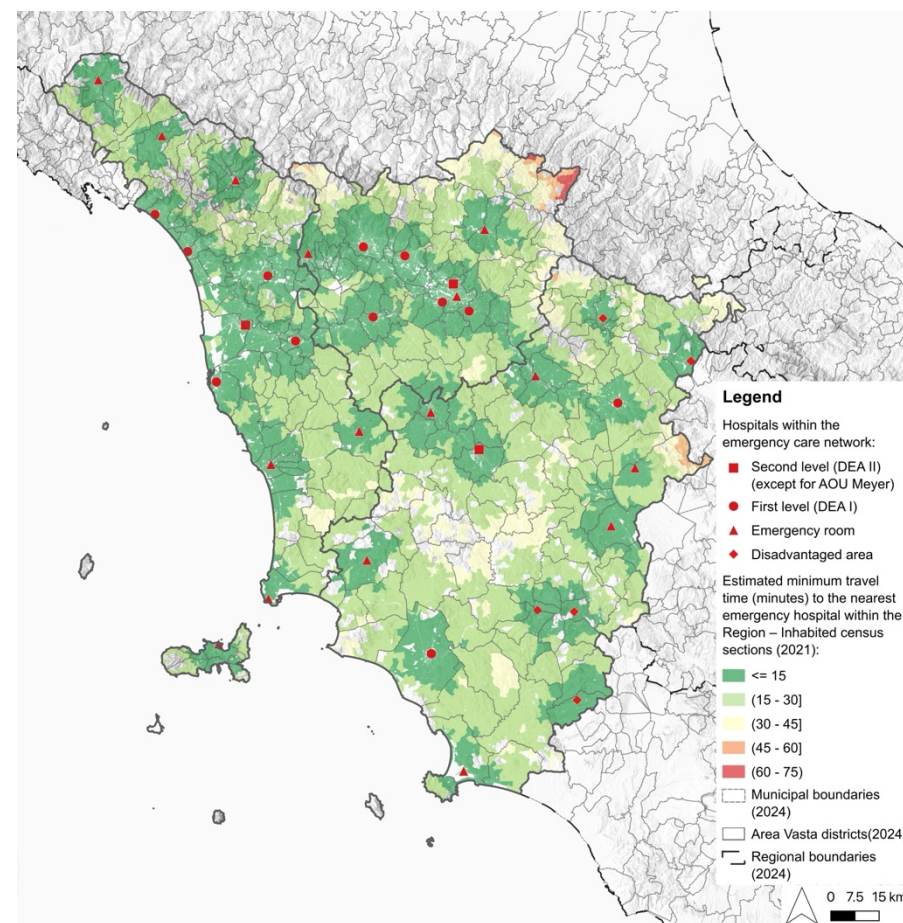


Figure 4.19 – Estimated minimum travel time to reach the nearest emergency department within the region.

Source: Author’s own elaboration

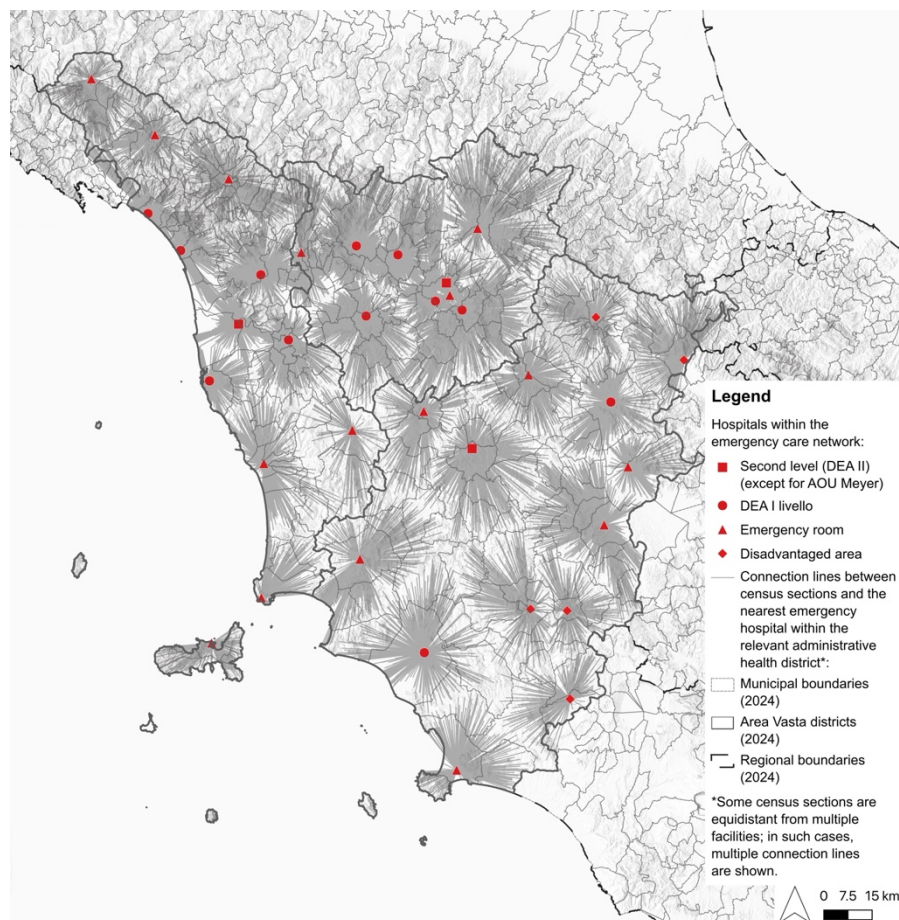


Figure 4.20 – Connecting lines between census sections and emergency departments at the minimum distance within the “Area Vasta” districts.
 Source: Author’s own elaboration

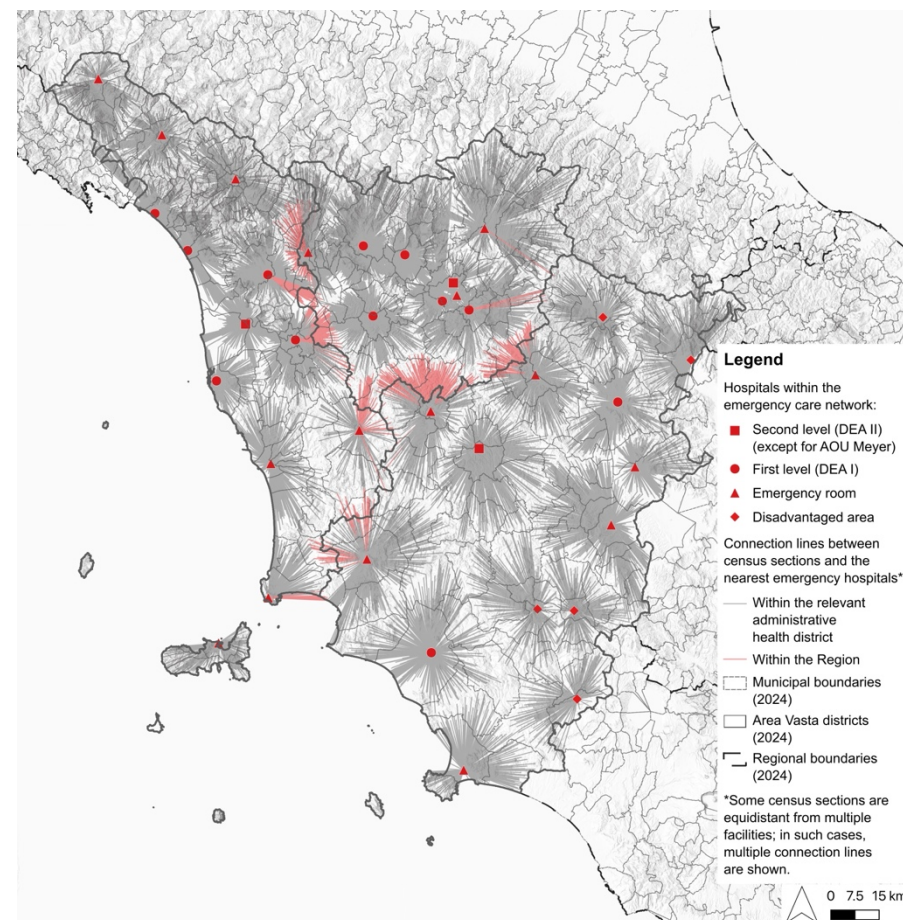


Figure 4.21 – Connecting lines between census sections and emergency departments at minimum distance within the region.
 Source: Author’s own elaboration

4.5.2 Estimation of distance decay effects for acute inpatient and day care admissions

The distance decay functions estimated using the logistic regression model demonstrate a high degree of explanatory power for the observed behaviour in hospital mobility flows, as indicated by the goodness-of-fit indices (Table 4.11). The Adjusted R^2 values, ranging from 0.993 to 0.999, indicate a high goodness of fit, and the strongly negative AICs confirm the statistical robustness of the estimates obtained. The parameter β , which modulates the initial slope of the decay function, takes values ranging from approximately 2.1 to 3.2. These values indicate a marked sensitivity of attractiveness to distance in the initial travel ranges, with a relatively rapid decrease in the probability of access as travel time increases. The parameter θ can be interpreted as the distance threshold beyond which the decline in attractiveness becomes more pronounced and shows substantial variation across different types of facility. This heterogeneity consistently reflects differences in technological infrastructure, the complexity of services provided and the geographical role of the facilities, resulting in catchment areas of varying sizes depending on the hospital's organisational level.

Table 4.11 – Estimated parameters of the log-logistic distance decay models

Type of admission and facility	β	θ	Adjusted R^2	AIC
<i>Inpatient admissions</i>				
AOU Meyer	2.946	49.571	0.998	–551.488
DEA II	2.549	33.221	0.997	–753.899
FTGM	2.895	38.242	0.999	–688.642
DEA I	2.377	21.018	0.995	–769.340
Non-DEA emergency departments	2.665	15.684	0.998	–861.667
Disadvantaged area	2.881	17.319	0.995	–475.793
Private healthcare facilities	2.377	32.618	0.998	–783.821
Other facilities	3.112	20.258	0.998	–648.912
<i>Day care admissions</i>				
AOU Meyer	2.965	52.066	0.997	–484.618
DEA II	2.688	36.750	0.997	–688.227
FTGM	3.190	35.928	0.996	–293.721
DEA I	2.406	24.145	0.993	–567.380
Non-DEA emergency departments	2.411	17.030	0.998	–643.178
Disadvantaged area	2.546	23.499	0.996	–426.515
Private healthcare facilities	2.143	26.881	0.996	–633.895
Other facilities	2.789	30.575	0.999	–703.309

Source: Author's own elaboration

Figures 4.22 and 4.23 show the estimated distance decay functions for acute inpatient admissions and acute day care admissions, respectively. Tables 4.12 and 4.13 show the corresponding decay coefficients for 15-minute distance intervals. For both types of acute admission, the curves show a monotonically decreasing trend, confirming the existence of distance decay effects in hospital flows, which, as expected, varies in intensity depending on the type of facility.

The AOU (DEA II level) and the facilities of the “*Fondazione Toscana Gabriele Monasterio*” (FTGM) exhibit a slower decline and maintain significant levels of attractiveness even beyond 60–75 minutes' travel time, indicating a wide catchment area and the greater willingness of patients to travel long distances to access highly specialised services. This slope indicates a

relatively wide catchment area, consistent with high surgical specialisation, the availability of advanced technologies and the capacity to respond to complex healthcare needs.

Conversely, non-DEA ED and those located in disadvantaged areas show a very rapid decline in the probability of admission as distance increases, with coefficients approaching zero as early as around 30–45 minutes, indicating a pattern driven primarily by geographical proximity. This indicates a highly limited catchment area dominated by geographical proximity, consistent with the local role of such facilities, which are primarily geared towards meeting local healthcare needs and managing emergency and urgent cases, as well as conditions of low complexity.

Private facilities show a more limited decline compared to non-DEA ED, particularly regarding inpatient admissions, suggesting the presence of a component of planned mobility involving patients willing to travel greater distances.

With regard to first-level facilities (DEA I), the observed distance decay appears more pronounced than that observed for second-level facilities. This result may be interpreted as reflecting a dual pattern of demand: on the one hand, individuals living at greater distances from a first-level hospital tend to rely on nearer basic hospitals for low-complexity services; on the other hand, even when located close to a first-level DEA hospital, patients with more complex clinical needs tend to be admitted to second-level DEA facilities. In other words, as distance increases, first-level facilities may lose attractiveness and become effectively “compressed” between the proximity of basic facilities and the higher level of specialisation offered by second-level hospitals.

Similar patterns emerge from the estimation of distance decay effects across different types of hospital facilities for both inpatient admissions and day hospital admissions. However, for the same type of facility, the probability of inpatient admission decreases more rapidly with increasing distance than is observed for day care admissions. The slower decline in day care admissions compared to inpatient admissions is consistent with the emergency nature of the latter, the greater predictability of admissions to day cares, and the lower geographical coverage of day care services such as those for oncology care.

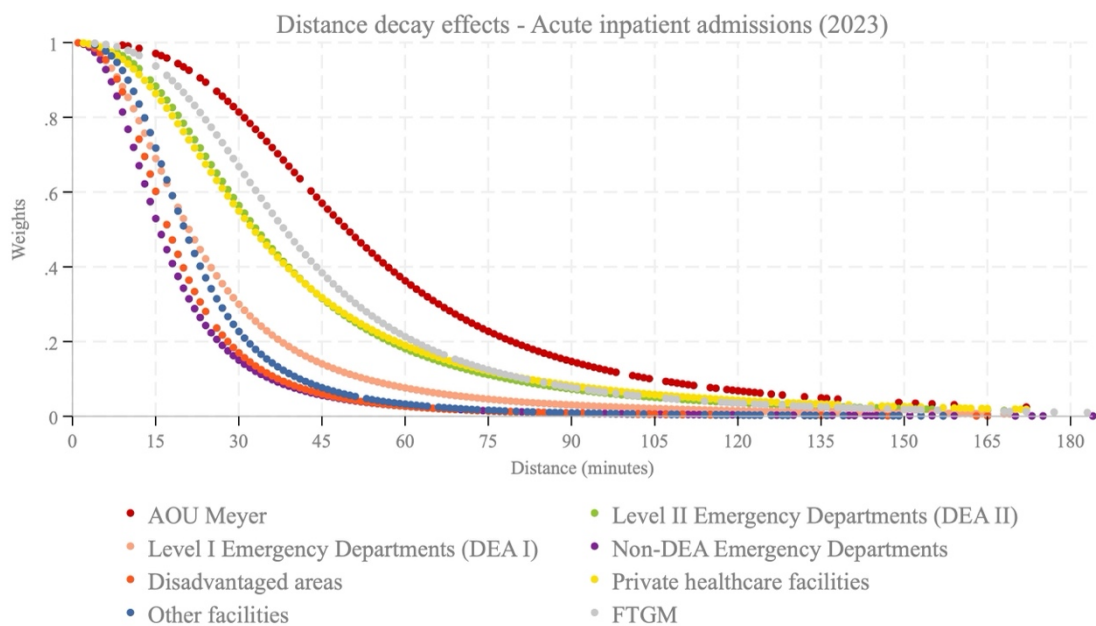


Figure 4.22 – Distance decay function: acute inpatient admissions (2023).

Source: Author's own elaboration

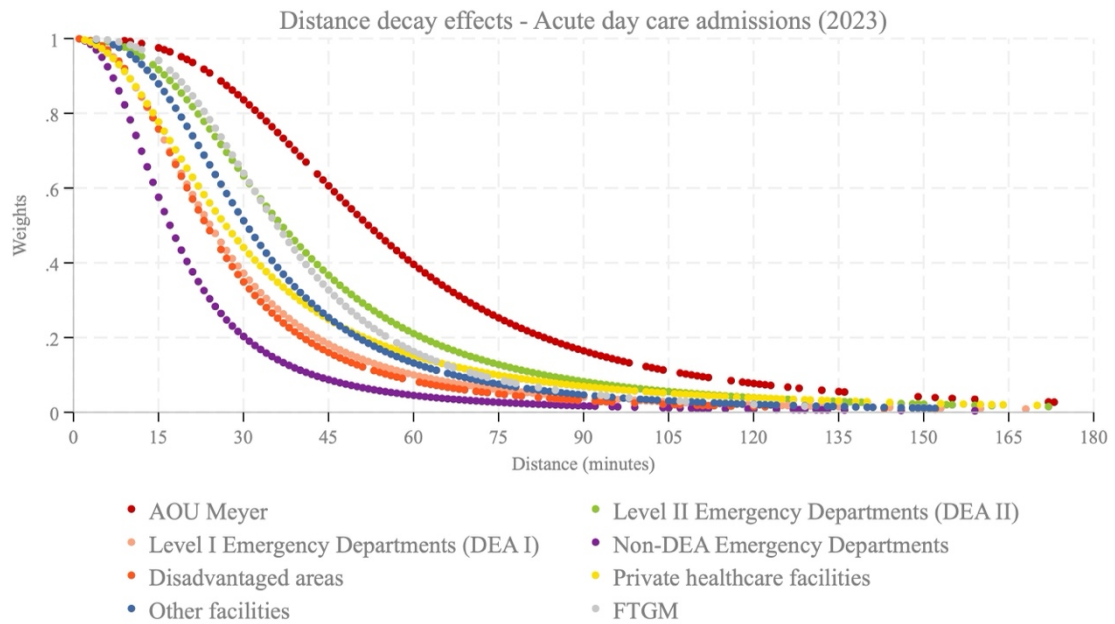


Figure 4.23 – Distance decay function: acute day care admissions (2023)
Source: Author's own elaboration

Table 4.12– Estimated distance decay coefficients by type of facility: acute inpatient admissions (2023)

Distance classes (minutes)	AOU Meyer	DEA II	FTGM	DEA I	Non-DEA Emergency departments	Disadvantaged area	Private healthcare facilities	Other facilities
<= 15	0.96	0.93	0.95	0.86	0.81	0.85	0.93	0.89
(15–30]	0.89	0.73	0.80	0.48	0.31	0.38	0.71	0.46
(30–45]	0.68	0.44	0.53	0.21	0.09	0.10	0.43	0.14
(45–60]	0.46	0.24	0.29	0.10	0.04	0.03	0.25	0.05
(60–75]	0.30	0.14	0.16	0.06	0.02	0.02	0.15	0.02
(75–90]	0.18	0.09	0.10	0.04	0.01	0.01	0.10	0.01
(90–105]	0.12	0.06	0.06	0.02	0.01	0.00	0.07	0.01
(105–120]	0.08	0.04	0.04	0.02	0.00	0.00	0.05	0.00
(120–135]	0.06	0.03	0.03	0.01	0.00	0.00	0.04	0.00
(135–150]	0.04	0.02	0.02	0.01	0.00	0.00	0.03	0.00
(150–165]	0.03	0.02	0.01	0.01	0.00	0.00	0.02	0.00
(165–180]	0.02	0.01	0.01	0.01	0.00	0.00	0.02	0.00
(180–195]	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00

Source: Author's own elaboration

Table 4.13 – Estimated distance decay coefficients by type of facility: acute day care admissions (2023)

Distance classes (minutes)	AOU Meyer	DEA II	FTGM	DEA I	Non-DEA emergency departments	Disadvantaged area	Private healthcare facilities	Other facilities
<= 15	0.96	0.94	0.93	0.87	0.81	0.89	0.89	0.95
(15–30]	0.90	0.77	0.78	0.55	0.35	0.52	0.59	0.69
(30–45]	0.72	0.49	0.47	0.26	0.13	0.23	0.33	0.36

(45–60]	0.49	0.28	0.23	0.13	0.06	0.12	0.19	0.18
(60–75]	0.32	0.16	0.11	0.07	0.03	0.06	0.12	0.10
(75–90]	0.20	0.10	0.06	0.04	0.02	0.04	0.08	0.06
(90–105]	0.13	0.06	0.04	0.03	0.01	0.02	0.06	0.04
(105–120]	0.09	0.04	0.02	0.02	0.01	0.02	0.04	0.03
(120–135]	0.06	0.03	0.01	0.01	0.01	0.01	0.03	0.02
(135–150]	0.05	0.02	0.00	0.01	0.01	0.01	0.03	0.01
(150–165]	0.04	0.02	0.00	0.01	0.00	0.01	0.02	0.01
(165–180]	0.03	0.01	0.00	0.01	0.00	0.00	0.02	0.00
(180–195]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: Author's own elaboration

4.5.3 Overall accessibility to acute inpatient and day care beds

Table 4.14 presents descriptive statistics of the estimated accessibility to acute inpatient and day hospital beds across the four scenarios considered. Considering accessibility within the “*Area Vasta*”, the average accessibility is 2.57 beds per 1,000 inhabitants, with a minimum value of 0.16 and a maximum of 4.63. This range highlights marked regional variability, with census sections characterised by very low levels of access and others showing significantly higher values. Removing the administrative constraint of the “*Area Vasta*” results in minimal changes to the average (2.54) but reduces the dispersion (standard deviation 0.76 compared to 0.80), suggesting that, in some areas, part of the accessibility estimated at regional level stems from facilities located beyond administrative boundaries. By standardising the population by age – thus weighting demand according to expected need – the average falls from 2.57 to 2.20 potentially accessible beds per 1,000 residents in the “*Area Vasta*” districts, with a minimum of 0.14 and a maximum of 3.93. The results indicate that, in areas with an older demographic profile, the actual provision is proportionally less favourable than the measure based on the total population. Here too, extending the analysis to the entire regional territory slightly reduces the variability (standard deviation 0.66 compared to 0.68), highlighting a reduction in territorial inequalities.

Table 4.14 – Descriptive statistics of E2SFCA estimates for accessibility to acute care beds

<i>E2SFCA Indicator</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard deviation</i>
Within the “ <i>Area Vasta</i> ”, total population	0.16	4.63	2.57	0.80
Within the region, total population	0.21	4.10	2.54	0.76
Within the “ <i>Area Vasta</i> ”, standardised population	0.14	3.93	2.20	0.68
Within the region, standardised population	0.18	3.53	2.18	0.66

Source: Author's own elaboration

Tables 4.15 and 4.16 show, respectively, the percentage distribution of the area of inhabited census sections and of the resident population across the different classes for the four scenarios considered²³.

In the first scenario (total population, accessibility within the “*Area Vasta*” districts, Fig. 4.24), areas with accessibility exceeding the standard of 3 acute care beds per 1,000 residents cover 18%

²³ It should be noted that the descriptive statistics for the E2SFCA indicator are calculated solely on the census sections for which road distance has been estimated, thus excluding sections located on the islands. Conversely, the percentages of area and population reported in the proximity analyses also include the island sections, in order to provide a complete estimate of regional territorial coverage.

of the area of the “*Area Vasta Toscana Nord-Ovest*”, approximately 2% of “*Area Vasta Toscana Centro*” and 21% of “*Area Vasta Toscana Sud-Est*”. These areas are home to 49% of the population of “*Area Vasta Toscana Nord-Ovest*”, 17% of the population of “*Area Vasta Toscana Centro*” and 56% of “*Area Vasta Toscana Sud-Est*” (Table 4.16). The census sections obtaining values between 2 and 3 beds per 1,000 residents account for 28% of the area of North–West Tuscany and Central Tuscany and 34% of South–East Tuscany. These areas are home to 41% of the residents of North–West Tuscany, 60% of Central Tuscany and 21% of South–East Tuscany. Areas with accessibility of less than or around 1 hospital bed per 1,000 residents cover 13% of the area of North–West Tuscany, 21% of Central Tuscany and 8% of South–East Tuscany. These are parts of the northern and eastern Apennines, the southern Maremma and the Amiata region; once again, the territories of the “Alto Mugello”, the Casentino and the Valtiberina stand out. Around 2% of the population of the three “*Area Vasta*” districts lives in these areas.

In the second scenario (total population, regional accessibility; Fig. 4.25), a marked reduction is observed in both the surface area and the population falling within the class above the target of 3 beds per 1,000 inhabitants in the South-East. Values decrease from approximately 21% of the inhabited area and 55% of the resident population to 0.4% of the area and 5% of the population. In this scenario, only a few areas within the Valdarno area exhibit values above 3 beds per 1,000 inhabitants. According to this scenario, the sections with values between 1 and 2 (65% of the area, 37% of the population) and between 2 and 3 beds per 1,000 residents (24% of the area, 56% of the population) predominate. In North–West Tuscany, the proportion of the population living in sections with access to more than 3 hospital beds per 1,000 residents falls from 48% to 31%, whilst in Central Tuscany it rises significantly from 17% to 67% (Table 4.16). In territorial terms, in Central Tuscany the area falling into this category rises from 2% to 16%. These areas are located mainly near the main urban centres of the North–West and Centre: Pisa, Lucca, Prato, Empoli, Florence and the municipalities of the inner Florence belt (Fig. 4.25).

When accessibility is calculated using the standardised resident population, sections with values above the standard of 3 beds per 1,000 residents are very limited, both in the analysis conducted within the “*Area Vasta*” districts and in that carried out across the entire regional territory. In the third scenario (standardised population, accessibility within administrative districts; Fig. 4.26), approximately 69% of the population in North–West Tuscany, 57% in Central Tuscany, and 60% in South–East Tuscany reside in sections with values between 2 and 3 potentially accessible beds per 1,000 residents. The population residing in sections with values between 1 and 2 beds per 1,000 residents accounts for 25% in North–West Tuscany, 39% in Central Tuscany, and 33% in South–East Tuscany. Sections with values lower than or equal to 1 bed per 1,000 residents cover 23% of the inhabited area in North–West Tuscany (3% of the population), 34% in Central Tuscany (4% of the population), and 16% in South–East Tuscany (4% of the population). In South–East Tuscany, the shares of inhabited area and resident population in the ≤ 1 class increase to 19% and 5%, respectively, in the fourth scenario (standardised population, regional accessibility; Fig. 4.27). By contrast, these shares decrease markedly in the other two “*Area Vasta*” districts (from 2.87% to 1.68% of the resident population in North–West Tuscany and from 4.34% to 0.78% in Central Tuscany).

Table 4.15 – Percentage distribution of the area of inhabited census sections by E2SFCA accessibility classes: total acute care beds

<i>Number of potentially accessible acute care beds per 1,000 residents</i>	<i>Total population, within the 'Area Vasta'</i>	<i>Total population, within the Region</i>	<i>Standardised population, within the 'Area Vasta'</i>	<i>Standardised population, within the Region</i>
Area Vasta Toscana Nord–Ovest				
<=1	12.74	7.36	22.86	12.01
(1–2]	41.99	51.36	49.47	57.37
(2–3]	27.49	29.18	25.68	28.73
(3–4]	17.25	11.92	1.99	1.89
(4–5)	0.53	0.19	0.00	0.00
Area Vasta Toscana Centro				
<=1	20.67	11.45	34.12	15.36
(1–2]	50.08	28.35	54.73	37.78
(2–3]	27.63	44.43	11.14	43.47
(3–4]	1.61	15.76	0.00	3.39
(4–5)	0.00	0.01	0.00	0.00
Area Vasta Toscana Sud–Est				
<=1	7.77	10.68	15.86	18.59
(1–2]	37.29	65.08	52.59	71.25
(2–3]	34.19	23.84	30.49	10.17
(3–4]	20.10	0.40	1.06	0.00
(4–5)	0.65	0.00	0.00	0.00

Source: Author's own elaboration

Table 4.16 – Percentage distribution of the resident population (2021) by E2SFCA accessibility classes: total acute care beds

<i>Number of potentially accessible acute beds per 1,000 residents</i>	<i>Total population, within the 'Area Vasta'</i>	<i>Total population, within the Region</i>	<i>Standardised population, within the 'Area Vasta'</i>	<i>Standardised population, within the Region</i>
Area Vasta Toscana Nord–Ovest				
<=1	1.71	1.29	2.87	1.68
(1–2]	8.78	14.74	24.98	26.60
(2–3]	<u>40.65</u>	52.88	69.43	67.75
(3–4]	<u>48.23</u>	30.45	2.72	3.98
(4–5]	0.63	0.65	0.00	0.00
Area Vasta Toscana Centro				
<=1	1.77	0.53	4.34	0.78
(1–2]	21.10	6.09	38.77	10.52
(2–3]	59.99	26.05	56.89	73.30
(3–4]	17.14	67.26	0.00	15.40
(4–5]	0.00	0.08	0.00	0.00
Area Vasta Toscana Sud–Est				
<=1	2.04	2.55	4.11	4.75
(1–2]	20.33	36.77	33.27	56.60
(2–3]	21.44	56.11	59.81	38.65
(3–4]	54.62	4.56	2.81	0.00
(4–5]	1.57	0.00	0.00	0.00

Source: Author's own elaboration

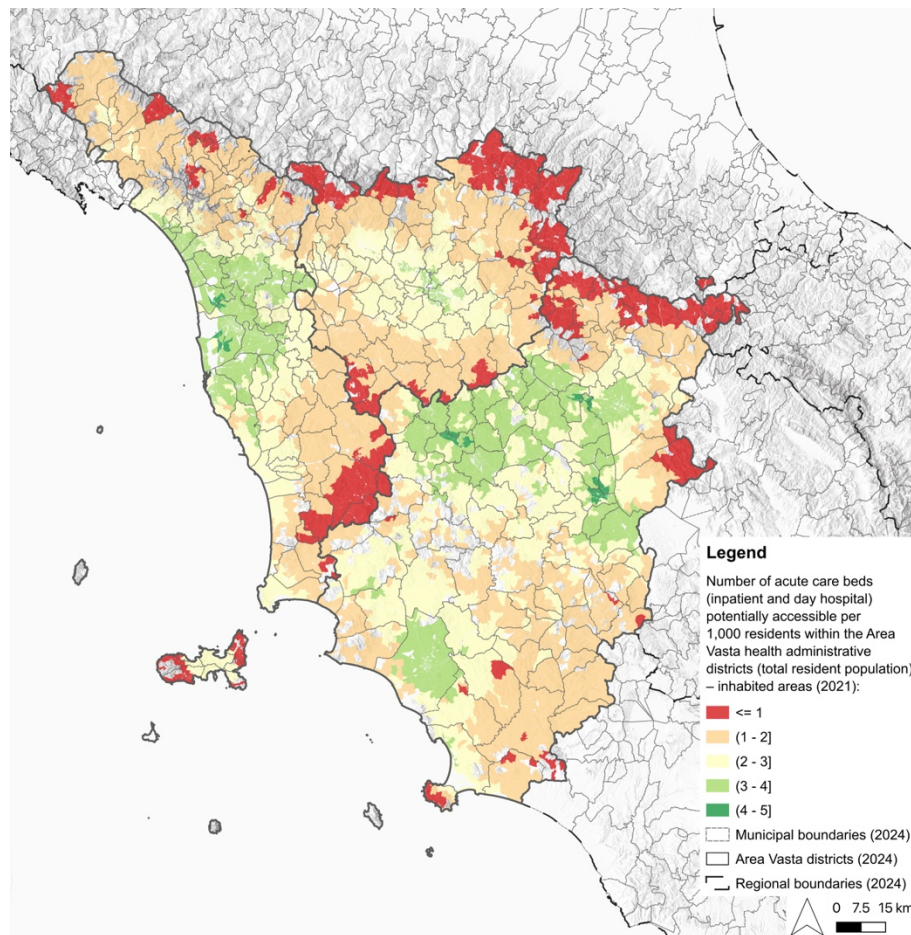


Figure 4.24 – Number of potentially accessible acute care beds per 1,000 residents within the “Area Vasta” districts (total population, inhabited census sections, 2021)

Source: Author’s own elaboration

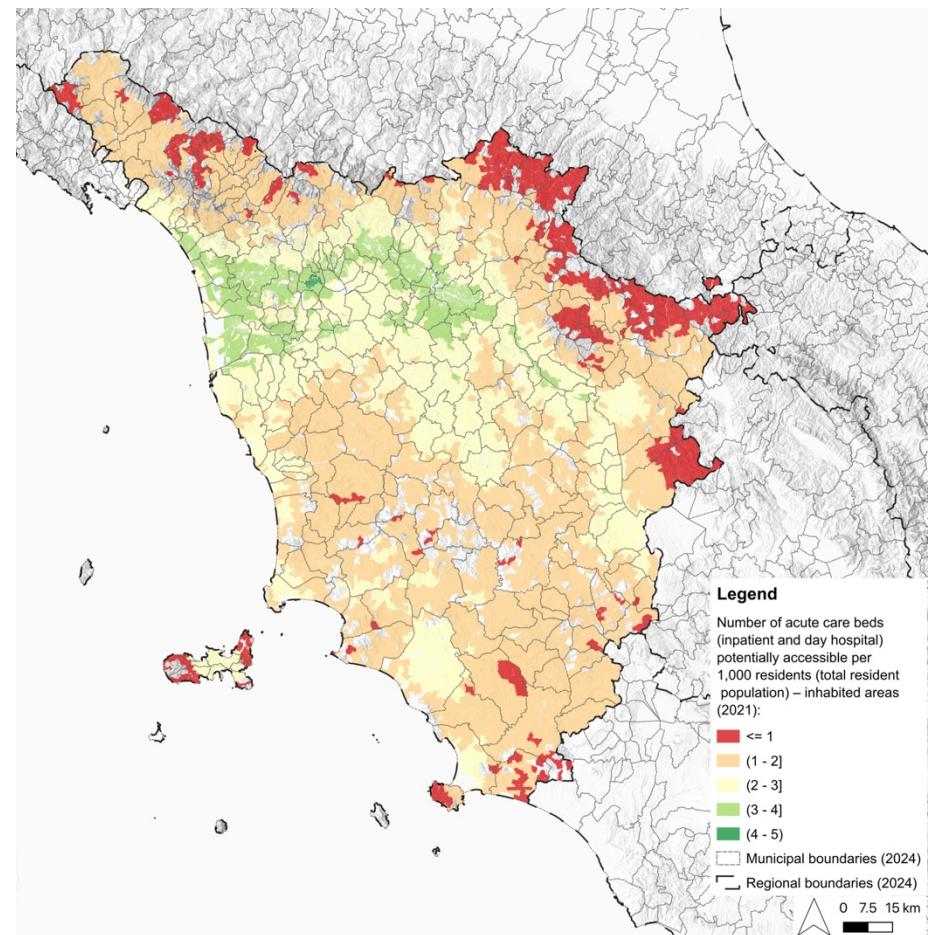


Figure 4.25 – Number of potentially accessible acute care beds per 1,000 residents within the region (total population, inhabited census sections, 2021).

Source: Author’s own elaboration

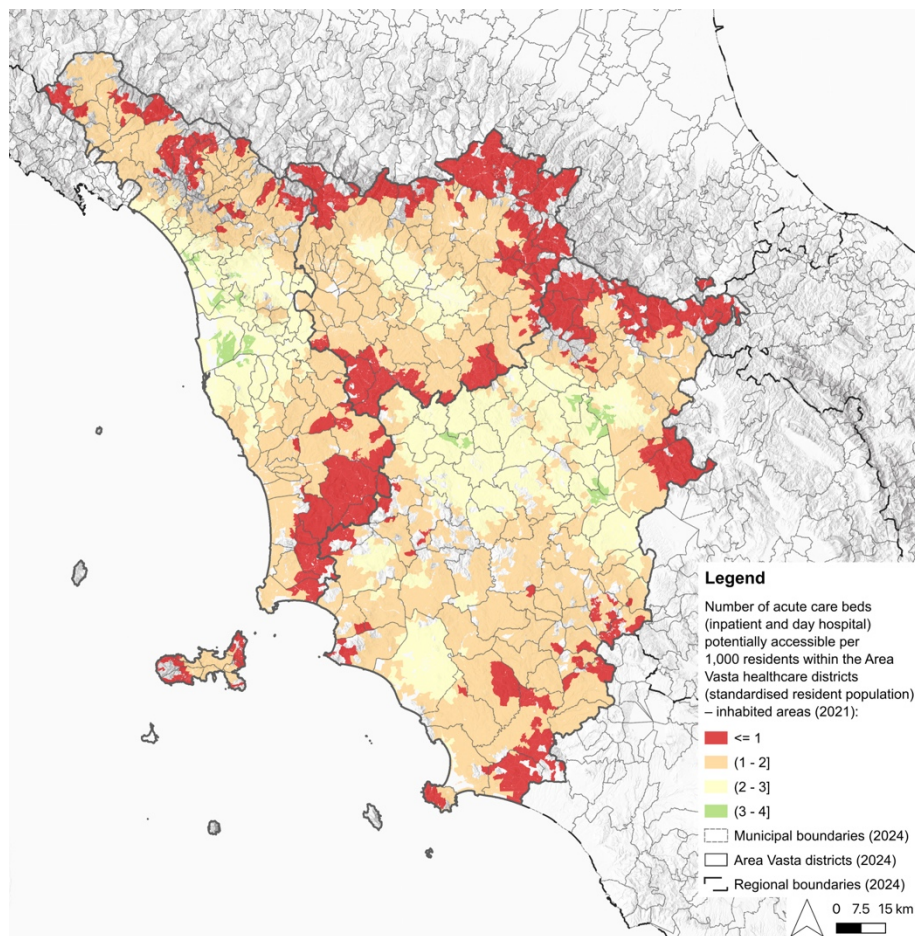


Figure 4.26 – Number of potentially accessible acute care beds per 1,000 residents within the “Area Vasta” districts (standardised population, inhabited census sections, 2021).

Source: Author’s own elaboration

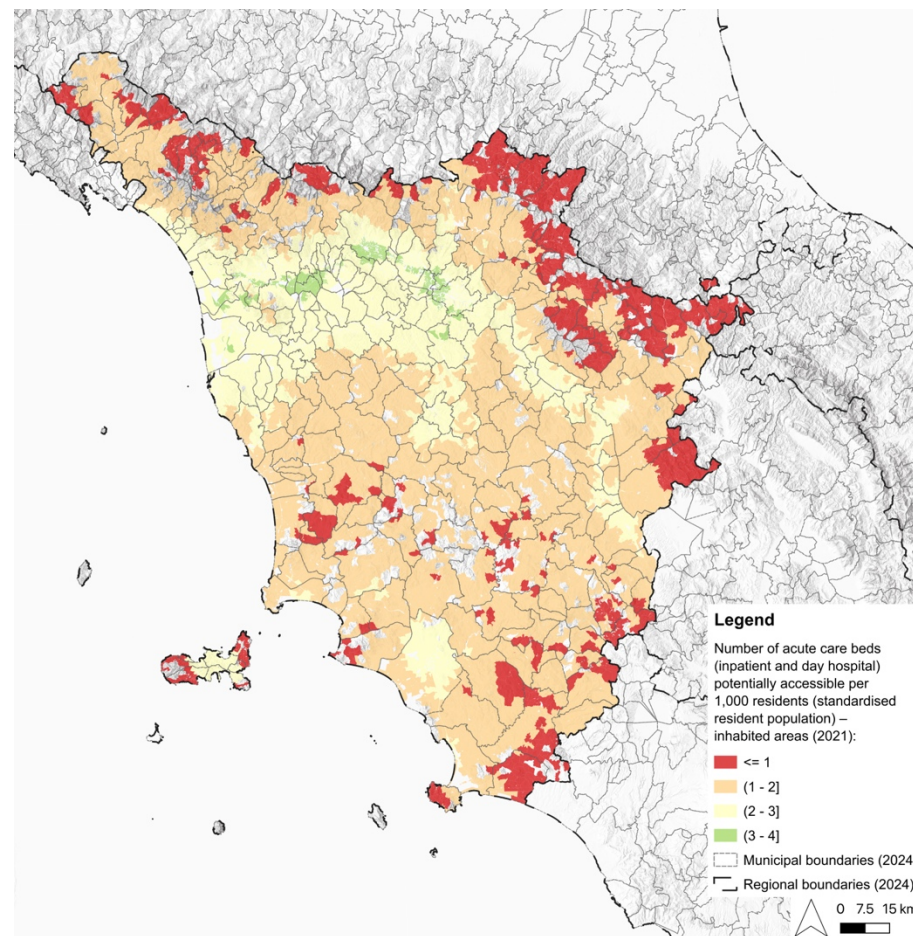


Figure 4.27 – Number of potentially accessible acute care beds per 1,000 residents within the region (standardised population, inhabited census sections, 2021).

Source: Author’s own elaboration

4.5.4 Accessibility to oncology day care beds and dialysis stations

Table 4.17 presents descriptive statistics relating to the analysis of access to hospital beds in oncology for the adult population. Overall, the analysis reveals a high degree of geographical concentration in the provision of oncology services and very low levels of potential accessibility. In the first scenario, considering the total population and accessibility within the “*Area Vasta*” districts, average accessibility stands at 0.98 potentially accessible beds per 10,000 adult residents, with values ranging from 0.04 to 3.04. Removing the administrative constraint of the “*Area Vasta*” does not substantially alter the average (0.95), but reduces internal variability (standard deviation 0.29 compared to 0.49), indicating a more uneven distribution of services when access is limited solely to facilities within the “*Area Vasta*” districts. When the adult population is standardised by age, average accessibility in the administrative districts falls from 0.98 to 0.77 potentially accessible beds per 10,000 residents, consistent with the increase in potential demand generated by demographic ageing. Here too, removing the administrative constraint keeps the average virtually unchanged (0.75), but reduces the dispersion (standard deviation 0.23 versus 0.38), suggesting that excluding facilities outside the “*Area Vasta*” districts penalises certain areas.

Table 4.17 – Descriptive statistics of E2SFCA estimates for accessibility to oncology beds

<i>E2SFCA Indicator</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard deviation</i>
Within the “ <i>Area Vasta</i> ”, total population	0.04	3.04	0.98	0.49
Within the region, total population	0.06	2.33	0.95	0.29
Within the “ <i>Area Vasta</i> ”, standardised population	0.03	2.29	0.77	0.38
Within the region, standardised population	0.05	1.77	0.75	0.23

Source: Author’s own elaboration

In the three “*Area Vasta*” districts, almost the entire surface area and population fall into categories ranging from 0.5 to 1.5 beds per 10,000 adult residents, with very few areas having accessibility above this threshold. Tables 4.18 and 4.19 and Figures 4.28 to 4.31 present the results for the four scenarios considered.

In the first scenario (total population, accessibility within the “*Area Vasta*” districts; Fig. 4.28), in North-West Tuscany approximately 20% of the inhabited area and 53% of the resident population are estimated to have potential accessibility to oncology beds between 1 and 1.5 beds per 10,000 residents, while more than 50% of the inhabited area and 43% of the population fall within the range of 0.5 to 1 bed per 10,000 adult residents. Areas with very low accessibility levels (≤ 0.5) account for around 27% of the area and 2% of the population. Central Tuscany obtains lower average accessibility levels: 38% of the inhabited area and 82% of residents fall into the 0.5–1 category, whilst 62% of the area and 18% of the population fall into the ≤ 0.5 accessibility category. Concerning South-East Tuscany, the results are more mixed: 12% of the inhabited area and 7% of the resident population fall into the 0–0.5 class; 9% of the area and 8% of the population fall into the 0.5–1 class, whilst approximately 39% of the area and 37% of the population fall into the class with between 1 and 1.5 beds per 10,000 adult residents. The remaining 40% of the inhabited area and 48% of residents fall into areas with accessibility exceeding 1.5 beds per 10,000 adult residents, in categories that are limited in North-West Tuscany and null in Central Tuscany.

In the second scenario (total population, regional accessibility, Fig. 4.29), a generalised reduction in accessibility levels is observed in the “*Area Vasta Toscana Sud-Est*”, alongside an improvement in the other two administrative districts. In South-East Tuscany, areas with accessibility of 1 bed or fewer per 10,000 adult residents cover 61% of the area and account for 53% of the resident population. According to this scenario, 40% of the population of North-West Tuscany and 54% of Central Tuscany live in areas with an estimated accessibility of between 1 and 1.5 hospital beds per 10,000 adult residents, compared with the figures of 17% and 15% respectively obtained in the previous scenario. However, while in Central Tuscany there is a redistribution of the resident population within the accessibility class (1.0–1.5], in North-West Tuscany there is a shift in the distribution of the resident population from the (1.0–1.5] class to the (0.5–1.0] class. When the indicator is calculated using the standardised resident population, a general deterioration in accessibility is observed (Figures 4.30 and 4.31). This effect is particularly marked in North-West Tuscany and Central Tuscany, where, across almost the entire inhabited territory, accessibility to oncology beds is estimated to be equal to or lower than 1 bed per 10,000 residents under these scenarios. In South-East Tuscany, by contrast, extensive areas with accessibility above the threshold of 1 bed per 10,000 residents remain, covering 65% of the population when accessibility is evaluated within the “*Area Vasta*” districts and 20% when assessed across the entire regional territory. In Central Tuscany, the share of the population residing in census sections with accessibility to oncology beds within the range (0.0–0.5] reaches 34% in the third scenario (standardised adult population, accessibility within administrative districts; Fig. 4.31), whereas in the other two areas it remains around 7–8%.

Table 4.18 – Percentage distribution of the area of inhabited census sections by E2SFCA accessibility classes: total oncology beds

<i>Number of potentially accessible acute care beds per 10,000 adult residents</i>	<i>Total population, within the ‘Area Vasta’</i>	<i>Total population, within the Region</i>	<i>Standardised population, within the ‘Area Vasta’</i>	<i>Standardised population, within the Region</i>
<i>Area Vasta Toscana Nord-Ovest</i>				
<= 0.5	27.12	16.93	45.11	33.36
(0.5–1.0]	50.87	64.26	51.14	64.22
(1.0–1.5]	20.19	17.00	1.94	0.60
(1.5–2.0]	0.00	0.00	1.81	1.81
(2.0–2.5]	1.81	1.81	0.00	0.00
(2.5–3.0]	0.00	0.00	0.00	0.00
<i>Area Vasta Toscana Centro</i>				
<= 0.5	62.02	25.63	81.08	34.85
(0.5–1.0]	37.97	59.55	18.92	64.31
(1.0–1.5]	0.00	14.82	0.00	0.84
(1.5–2.0]	0.00	0.00	0.00	0.00
(2.0–2.5]	0.00	0.00	0.00	0.00
(2.5–3.0]	0.00	0.00	0.00	0.00
<i>Area Vasta Toscana Sud-Est</i>				
<= 0.5	12.21	16.36	13.59	20.33
(0.5–1.0]	9.18	45.07	25.67	63.48
(1.0–1.5]	38.86	34.50	46.58	15.44
(1.5–2.0]	26.84	3.81	13.77	0.75
(2.0–2.5]	11.77	0.26	0.38	0.00
(2.5–3.0]	1.08	0.00	0.00	0.00

Source: Author’s own elaboration

Table 4.19 – Percentage distribution of the resident population (2021) by E2SFCA accessibility classes: total oncology beds

<i>Number of potentially accessible acute care beds per 10,000 adult residents</i>	<i>Total population, within the 'Area Vasta'</i>	<i>Total population, within the Region</i>	<i>Standardised population, within the 'Area Vasta'</i>	<i>Standardised population, within the Region</i>
Area Vasta Toscana Nord-Ovest				
<= 0.5	2.32	2.74	7.25	5.75
(0.5–1.0]	42.61	55.77	86.91	92.34
(1.0–1.5]	53.37	39.80	4.15	0.22
(1.5–2.0]	0.00	0.00	1.69	1.69
(2.0–2.5]	1.69	1.69	0.00	0.00
(2.5–3.0]	0.00	0.00	0.00	0.00
Area Vasta Toscana Centro				
<= 0.5	17.55	2.20	34.49	5.76
(0.5–1.0]	82.44	43.42	65.51	93.25
(1.0–1.5]	0.01	54.38	0.00	0.99
(1.5–2.0]	0.00	0.00	0.00	0.00
(2.0–2.5]	0.00	0.00	0.00	0.00
(2.5–3.0]	0.00	0.00	0.00	0.00
Area Vasta Toscana Sud-Est				
<= 0.5	7.21	10.09	7.98	12.84
(0.5–1.0]	7.73	42.98	27.12	67.49
(1.0–1.5]	36.71	42.87	39.87	18.93
(1.5–2.0]	24.46	3.48	24.48	0.75
(2.0–2.5]	22.86	0.58	0.54	0.00
(2.5–3.0]	1.03	0.00	0.00	0.00

Source: Author's own elaboration

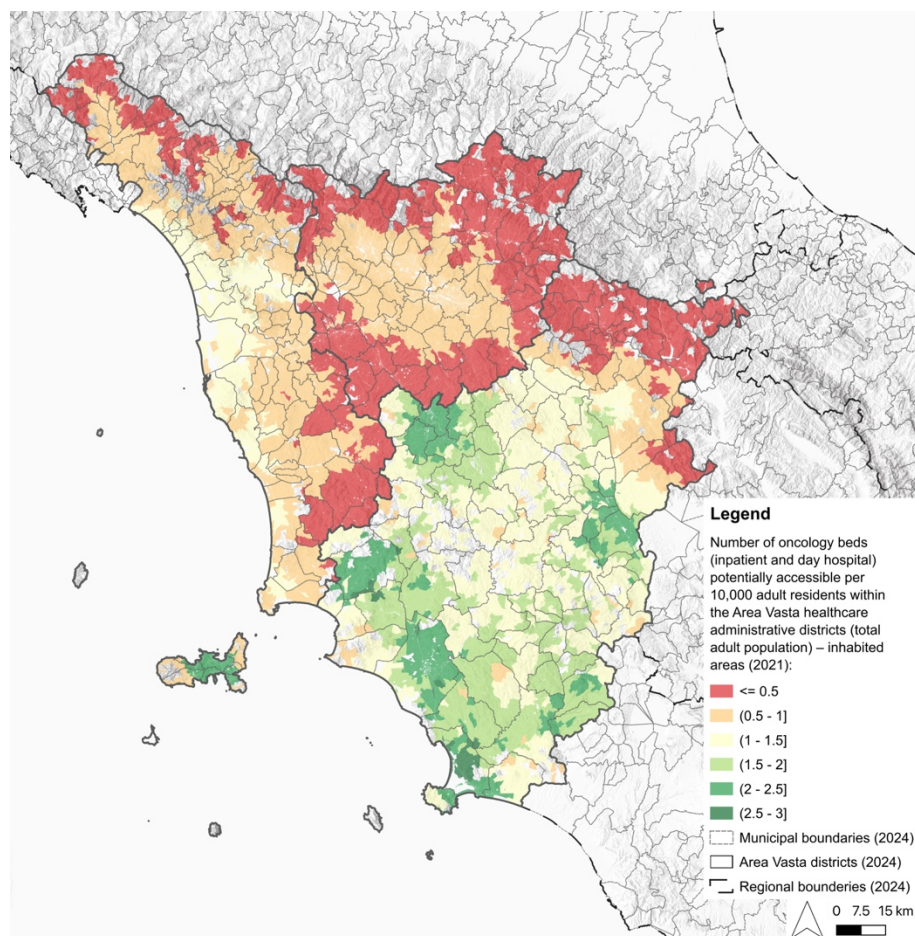


Figure 4.28 – Number of potentially accessible oncology care beds per 10,000 residents within the “Area Vasta” districts (total adult population, inhabited census sections, 2021).

Source: Author’s own elaboration

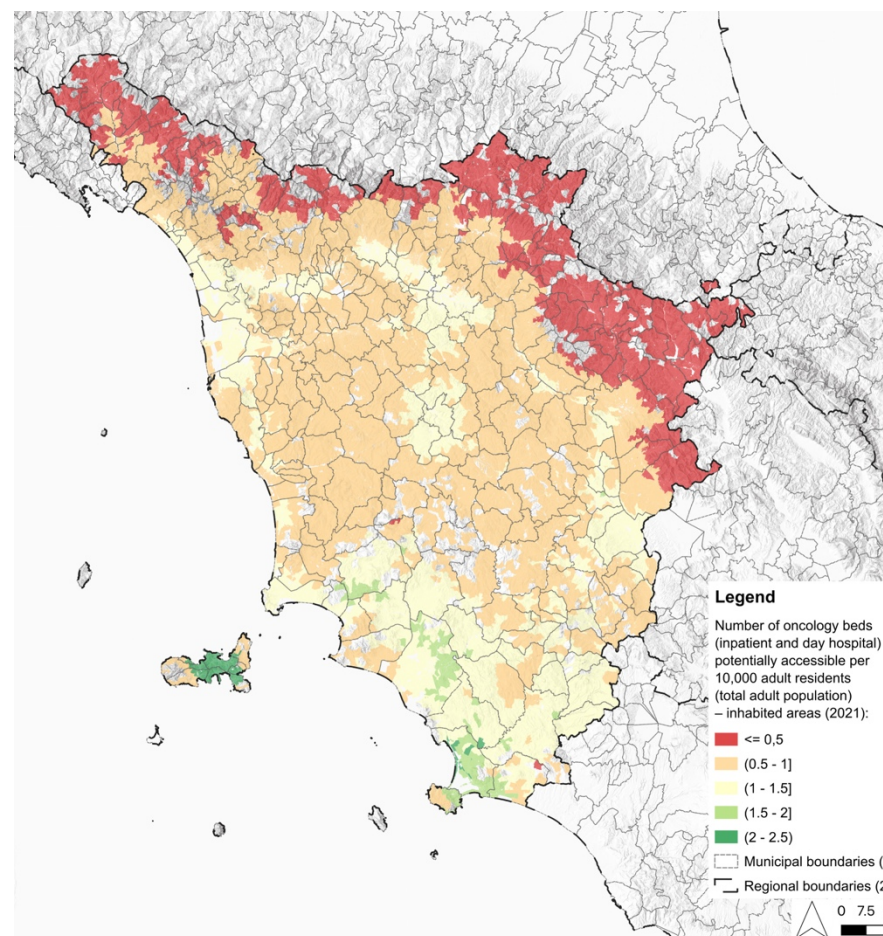


Figure 4.29 – Number of potentially accessible oncology care beds per 10,000 residents within the region (total adult population, inhabited census sections, 2021).

Source: Author’s own elaboration

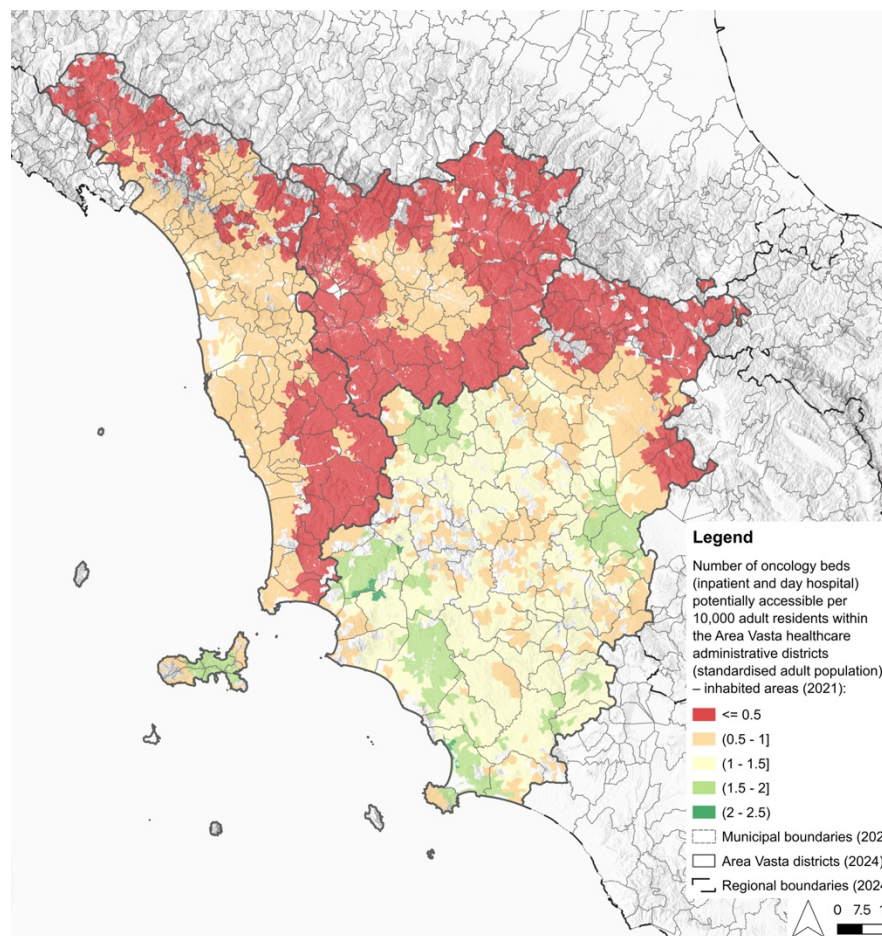


Figure 4.30 – Number of potentially accessible oncology care beds per 10,000 residents within the “Area Vasta” districts (standardised adult population, inhabited census sections, 2021).
Source: Author’s own elaboration

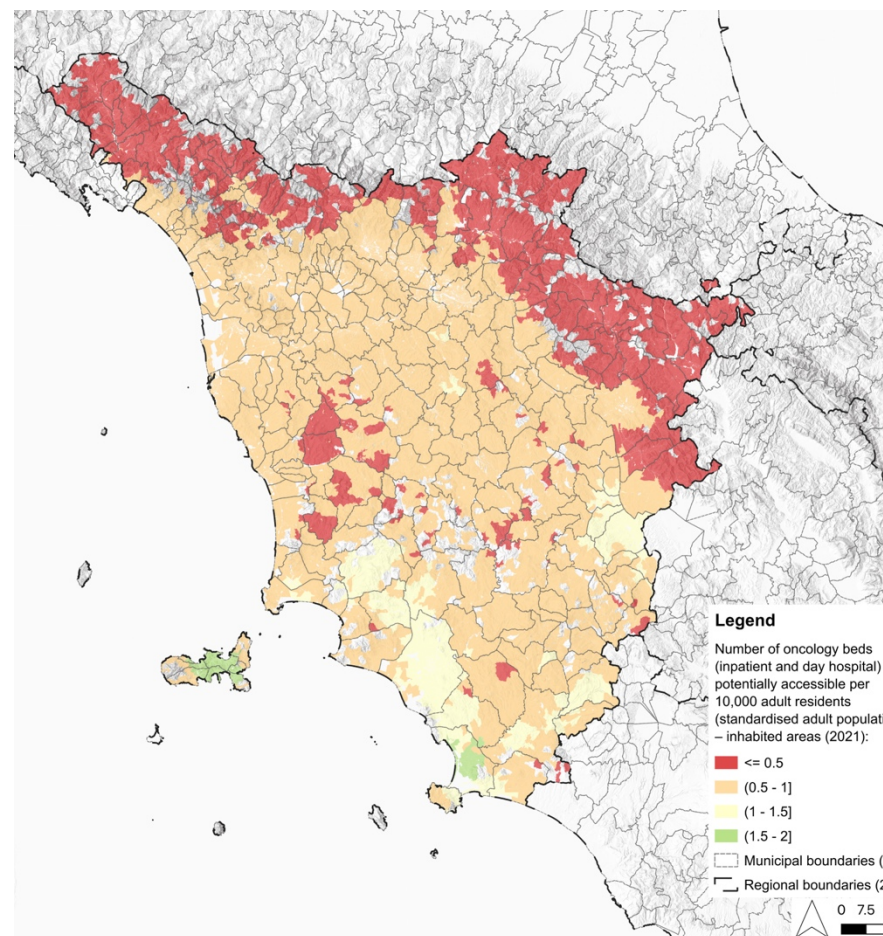


Figure 4.31 – Number of potentially accessible oncology care beds per 10,000 residents (standardised adult population, inhabited census sections, 2021).
Source: Author’s own elaboration

Table 4.20 presents the descriptive statistics relating to the analysis of access to dialysis stations. In the case of the indicator based on the total population, average access within the “*Area Vasta*” districts is 1.85 dialysis stations per 10,000 residents, with values ranging from 0.09 to 5.90. Here too, the analysis of facilities located within the regional territory shows a lower dispersion (standard deviation of 0.60 compared to 0.66), suggesting that in some areas, actual access improves only thanks to facilities located outside the boundaries of the “*Area Vasta*” districts. When the population is standardised by age, average accessibility decreases both at the “*Area Vasta*” level (1.58) and at the regional level (1.54). Overall, the results show very low minimum values, indicating the presence of severely under-served areas. In some census sections, accessibility is estimated to fall as low as 0.08 dialysis stations potentially accessible per 10,000 residents when using the standardised population and applying the administrative districts constraints.

Table 4.20 – Descriptive statistics of E2SFCA estimates for accessibility to dialysis stations

<i>E2SFCA Indicator</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard deviation</i>
Within the “ <i>Area Vasta</i> ”, total population	0.09	5.90	1.85	0.66
Within the region, total population	0.23	5.90	1.80	0.60
Within the “ <i>Area Vasta</i> ”, standardised population	0.08	5.07	1.58	0.55
Within the region, standardised population	0.20	5.07	1.54	0.51

Source: Author’s own elaboration

In the first scenario (total population, accessibility within the “*Area Vasta*” districts; Fig. 4.32), the majority of residents in the “*Area Vasta Toscana Nord-Ovest*” (53% of the population) and “*Area Vasta Toscana Centro*” (88% of the population) live in census sections with an estimated accessibility between 1 and 2 dialysis stations per 10,000 residents. Sections with accessibility of more than 2 beds cover 74% of the population in the South-East, 44% in the North-West and just 3% in Central Tuscany. The most disadvantaged areas, with fewer than 1 dialysis station per 10,000 inhabitants, are very limited in South-East Tuscany (3% of the area and 0.8% of residents) but cover 25% of the inhabited area and 3% of the population in North-West Toscana, and 49% of the area and 9% of the population in Central Tuscany.

In the second scenario (total population, regional accessibility; Fig. 4.33), the situation changes significantly. In Central Tuscany, the share of the population in sections with accessibility to dialysis beds within the (2–3] range increases from 3% to 64%, while the share in sections with accessibility equal to or lower than 1 bed per 10,000 residents decreases from 9% to approximately 2%. In this scenario, only 7% of the population in South-East Tuscany resides in areas with accessibility above 2 beds per 10,000 residents (compared to 74% in the previous scenario), while areas with critical values (equal to or below 1 bed) account for 44% of the inhabited area and around 20% of the population, compared with 3% of the area and 1% of the population in the previous scenario.

In the third scenario (standardised population, accessibility within the “*Area Vasta*” districts; Fig. 4.34), more than 83% of the population in North-West Tuscany and 86% in Central Tuscany are estimated to have accessibility between 1 and 2 dialysis stations per 10,000 residents. In South-East Tuscany, this share is 48%, with an additional 48% of the population residing in sections with accessibility between 2 and 3 beds per 10,000 residents.

Under this scenario, areas with accessibility equal to or below 1 bed per 10,000 residents account for 7% of the population in North-West Tuscany, 13% in Central Tuscany, and 3% in South-East Tuscany.

Table 4.21 – Percentage distribution of the area of inhabited census sections by E2SFCA accessibility classes: dialysis stations

<i>Number of potentially accessible acute care beds per 10,000 residents</i>	<i>Total population, within the 'Area Vasta'</i>	<i>Total population, within the Region</i>	<i>Standardised population, within the 'Area Vasta'</i>	<i>Standardised population, within the Region</i>
Area Vasta Toscana Nord-Ovest				
<=1	24.92	6.58	39.20	17.03
(1–2]	55.37	69.99	54.44	74.82
(2–3]	17.89	21.62	4.54	6.34
(3–4]	0.00	0.00	0.00	0.00
(4–5]	0.00	0.00	0.00	0.00
(5–6]	1.81	1.81	1.81	1.81
Area Vasta Toscana Centro				
<=1	48.51	22.68	56.69	32.32
(1–2]	51.04	61.72	43.31	65.44
(2–3]	0.44	15.61	0.00	2.24
(3–4]	0.00	0.00	0.00	0.00
(4–5]	0.00	0.00	0.00	0.00
(5–6]	0.00	0.00	0.00	0.00
Area Vasta Toscana Sud-Est				
<=1	3.26	44.37	7.54	53.77
(1–2]	48.77	52.58	63.18	46.06
(2–3]	38.97	3.04	28.79	0.16
(3–4]	9.01	0.00	0.50	0.00
(4–5]	0.00	0.00	0.00	0.00
(5–6]	0.00	0.00	0.00	0.00

Source: Author's own elaboration

Table 4.22 – Percentage distribution of the resident population (2021) by E2SFCA accessibility classes: dialysis stations

<i>Number of potentially accessible acute care beds per 10,000 residents</i>	<i>Total population, within the 'Area Vasta'</i>	<i>Total population, within the Region</i>	<i>Standardised population, within the 'Area Vasta'</i>	<i>Standardised population, within the Region</i>
Area Vasta Toscana Nord-Ovest				
<=1	3.16	0.76	6.45	2.15
(1–2]	52.56	49.17	83.30	83.52
(2–3]	42.59	48.37	8.55	12.64
(3–4]	0.00	0.00	0.00	0.00
(4–5]	0.00	0.00	0.00	0.00
(5–6]	1.69	1.69	1.69	1.69
Area Vasta Toscana Centro				
<=1	9.35	1.74	13.05	4.67
(1–2]	87.59	34.14	86.95	86.92
(2–3]	3.06	64.12	0.00	8.41
(3–4]	0.00	0.00	0.00	0.00
(4–5]	0.00	0.00	0.00	0.00
(5–6]	0.00	0.00	0.00	0.00
Area Vasta Toscana Sud-Est				
<=1	0.87	19.83	2.78	24.77
(1–2]	25.28	73.26	48.35	74.70
(2–3]	58.79	6.91	48.04	0.52

(3-4]	15.06	0.00	0.83	0.00
(4-5]	0.00	0.00	0.00	0.00
(5-6]	0.00	0.00	0.00	0.00

Source: Author's own elaboration

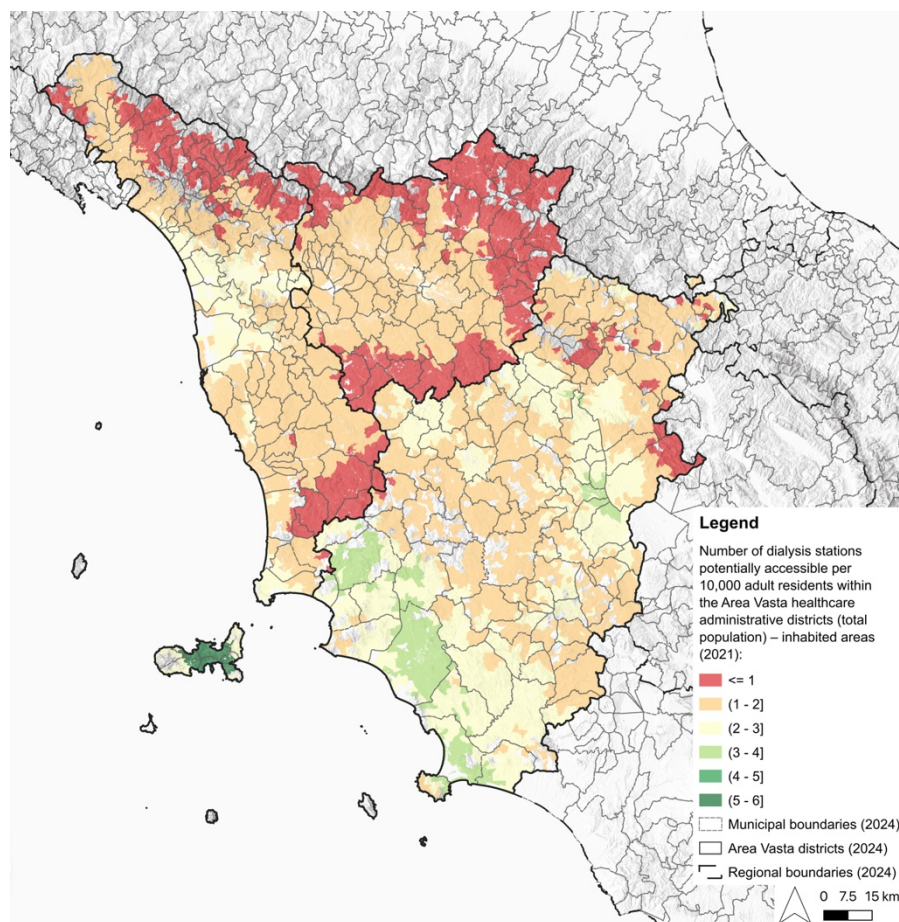


Figure 4.32 – Number of potentially accessible dialysis stations per 10,000 residents within the “Area Vasta” districts (total population, inhabited census sections, 2021).

Source: Author’s own elaboration

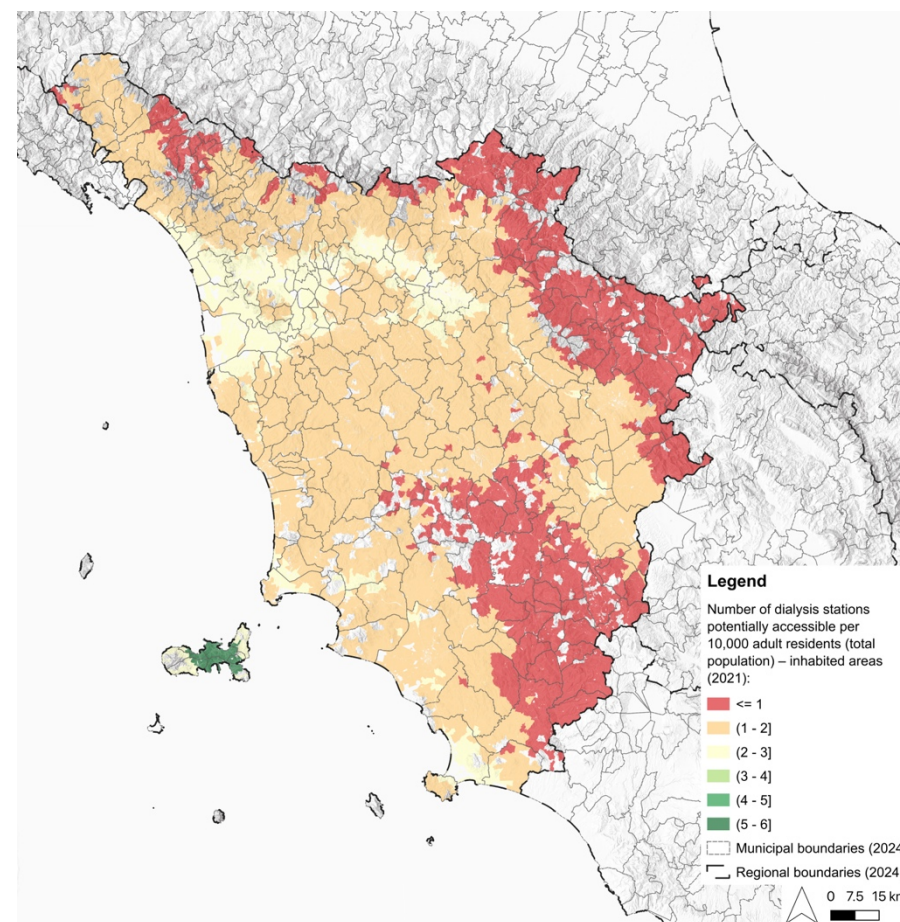


Figure 4.33 – Number of potentially accessible dialysis stations per 10,000 residents within the region (total population, inhabited census sections, 2021).

Source: Author’s own elaboration

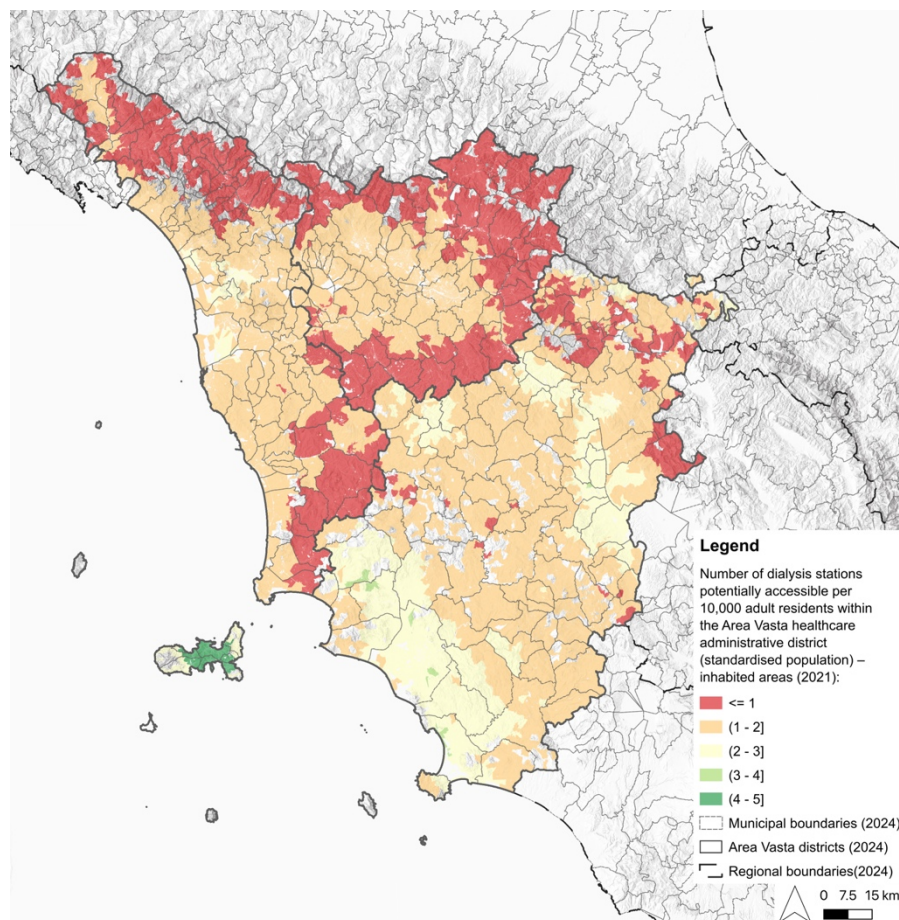


Figure 4.34 – Number of potentially accessible dialysis stations per 10,000 residents within the “Area Vasta” districts (standardised population, inhabited census sections, 2021).
 Source: Author’s own elaboration

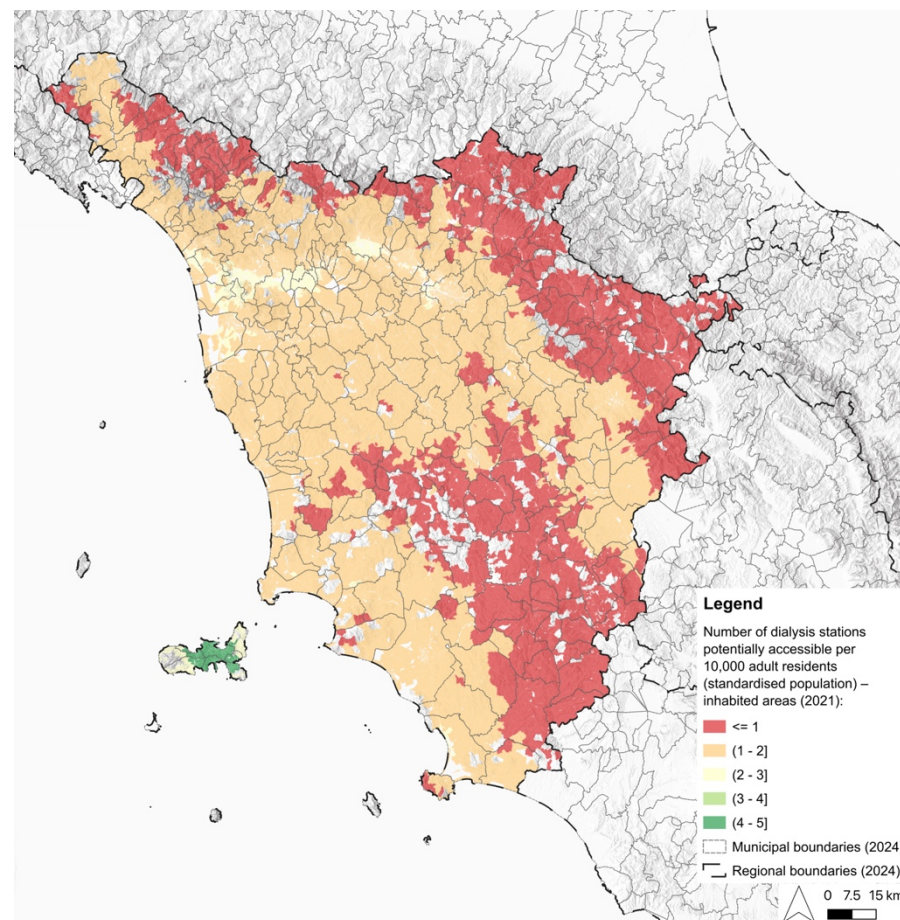


Figure 4.35 – Number of potentially accessible dialysis stations per 10,000 residents within the region (standardised population, inhabited census sections, 2021).
 Source: Author’s own elaboration

4.6 Discussion of results and study limitations

The results of the analyses first highlight the presence of a widespread network of emergency care facilities across the regional territory, which are accessible within 45 minutes for the vast majority of inhabited census sections. By contrast, the concentration of facilities hosting DEA level emergency departments in the main urban centres results in access times exceeding 45 minutes in the border areas of the three “*Area Vasta*” districts. These distances are particularly relevant when interpreted in light of the distance decay functions estimated by type of facility. The estimated decay curves describe a system consistent with a hierarchical organisation of provision, characterised by proximity for low-complexity services and long-range attraction for highly specialised care.

The adoption of differentiated distance decay coefficients in spatial accessibility analyses to hospital beds allows these dynamics to be taken into account, but at the same time reveals significant inequalities in accessibility both within and between the “*Area Vasta*” districts. Despite a density of acute inpatient and day hospital beds close to the national target of 3 beds per 1,000 residents – 2.87 in the “*Area Vasta Nord-Ovest*”, 2.47 in the “*Area Vasta Toscana Centro*”, and 2.85 in “*Area Vasta Toscana Sud-Est*” – the spatial accessibility analyses show that a large percentage of both the regional territory and population fall within accessibility classes equal to or below 2 beds potentially accessible per 1,000 residents.

Estimates based on 2SFCA indicators highlight particularly critical levels of accessibility in Central Tuscany, where the largest share of the regional population is concentrated, and more generally in areas located far from the main regional centres.

The adoption of metrics that constrain the analysis to “*Area Vasta*” boundaries appears methodologically more appropriate for healthcare planning purposes, as they produce accessibility levels consistent with administrative zoning and institutional responsibilities. Interestingly, the comparison between accessibility estimates within the administrative boundaries of hospital care districts and those across the entire regional territory suggests the inadequacy of both the territorial distribution of beds and the configuration of administrative catchment areas, while also pointing to potential inter-“*Area Vasta*” mobility. This is particularly evident in South-East Tuscany, where a general oversupply of beds relative to the population emerges.

When the analysis is restricted to facilities located within each administrative district, the inhabited sections of the “*Area Vasta Toscana Sud-Est*” show, on average, significantly higher accessibility values than those estimated for the other two areas. However, when all regional facilities are considered, the geography of accessibility changes substantially across all three cases examined: accessibility improves for Central and North-West Tuscany, while it worsens for South-East Tuscany.

Analyses of accessibility to oncology beds, in particular, suggest a marked oversupply in this discipline in South-East Tuscany, whereas in the territories of the other two “*Area Vasta*” districts accessibility levels are highly critical, with estimated values below 1 bed potentially accessible per 10,000 residents across the entirety of Central Tuscany and almost all of North-West Tuscany.

Similar critical conditions are observed for accessibility to dialysis stations.

Across all three cases (total acute beds, oncology beds, and dialysis beds), the comparison between analyses conducted within “*Area Vasta*” districts and those considering the entire regional territory also highlights the potential effects of demand competition and the possible consequences for accessibility of opening up catchment areas across hospital care administrative

districts. In particular, it identifies border territories that would benefit from such an opening and those in which accessibility would significantly decrease if access were extended to residents from other areas.

Finally, the introduction of an age-standardised population allows the incorporation of a proxy for healthcare needs into the measurement of accessibility, consistent with the criteria used to allocate hospital funding. The resulting estimates show systematically lower levels of accessibility across all areas, highlighting how population ageing – which affects much of the regional territory and is particularly pronounced in rural, inland, and mountainous areas – amplifies the observed disparities. This result reinforces the argument that bed targets defined independently of both spatial distance and the age structure of the population produce territorial inequalities in access to health care.

Overall, the analyses show that the measurement of accessibility cannot be considered a neutral exercise: different methodological choices produce different representations of territorial inequalities and lead to different implications for healthcare planning. In this sense, the use of E2SFCA indicators represents an advancement over planning metrics based solely on the theoretical availability of beds, as it combines measures of density, distance, attractiveness, and healthcare needs. The E2SFCA indicator based on the total population reflects a principle of equality, while the indicator based on the age-standardised population introduces a perspective of equity, attentive to the territorial distribution of potential healthcare demand.

The study has some limitations. First, the analysis focuses exclusively on facilities located within the regional territory, thus excluding, in the measurement of accessibility, the opportunities available outside the regional hospital network. This methodological choice reflects the aim of assessing accessibility as ensured by the regional network, and in particular at the level of the administrative healthcare districts.

Second, accessibility estimates are based solely on road travel times from census section centroids to hospital facilities, without considering access provided by helicopter emergency services in urgent cases or travel times from emergency service stations to residences.

Furthermore, as discussed in Chapter 3, travel time estimates may be affected by distortions in the road network data (Regione Toscana, 2022) and are generally underestimated in urban contexts, as they are based on average speed data that do not account for traffic congestion.

Finally, the construction of the accessibility indicator for hospital admissions is based on data from different reference years: resident population data from 2021, hospital bed data from 2023, and hospital mobility data from 2023. This choice reflects two methodological needs. On the one hand, the 2021 population represents the only reference population at the level of census sections and thus the most accurate and spatially detailed source for measuring potential demand. On the other hand, the combined use of 2023 data on beds and mobility allows the description of hospital provision and access behaviours in a post-pandemic context, which is not affected by the distortions related to the COVID-19 emergency that was still ongoing in 2021. Although this temporal mismatch represents a limitation, it is methodologically justified, as it ensures consistency between supply and access behaviours while relying on official and spatially detailed demographic data for potential demand estimation.

Changes in municipal population between 2021 and 2023 may lead to some local variations in accessibility values. However, these demographic changes at the sub-municipal level over such a short period are generally limited and are not considered sufficient to compromise the robustness of the analysis.

Additionally, the measure of healthcare needs adopted in this study is based on the age structure of the population, in line with the criteria used for allocating hospital funding to regions

(see Chapter 1). This measure reflects differences in service utilisation by age, but could be further refined through the integration of indicators of socio-economic disadvantage, which the epidemiological literature identifies as important determinants of healthcare utilisation (e.g. deprivation indices; Costa et al., 2014).

Finally, the analysis of accessibility to total acute beds does not distinguish between different medical specialities and should therefore be interpreted as a general assessment of territorial equity in access to hospital care, useful for providing an overall picture. More detailed analyses by specific disciplines remain an important avenue for future research, as they may reveal sectoral imbalances that aggregated indicators cannot capture. In this direction, the present study has included a focused analysis of accessibility to oncology beds and dialysis stations.

4.7 Conclusions

The results of this chapter confirm the value of adopting a geographical perspective in the study of accessibility to hospital services and in hospital planning, highlighting how opportunities for access cannot be interpreted solely in terms of service density. Instead, they should be understood in light of the interactions between the spatial distribution of health care services, population characteristics and administrative boundaries.

In particular, the analyses show that, despite a widespread network of emergency care facilities, the concentration of high-complexity services in the main urban centres and the territorial distribution of hospital beds generate significant differences in access opportunities, especially in the peripheral and border areas of the Tuscany region.

The results also suggest that administrative zoning and the definition of catchment areas play a central role in the production of territorial inequalities. The comparison between scenarios that restrict access to facilities within the same ‘Area Vasta’ district and those that consider the entire regional system shows that opening up catchment areas may generate differentiated effects, improving access conditions in some areas while reducing them in others, also in relation to processes of competition between demand and supply.

In this context, the methods proposed in this study represent useful tools to support healthcare planning, as they make it possible to move beyond an interpretation based solely on the theoretical availability of beds and to orient planning towards configurations that are more sensitive to distance, facility attractiveness, and the age structure of the population.

These analyses are transferable to other regional contexts in which accessibility to hospital care is organised within geographical-administrative catchment areas of varying extent but subject to the same population-to-hospital beds target. In such contexts, the application of the proposed approaches would make it possible to assess the role of different administrative zoning configurations in shaping inequalities in access to hospital care.

This work therefore contributes to the development of a perspective in health geography oriented not only towards equality of provision, but towards territorial equity (Costa et al., 1994).

From a policy perspective, the results of this study suggest the need to complement the current analysis with the study of what-if scenarios, aimed at assessing the effects of potential reconfigurations of the hospital network (Catania et al., 2025) and of the redefinition of catchment areas. Such analyses could, for example, simulate the redistribution of beds from facilities in surplus to those with levels significantly below standard, or the impact of establishing new services in peripheral and border areas with high potential demand.

In this sense, the adoption of advanced analytical tools can contribute to making planning decisions more transparent and better informed, supporting policymakers in the design of policies aimed at reducing territorial inequalities and improving access to health care services.

In the context of ongoing healthcare restructuring, it is therefore essential to recognise and defend the planning role of the geography of health care, to map hospital services, and to analyse territorial differences in accessibility, while examining how administrative zoning and the hierarchical organisation of hospital facilities shape access opportunities and spatial inequalities. As noted by Zuccatelli (2012, p. 5),

Emergency care and chronic conditions require locally available responses. [...] Advocating for a timely and effective territorial emergency network is essential. Likewise, advocating for a widespread network of services for the most vulnerable groups (particularly people with disabilities and older people) is not only appropriate but necessary.

From this perspective, reforms aimed at reducing hospital beds should be evaluated considering the actual access opportunities guaranteed to the population, particularly in peripheral areas, avoiding situations in which mobility becomes a necessity rather than a choice (Evangelista, 2017).

Rather than creating new obstacles, policies should aim to remove barriers to the full satisfaction of healthcare needs within individuals' relational, social, and territorial contexts. Otherwise, there is a risk of shifting from intra-regional mobility "by choice", driven by patients' preferences, to "necessary" mobility, required in order to obtain essential care. (Evangelista, 2017, p. 164)

Chapter 5. The geographies of health care and health care voluntarism in the Inland Areas of Mugello and Val di Sieve

5.1 Introduction

The Italian National Strategy for Inland Areas (“*Strategia Nazionale per le Aree Interne*”, SNAI; Barca et al., 2014) has helped to bring the issue of territorial justice back to the forefront of the Italian public agenda. As already introduced, the SNAI identifies peripheralisation through a measure of geographical accessibility to essential services. At the same time, however, it recognises the dynamic nature of processes of marginalisation, emphasising that territorial inequalities are not simply the result of given geographical conditions, but the product of economic, demographic and institutional transformations that affect the distribution of opportunities for access to services over time.

The literature on the geography of health care has highlighted that accessibility cannot be reduced solely to a question of proximity to services, but must be interpreted as a complex territorial relationship, reflecting the degree of adaptation between people and services and encompassing geographical, political-economic, cultural and relational dimensions.

Building on these premises, the preceding chapters have adopted a critical spatial perspective in the study of territorial equity in healthcare. In particular, attention has been paid to the political-organisational dimensions of accessibility and to the role of administrative and functional zoning in health care planning, demonstrating that such tools tend to produce simplistic representations of service availability and to oversimplify the territorial complexity of access to health care.

This chapter returns to the theme of inland areas to empirically explore the territorial (*place-based*), relational and community-based nature of access to health care services in a peripheral context (Biggeri and Ferrannini, 2014). The chapter also builds on the assumption that the processes of state withdrawal and the strengthening of horizontal subsidiarity and local welfare systems have a disproportionate impact on low-density areas compared to urban areas (Carrosio and Osti, 2020). Within this framework, the aim is to investigate, through participatory research, how access to health care services manifests itself and is supported and facilitated at the local level.

Firstly, the following discussion responds to the call from the literature on the geography of health care, to adopt multidimensional approaches to the study of health care accessibility, combining “multiple ways of characterising and understanding places, including residents’ accounts, systematic observation and objective measures relating to the location and spatial accessibility of resources” (Cummins et al., 2007, p.1830). The chapter adopts an approach based on the triangulation between quantitative and qualitative results, bringing into dialogue the critical accessibility issues emerging from the spatial analyses conducted in the previous chapters with the findings arising from participatory research.

Secondly, the chapter focuses on the community dimensions of access to health care (Rosenberg, 1988; Skinner and Power, 2011; Biggeri and Ferrannini, 2014), exploring the role of Third Sector Organisations (TSOs) in the provision of health and social care services, as well as their potential and the challenges they face in ensuring service continuity. From this perspective, this study is part of the strand of the international literature known as “health geography of

voluntarism” (Skinner and Power, 2011), as well as within the framework of the Italian debate on the state of local welfare in inland areas (Carrosio and Osti, 2020).

In these contexts, the involvement of civil society organisations in the planning and delivery of welfare services is marked by tensions between, on the one hand, the recognition of their role in identifying local needs and developing locally rooted responses, and, on the other hand, the risk that such involvement may be interpreted solely as a means of compensating for reduced public spending in the face of growing needs. As highlighted in both international and national literature, these organisations are currently undergoing significant transformations, including the progressive ageing of the volunteer base and difficulties in generational renewal and these phenomena are particularly evident in rural and mountain contexts (Joseph and Skinner, 2012; Colibaba et al., 2021; Skinner, 2026). These dynamics raise significant questions regarding the future of health care volunteering, the territorial sustainability of local welfare systems, and the ways in which access to health care services is guaranteed in peripheral areas.

The research questions are as follows: What critical issues does the community face in accessing public health care, with particular reference to the accessibility of primary and hospital care analysed at a regional level in the previous chapters? What social and health care services are currently offered by TSOs in the study area? What are the main needs expressed by these organisations regarding the provision of their services? To what extent is the evidence emerging from the international literature on the health geography of voluntarism applicable and informative in the context under analysis?

In addressing these questions, this chapter presents the findings of a case study conducted through a participatory research process involving TSOs operating in the health and social care sector within municipalities classified as inland areas and recipients of SNAI funding within the Metropolitan City of Florence.

These municipalities, together with the inland areas of the Province of Prato, form part of the so-called “*Area Interna Mugello, Valdarno and Valdisieve, Val di Bisenzio*”. However, the research focuses exclusively on the municipalities of the Metropolitan City of Florence, based on an analysis of the administrative and functional geography of the territory and the evidence emerging from the previous chapters regarding the organisation and distribution of health care services and hospital mobility flows. These are, in fact, territories located on the regional border with Emilia-Romagna, where critical conditions have been identified in estimates of accessibility to primary care and hospital care, characterised by significant demographic ageing and, in some cases, high rates of health care mobility outside the administrative districts and outside the region.

Through dialogue with these stakeholders, the analysis reconstructs, on the one hand, the state of health care services in the area and, on the other, the concrete contribution of voluntary organisations to service provision.

The chapter is structured as follows. Section 5.2 presents the theoretical and regulatory background for the study. Section 5.3 introduces the territorial context of the research, describing its physical and social geography and the SNAI classification. Section 5.4 outlines the materials and methodological approach, which is based on a mixed-methods approach and on the triangulation of quantitative and qualitative analyses. This approach allows for integrating quantitative spatial patterns of accessibility with the perceptions of local stakeholders on local needs and critical accessibility issues (Biggeri and Ferrannini, 2014; Biggeri et al., 2018; Biggeri and Ciani, 2019). Section 5.5 presents the main results, whilst Section 5.6 discusses the results and policy implications related to the potential use of the “*Health Community Lab*” (HCL, Biggeri et al., 2025) tool for engaging civil society organisations in social innovation processes within the health and social care sector. Section 5.7 provides the conclusions.

5.2 Conceptual background

This section introduces some elements from the international literature on the “health geography of voluntarism” (e.g. Skinner and Power, 2011), placing them in dialogue with the literature on local welfare (e.g. Andreotti et al., 2012; Section 5.2.1) and with some contextual elements concerning the involvement of civil society organisations in the Italian and Tuscan healthcare systems (Section 5.2.2).

It is important to emphasise that the study of the geography of volunteering and local welfare “must first acknowledge the heterogeneity of what is often interchangeably called charitable sector, non-profit sector, social economy, third sector, voluntary sector, etc.” (Skinner and Fleuret, 2011, p. 34). However, the literature review suggests a certain convergence in the implications of the welfare state restructuring at the international level. In particular, the importance of analysing the sustainability of local welfare systems emerges, especially in rural and peripheral contexts characterised by demographic decline, an ageing population and an ageing volunteer base (Skinner, 2008; Skinner et al., 2026).

In light of these considerations and of the territorial context for this research, the literature review concludes with a presentation of the Italian literature on inland areas that has explicitly addressed the issue of the territorial sustainability of local welfare systems (Carrosio and Osti, 2020; Section 5.2.3).

5.2.1 *The geography of healthcare volunteering, local welfare and rural ageing: some insights from the international literature*

As briefly introduced in Chapter 2, among the developments that have influenced the shift from the geography of medical care to the geography of health care – and from a focus on geometric space to the territorial dimension of places – lies the emergence of that strand of literature known as “health geographies of voluntarism” and geographies of health care voluntarism (Skinner and Power, 2011).

This field of studies responds to the call for developing a geography of health care which adopts relational and territorial perspectives, analyses the role of social networks – in particular the decisive role of the family, peer groups and the community – in facilitating access to the health care services (Rosenberg, 1988; Cummins et al.; 2007) and integrates quantitative and qualitative methods (Cummins et al., 2007; McLafferty, 2020).

In a literature review entitled “Voluntarism, health and place: Bringing an emerging field into focus”, Skinner and Power (2011) trace the evolution of this field of study, highlighting that, in the face of the crisis of the welfare state, the initial focus on the social and cultural aspects of voluntary activity has progressively shifted to the study of the territorial implications of welfare restructuring processes and the so-called state withdrawal on the capacity of civil society organisations to respond to local needs, and on the sustainability of voluntarism (Milligan and Conradson, 2006; Skinner, 2008; Skinner and Power, 2011; Skinner et al., 2016; Power et al., 2021).

From this perspective, the literature on the geography of health care volunteering engages with the literature on local welfare systems.

The concept of local welfare refers to the growing involvement of local government and a variety of public, private and civil society actors in the design and delivery of welfare services, in accordance with “welfare mix” approaches (Andreotti et al., 2012). Andreotti, Mingione and Polizzi (2012) define local welfare systems as:

dynamic arrangements in which the specific local socio-economic and cultural conditions give rise to different needs of people and different mixes of formal and informal actors, public or not, involved in the provision of welfare resources. Local Welfare System is not to be considered as a simple rescaling of welfare responsibilities to the local level, but as specific configurations of population needs and welfare providers and resources emerging at the local levels. (Andreotti et al., 2012, p. 1925; Andreotti and Mingione, 2016)

The promotion of local welfare takes place under the recognition that local actors are better placed to identify the needs of communities and to promote responses to the specific challenges characterising local contexts (Biggeri and Ferrannini, 2014).

At the same time, however, the promotion of local welfare is part of a broader process welfare state restructuring, in which the decentralisation of responsibilities is often driven by the need to contain public spending compared to traditional universalist models.

In this sense, local welfare is subject to a structural tension: on the one hand, the need to mobilise additional resources to meet growing social needs; on the other, the pressure to reduce public intervention and delegate functions to the local level and to civil society organisations (Andreotti and Mingione, 2019).

Therefore, while subsidiarity may foster forms of local participation and social innovation, it also implies a more differentiated structure of opportunities across territories, with the risk of producing or reproducing territorial inequalities in access to services and undermining the universalist provision of welfare services (Andreotti et al., 2022).

In this context, the geographical literature has begun to critically question the idea that voluntary organisations and volunteers can compensate for the fiscal crisis of contemporary healthcare systems “while at the same time fostering civic responsibility and engagement in the provision of home and community care” (Skinner and Fleuret, 2011, p. 34; Milligan and Conradson, 2006). In other words, by drawing attention to the territorial implications of the restructuring of public services, this literature has questioned the actual capacity and appropriateness of assigning an increasing share of responsibility to the voluntary sector in the direct provision of health and social care services.

Consequently, critical analyses of the political economy of volunteering, as well as the study of the roles and responsibilities of voluntary organisations within local welfare systems, have gained increasing prominence in the geographical literature.

One particularly significant issue concerns the place embeddedness of voluntary work (Skinner and Fleuret, 2011). Several studies have highlighted how this dimension takes on particular significance in rural and peripheral contexts, where factors of structural disadvantage – such as a lack of services and employment opportunities – are often intertwined with factors of social vulnerability, such as a pronounced ageing of the population (e.g. Skinner, 2008; Skinner and Fleuret, 2011; Colibaba et al., 2021b).

In this context, the theme of “rural older voluntarism” has emerged, transcending the study of health geography and highlighting that whilst volunteering represents a fundamental resource for supporting rural and peripheral communities, the ageing of the volunteer population makes the provision of public services highly precarious, with the risk of exacerbating existing territorial inequalities (Skinner, 2008; Joseph and Skinner, 2012; Colibaba and Skinner, 2019; Colibaba et al., 2021a; Colibaba et al., 2021b; Skinner, 2026).

In summary, the literature highlights that local welfare, while offering an opportunity for the *place-based* identification of the needs of individuals and communities and for social innovation,

simultaneously increases the dependence of social protection on local resources and citizen mobilisation. In local contexts characterised by an ageing population and the fragility of voluntary networks, such dynamics can make the sustainability of welfare services more precarious and raise significant questions regarding the erosion of citizenship rights and the widening of spatial inequalities (Andreotti et al., 2012; Andreotti and Mingione, 2016).

Despite the significance of these issues, the geography of healthcare volunteering has remained predominantly the domain of Anglo-Saxon research, with some contributions emerging mainly in contexts such as Canada, Ireland and New Zealand (Skinner and Fleuret, 2011). The relative scarcity of research on the geographical dimensions of volunteering in Western European countries is surprising given that in countries such as France, Germany and Italy there is a large body of social science research dedicated to the voluntary sector (Skinner and Fleuret, 2011).

In the Italian context, some reflections on these dynamics have emerged primarily within the literature on inland areas, which has explicitly addressed the issue of the territorial sustainability of local welfare in rural and inland areas subject to depopulation, demographic ageing and territorial marginalisation processes (Carrosio and Osti, 2020). Before introducing this literature, however, it is useful to introduce some contextual elements relating to the role of volunteering in the Italian and Tuscan health care systems.

5.2.2 *The role of volunteering and the Third Sector in the Italian and Tuscan health care systems*

In the Italian context, civil society organisations have gained increasing prominence within the National Health Service since the 1980s, progressively consolidating their role as service providers (Boccacin, 2023). This process was reinforced in the 1990s by reforms inspired by the principles of New Public Management (NPM) – in particular privatisation and regionalisation – which helped to define a welfare mix model in which civil society organisations were recognised primarily as service providers.

This approach, however, overlooked their role as “places of participation par excellence” (Altieri, 2004, p. 401), failing to provide for genuine involvement in public governance and not fully valuing their representative function. In this context, the Third Sector risked seeing its ability to act as a representative of community needs being compromised, with involvement that appears to have taken place “in a residual, supplementary and substitute manner with respect to the shortcomings of the public body” (Boccacin, 2023, p. 95).

From the 2000s onwards, however, public administrations launched initiatives aimed at encouraging the involvement of civil society organisations no longer merely as service providers, but also as actors in the governance processes of health care policies (Boccacin, 2023). In this context, the enactment of the Third Sector Code (Legislative Decree No. 11 of 3 July 2017, “*Codice del Terzo Settore*”) – the so-called Third Sector Reform (“*Riforma del Terzo Settore*”) – represented a crucial regulatory step, as it institutionalised tools and procedures aimed at recognising a more structured role for civil society organisations within the National Health Service.

The Code first defines which organisations and associations fall within the category of entities formally recognised as Third Sector Organisations (TSOs):

Third Sector Organisations include voluntary organisations, social promotion associations, philanthropic organisations, social enterprises, including social cooperatives, associative networks, mutual aid societies, associations (whether recognised or unrecognised), foundations and other private entities distinct from

companies, established for the pursuit, on a non-profit basis, of civic, solidarity and social utility purposes, through the exclusive or principal conduct of one or more activities of general interest, carried out in the form of voluntary action, or through the free provision of money, goods or services, or through mutuality or the production or exchange of goods or services, and registered in the National Single Register of the Third Sector. (Art. 4, Legislative Decree 11/2017)

The decree also established the Single National Register of the Third Sector (“*Registro Unico Nazionale del Terzo Settore*”, RUNTS) with the aim of creating greater transparency and clarity and replacing the previous system of registering organisations, which was characterised by a multitude of registers managed by the Regions and Autonomous Provinces.

Activities of general interest that may be carried out by TSOs include social care interventions and services, health and social-health services, health promotion activities, scientific research of social interest, social housing and other activities aimed at meeting social, health, cultural or educational needs, as well as the promotion and protection of civil and social rights (Art. 5, Legislative Decree 11/2017).

The Code does not merely define the activities of general interest carried out by TSOs, but recognises

the value and social function of third sector organisations, associations, voluntary work, and the culture and practice of giving as expressions of participation, solidarity and pluralism (Art. 2, Legislative Decree 11/2017)

and introduces the tools of co-planning (co-programmazione) and co-design (co-progettazione) as means of actively involving TSOs in the planning and territorial organisation of interventions and services (Art. 55, Legislative Decree 11/2017).

When discussing the involvement of civil society organisations in the management of health and social care services, it is also useful to refer to the classification used by the National Institute of Statistics (ISTAT), although this is not directly comparable to that adopted in the RUNTS²⁴. The ISTAT classification, which is adopted in Census of Non-profit Organisations, allows to list the specific areas of intervention and single types of services provided by non-profit organisations operating in the health care sector (Bassi, 2025).

These non-profit organisations may provide services falling into four broad categories: general and rehabilitation hospital services, which include inpatient care, rehabilitation activities, outpatient services and day hospital services; non-hospital residential and semi-residential health care services, including the management of residential, or semi-residential facilities, as well as therapeutic-rehabilitative and socio-rehabilitative services; psychiatric services, both hospital-based and non-hospital-based; and finally, services falling under the category ‘Other health care services’. This category includes a diverse range of services, including home healthcare, outpatient care, emergency medical transport and patient transport services, donations of blood, organs, tissues and bone marrow, pet therapy interventions, reception and guidance services for accessing healthcare, health promotion initiatives and education on healthy lifestyles, as well as outreach teams and prevention services (Bassi, 2025).

²⁴ The ISTAT statistical register and the RUNTS are not directly comparable or overlapping, as they are based on different inclusion criteria. The former primarily adopts the criterion of non-profit status, while the latter is based on the legal definition introduced by the Third Sector Reform, which identifies TSOs in relation to the activities classified as being of ‘general interest’ (Bassi, 2025).

The Tuscany region has historically been among the Italian regions with the highest density of organisations active in the healthcare sector. The 2011 and 2021 Istat Censuses of Non-Profit Organisations reveal the following picture.

In 2011, in Tuscany there were 3.06 institutions per 10,000 inhabitants, compared to a national average of 1.83. In 2021, the regional ratio rose further to 3.65 organisations per 10,000 inhabitants, compared to an Italian average of 2.07.

Non-profit organisations operating in the healthcare sector are primarily involved in services related to the donation of blood, organs, tissues and bone marrow – which in 2011 accounted for 25.7% of activities at national level and 31.5% at regional level – and in patient transport services, accounting for 16.7% at national level and 21.7% at regional level (ISTAT, 2011).

From an organisational perspective, Tuscan non-profit organisations operating in the health care sector had, in both periods under consideration, a lower number of employees (absolute numbers) than the national average. In 2011, there were 22.8 employees per 10,000 inhabitants, compared with an Italian average of 28.6; in 2021, the regional value fell to 14.96 employees per 10,000 inhabitants, compared with a national average of 16.33.

At the same time, the non-profit healthcare sector in Tuscany is characterised by a heavy reliance on voluntary work. In 2011, there were 148.1 volunteers per 10,000 inhabitants in Tuscany, compared with a national average of 56.33. By 2021, the gap had widened further, with 206.9 volunteers per 10,000 inhabitants at regional level compared with 79.0 at national level.

This organisational model, heavily reliant on volunteering, does not, however, preclude certain organisations from being structural components of the Regional Health Service.

The law establishing the National Health Service (Law 833/1978) recognises, in Article 45, “the role of freely constituted voluntary associations whose purpose is to contribute to the achievement of the institutional aims of the National Health Service”.

Within the current regulatory framework, as outlined by the Third Sector Code, TSOs are recognised as key partners in the implementation of the principle of horizontal subsidiarity, that is, for forms of collaboration that go beyond the logic of mere profit in favour of shared governance (Bassi, 2023), and thus assume central roles in local welfare.

In particular, Article 57 of the Code regulates the possibility for public administrations to entrust the emergency medical transport service, as a matter of priority, to voluntary organisations through agreements. This model, legitimised by the case law of the Court of Justice of the European Union, is based on the premise that the contribution of volunteering makes it possible to reconcile social aims, objectives of solidarity and the efficiency of the public budget (Rossi, 2017).

In Tuscany, pursuant to Regional Law 40/2005, TSOs affiliated with the networks of the “*Misericordia*” and the “*Associazione Nazionale Pubbliche Assistenze*” (ANPAS) and the committees of the Italian Red Cross (“*Croce Rossa Italiana*”, CRI) form part of the Regional Health Service for the provision of emergency medical transport and other patient transport services – including transport for hospital discharges, transfers between facilities, specialist consultations and diagnostic tests.

Therefore, these organisations play an essential role in the health care system, ensuring safe transport for patients who, for clinical reasons or due to vulnerable circumstances, cannot use private transport. Regional guidelines also provide for the possibility of accessing patient transport services for those in socioeconomic need who meet specific criteria regarding income and distance from the place of treatment (that is, the so-called ‘socioeconomic vulnerability patient transport services’; Regione Toscana, 2025). These services are managed at local level by

the health districts and social care districts, namely the “*zone distretto*” and the “*Società della Salute*”.

The picture outlined above highlights the significant role that TSOs play in the health care system.

In the Italian context, however, the local sustainability of these welfare models have not yet been the subject of systematic analysis. Some interpretative insights emerge from the literature on inland areas, which proposes a model of the dynamics of local welfare sustainability in territories characterised by depopulation and demographic ageing (Carrosio and Osti, 2020). In line with the international literature on health care voluntarism and studies on local development (Biggeri and Ferrannini, 2014), this perspective suggests the importance of empirically exploring these dynamics in peripheral areas.

5.2.3 Local welfare in Italian inland areas

The Italian literature on inland areas has provided some insights the sustainability of local welfare systems in rural and peripheral contexts, highlighting that peripheral status is often accompanied by depopulation and an ageing processes, which raise significant questions about the opportunity for local actors to address social needs and the sustainability of local welfare networks (Carrosio, 2016; Carrosio and Osti, 2020).

In presenting these trends, it is useful to recall the definition and classification of Italian inland areas. Within the SNAI framework, inland areas are defined as “municipalities situated at a significant distance from centres providing essential services” (Barca et al., 2014). Their classification is based on the identification of municipalities designated as ‘Hubs’ and ‘Inter-municipal Hubs’, which jointly provide three types of essential services: emergency department of at least I Level DEA, a full range of secondary education provision, and the presence of a railway station classified as at least ‘Silver’ category. All other municipalities have been classified according to their distance, expressed as the average road travel time, from these hubs²⁵.

Based on these criteria, the classification updated to 2020 distinguishes four territorial categories: the ‘outlying’ municipalities, located within 27.7 minutes’ travel time; ‘intermediate’ inland areas, with distances between 27.7 and 40.9 minutes; ‘peripheral’ inland areas, between 40.9 and 66.9 minutes; and ‘ultra-peripheral’ inland areas, with average travel times exceeding 66.9 minutes (NUVAP 2022).

Underpinning the SNAI is the idea that the difficulties in accessing essential services experienced by residents of inland areas constitute significant obstacles to personal freedom and the ability to pursue individual and community well-being (Biggeri and Ferrannini, 2014; Barca et al., 2014; Barca 2015). From this perspective, poor access to essential services is interpreted as a matter of territorial equity, since similar needs correspond to different opportunities for access across territories (Barca, 2015). Furthermore, it is highlighted that peripheralisation fuels depopulation dynamics and triggers vicious circles of peripheralisation and marginalisation which, over time, tend to become self-perpetuating, further reducing the prospects for local development in these areas (Barca et al., 2014).

In this context, access to essential services is considered a “precondition for local development” (Barca et al., 2014, p. 19). However, the Strategy also recognises that territorial

²⁵ “For the update of the 2020 inland areas’ map, ISTAT calculated the average travel times from a municipality to the centroid of the relevant municipal or inter-municipal hub (with specific statistical treatment applied only in the case of Rome), taking into account journeys recorded during the week from 14 to 20 October 2019 in the three time slots of 7.30 am, 8.30 am and 9.30 am on all working days, when the majority of the population travels for work or study” (NUVAP, 2022, p. 12). The distance thresholds used to classify the municipalities were determined based on the median, third quartile and 95th percentile values of the distribution of the total estimated distances, (NUVAP 2022).

development trajectories and social needs cannot be understood solely through quantitative indicators, but require territorial analysis and the direct involvement of local communities in defining local development strategies and projects.

The SNAI is therefore configured as a “place-based” development policy (Barca 2009; Barca et al., 2014), aimed at moving beyond top-down approaches and promoting forms of multi-level and multi-stakeholder governance that enact the agency of local communities and promote the place embeddedness of development strategies.

The concept of agency highlights that people and communities are not passive subjects within their context, but they act deliberately to pursue objectives they value and to organise themselves in response to the challenges posed by the environment in which they live (Biggeri and Ferrannini, 2014).

From this perspective, the SNAI approach is consistent with the definition of local human development as a territorial process, deeply influenced by the institutional, social and community dynamics that characterise different contexts (Biggeri and Ferrannini, 2014).

When considering the dynamics of local welfare in Italian inland areas, it is nevertheless important to emphasise that, although the common defining factor is geographical distance from essential services, in inland areas this peripherality condition is often accompanied by other forms of demographic and socio-economic marginalisation.

Inland areas do indeed share certain demographic trends with the rest of the country, such as an ageing population and falling birth rates, but these trends are more pronounced in such contexts: the proportion of older people is higher and birth rates are lower than the Italian average (Table 5.1; Carrosio and Osti, 2020). In addition, inland areas are on average characterised by significant gaps in social indicators and infrastructure provision, with lower average incomes, lower levels of educational attainment, limited public transport coverage and reduced access to the digital network (Table 5.1; Carrosio and Osti, 2020).

Table 5.1 – Selected welfare indicators in the SNAI project areas and in Italy.

	<i>72 SNAI project areas</i>	<i>Italy</i>
Number of municipalities	1,205	8,057
Resident population	2,902,757	60,359,546
Average population per municipality	2,409	7,492
Population change % 2011–2019	–3.7	1.6
Natural growth rate	–6.4	–3.2
Migration rate	–1.6	1.1
Population aged 65 and over (%)	28.5	22.8
Population density (persons/km ²)	49	200
Foreign residents (%)	5.6	8.7
Taxable income per taxpayer	20,677	25,085
Rate of avoidable hospitalisation	610	544
Municipalities with early childhood services (%)	2.3	52.7
INValSI maths test scores in the third year of secondary school	37.3	41.3
Target response time (minutes between health care emergency calls and the actual arrival of first aid)	27.4	16
Population with broadband access above 20 MByte (%)	25.4	65

Source: Carrosio and Osti (2020, p. 16) based on the Technical Committee for Inland Areas and IFEL 2019 by.

Analysed in the light of the increasing localisation of Italian welfare, these factors help to highlight forms of territorial marginalisation that reinforce the challenges deriving from conditions of geographical peripherality (Carrosio, 2016; Carrosio and Osti, 2020).

In particular, low population density makes the organisation of local welfare and access to services particularly complex, both due to the difficulty of ensuring widespread provision at affordable cost and the limited ability to guarantee efficient public transport systems to the centres providing these services (Carrosio and Osti, 2020). At the same time, the large proportion of the elderly population determines increasing demands for health care and social care, which, however, are not always adequately met by local public services.

Investigations carried out by the Technical Committee for Inland Areas (*“Comitato Tecnico Aree Interne”*) have highlighted a number of critical issues regarding the provision of Essential Levels of Care (LEA) in Italian inland areas. These include excessive waiting times for the arrival of emergency vehicles in medical emergencies; the significant distance between citizens’ homes and both hospital clinics and primary care surgeries; the difficulties faced by general practitioners and primary care paediatricians in ensuring adequate coverage across very large areas; and problems in recruiting healthcare staff (Ministero della Salute, 2024).

Several studies have also highlighted that, in inland areas, hospitalisation rates among the elderly population frequently exceed national and regional averages. This phenomenon has been attributed to excessive recourse to hospital admission for conditions that could be managed at the local level, the weakness of home care, and the lack of continuity of care between hospital and local area (Ministry of Health 2024; ARS Toscana 2016; Carrosio, 2016).

The combination of these dynamics can lead, in certain territories – which may be defined as ‘vulnerable’ inland areas – to the emergence of what Carrosio and Osti (2020, pp. 18–20) have termed the ‘spiral of marginalisation’ or the ‘regressive spiral of welfare’ (Figure 5.1). In this model, factors such as depopulation, demographic ageing, the reduction in economic opportunities and the weakening of welfare networks tend to feed into one another, further reducing the thresholds of economic sustainability for the local provision of services and generating processes of progressive territorial marginalisation.

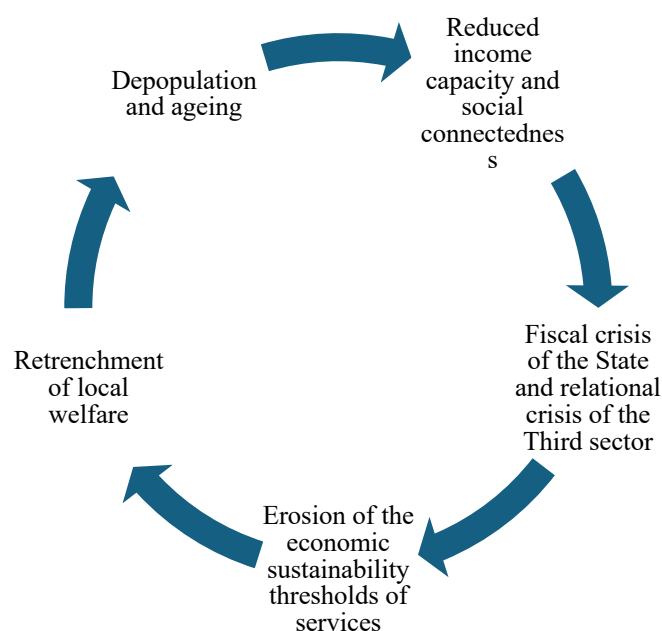


Figure 5.1 – The downward spiral of welfare in fragile rural areas

The authors emphasise, however, that these mechanisms do not follow identical patterns in all territorial contexts. In fact, trajectories of marginalisation may have different origins and develop in different ways depending on the demographic, economic and institutional characteristics of the territories (Ricci et al., 2019).

Nevertheless, the literature highlights how depopulation and demographic fragility – characterised by low birth rates and an ageing population – lower the cost-effectiveness thresholds for the provision of public and private services and contribute to increasing pressure on local welfare systems. These systems, in turn, struggle to meet local needs, due to the ageing workforce within TSOs and difficulties in generational renewal (Figure 5.1; Carrosio and Osti, 2020).

This model is consistent with findings from the international literature on the geography of health care voluntarism and, in particular, on the phenomenon of rural older voluntarism, which points to the fact that, in rural and peripheral contexts, the ageing of the population and of the volunteer base can affect the sustainability of local welfare systems and the capacity of civil society organisations to sustain access to services (Skinner, 2008; Joseph and Skinner, 2012; Colibaba and Skinner, 2019).

From this perspective, and in line with a place-based and people-centred approach to studying opportunities for access to services (Biggeri and Ferrannini, 2014), the analysis of the state of local welfare and the critical issues in accessing healthcare cannot be separated from a participatory assessment of local needs, understood both as structural needs and as social needs, as well as more general obstacles to empowerment, participation and the exercise of individual and collective agency (Biggeri et al., 2025).

In this regard, it is important to introduce the “*Health Community Lab*” (HCL) methodology, proposed by Biggeri et al. (2025) and tested, among other contexts, within the scope of this research and in the inland areas of Casentino, in the province of Arezzo. Based on an understanding of public participation drawn from the *capabilities* approach – that is, a conception of public participation as a process of individual and collective empowerment representing both a means to design more effective services and as an end in itself – and based on a place-based and people-centred perspective of local development, the HCL methodology promotes, through participatory practices, the involvement of various stakeholders (citizens, social and healthcare professionals, local authorities, TSOs, and public and private actors) in problem analysis, knowledge sharing and the co-creation of collective responses to local needs (Biggeri et al., 2025).

5.3 Context analysis

The territorial context for the research comprises the municipalities of the “*Unione dei Comuni del Mugello*” and the “*Unione dei Comuni Valdarno e Valdisieve*” within the Metropolitan City of Florence, which are classified as inland areas and form part of the so-called “*Area Interna Mugello, Valdarno and Valdisieve, Val di Bisenzio*” in the second SNAI programming cycle (2021–2027): Barberino di Mugello, Borgo San Lorenzo, Dicomano, Firenzuola, Londa, Marradi, Palazzuolo sul Senio, Rufina, San Godenzo, Scarperia e San Piero, Vicchio. The municipalities of the 2021–2027 Inland Area belonging the Province of Prato – Cantagallo, Vaiano and Vernio – are not included in the territorial context for the research.

The Inland Area was selected among the first 72 Inland Areas nationwide to benefit from SNAI funds for the 2014–2020 programming cycle and has been reconfirmed for the 2021–2027 programming period with some territorial changes. The changes compared to the first

programming period of the Territorial Cohesion Policy (2014–2020) concerned the exclusion from the Inland Area of the municipalities of Carmignano, Pontassieve, Pelago, Reggello and Rignano sull'Arno.

Table 5.2 highlights some of the morphological and territorial characteristics of the municipalities that constitute the study area.

From a territorial perspective, these municipalities are of medium to large size, with areas ranging from approximately 46 km² (Rufina) to approximately 270 km² (Firenzuola). Most of the municipalities fall into the 'rural areas' category according to the Eurostat classification (2018), while Barberino di Mugello, Borgo San Lorenzo and Rufina are identified as 'small towns and suburbs'. In terms of altitude, Barberino di Mugello, Borgo San Lorenzo, Dicomano, Rufina, Scarperia e San Piero and Vicchio are classified as 'inland hills', while the Apennine municipalities of Firenzuola, Marradi, Palazzuolo sul Senio, Londa and San Godenzo are classified as 'inland mountains'. Forest cover is very high throughout the area, with values exceeding 75% of the total area in all municipalities except Scarperia and San Piero (65%) and reaching peaks of close to 99% in the municipalities of Londa and San Godenzo (Table 5.2; Figure 5.2).

Table 5.2 – Geographical data for the municipalities in the study area.

Area	Total area (km ²)	Degree of urbanisation	Altitude range	Forest/wooded area (%)
Barberino di Mugello	133.33	Small towns and suburbs	Inland hills	77.08
Borgo San Lorenzo	146.36	Small towns and suburbs	Inland hills	78.23
Dicomano	61.63	Rural areas	Inland hills	86.59
Firenzuola	271.96	Rural areas	Inland mountains	84.83
Londa	59.29	Rural areas	Inland mountains	98.61
Marradi	154.05	Rural areas	Inland mountains	97.12
Palazzuolo sul Senio	109.10	Rural areas	Inland mountains	97.99
Rufina	45.88	Small towns and suburbs	Inland hills	93.23
San Godenzo	99.20	Rural areas	Inland mountains	98.64
Scarperia and San Piero	115.81	Rural areas	Inland hills	65.29
Vicchio	138.86	Rural areas	Inland hills	76.17

Source: Author's own elaboration based on NUVAP (2022), Eurostat (2018) and Istat (2025) data.

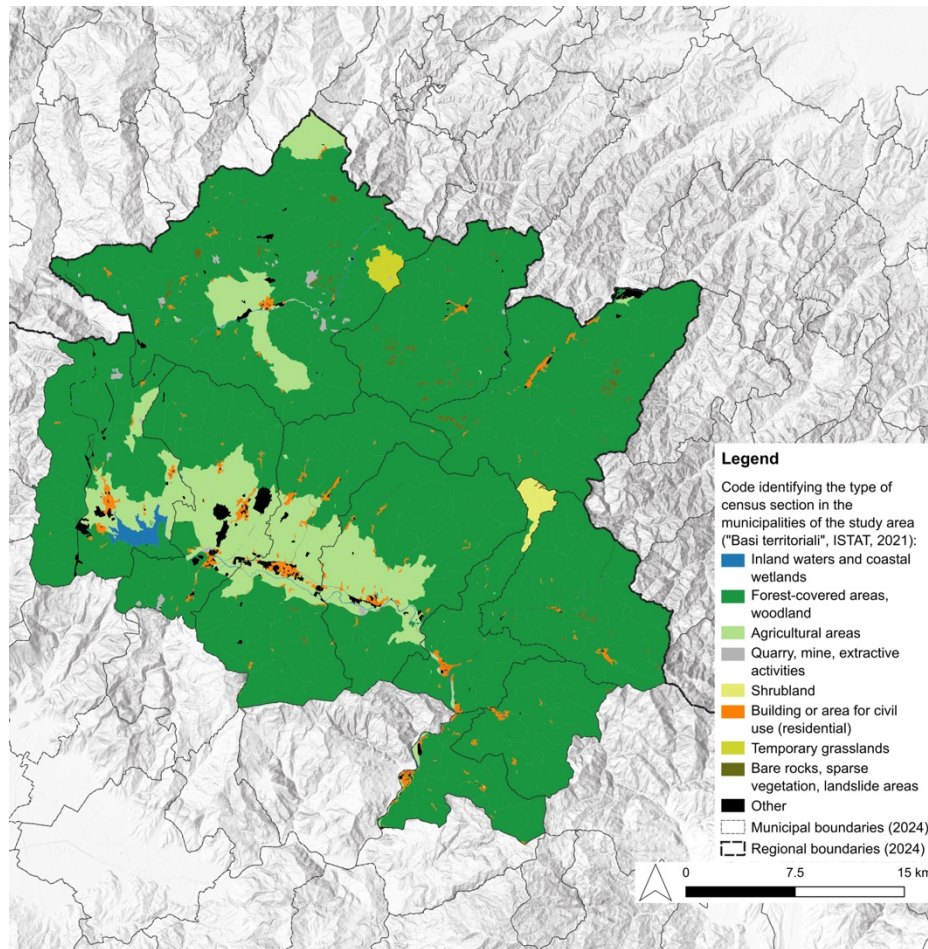


Figure 5.2 – Territorial configuration of the study area.

Source: Author's own elaboration based on ISTAT (2021) and ISTAT (2024) data.

In line with trends generally observed in inland areas, the demographic analysis (Table 5.3) shows, a more critical demographic picture than the regional average across all municipalities in the area, with high values for both the old-age index and the elderly dependency ratio.

The ageing index – which represents the ratio of the population aged 65 and over to the population aged between 0 and 14 – is high in all municipalities, with values ranging from a minimum of 203.52 in Barberino di Mugello to over 330 in Marradi (332.54) and Palazzuolo sul Senio (337.72). These last two municipalities have a number of elderly people more than three times that of young people, highlighting a much more pronounced ageing trend compared to the regional average (241.87). Particularly high values are also observed in other municipalities in the area, such as Firenzuola (307.76), San Godenzo (303.77), Londa (285.29) and Rufina (283.21).

The old-age dependency ratio – which measures the ratio of those aged 65 and over to the working-age population aged between 15 and 64 – also shows high values in several municipalities. Marradi (62.72) and Palazzuolo sul Senio (63.85) are well above the regional average (42.91), with over 60 residents aged 65 and over for every 100 people of working age. High values are also observed in Firenzuola (53.28) and San Godenzo (46.20), whilst Rufina (44.68) is slightly above the regional average. The other municipalities in the area – including Barberino di Mugello (39.46), Borgo San Lorenzo (42.23), Dicomano (40.15), Londa (41.14),

Scarperia e San Piero (41.10) and Vicchio (41.55) – obtain lower values, generally close to or slightly below the regional average.

Demographic trends over the last twenty years also reveal divergent patterns within the area (Table 5.3). Some municipalities show an increase in the resident population, such as Borgo San Lorenzo (+9.63%), Barberino di Mugello (+8.35%), Dicomano (+7.44%), Scarperia e San Piero (+6.24%) and Vicchio (+4.88%), whilst others record much smaller changes or stagnation, such as Londa (+0.11%) and Rufina (-0.53%). In the more peripheral and mountainous municipalities, however, particularly marked demographic decline is observed: Marradi recorded a population decrease of 19.16%, Palazzuolo sul Senio of 11.98%, San Godenzo of 10.14% and Firenzuola of 9.47%.

Table 5.3 – Demographic indicators for the study area

<i>Territory</i>	<i>Resident population</i>	<i>% change in population 2005–2025</i>	<i>Resident population aged 0–14 (%)</i>	<i>Resident population aged 65 and over (%)</i>	<i>Ageing index</i>	<i>Old-age dependency ratio</i>
Barberino di Mugello	10,953	8.35	12.21	24.84	203.52	39.46
Borgo San Lorenzo	18,292	9.63	12.06	26.11	216.50	42.23
Dicomano	5,586	7.44	11.01	25.49	231.54	40.15
Firenzuola	4,444	-9.47	10.15	31.23	307.76	53.28
Londa	1,834	0.11	9.27	26.44	285.29	41.14
Marradi	2,840	-19.16	10.39	34.54	332.54	62.72
Palazzuolo sul Senio	1,102	-11.98	10.34	34.94	337.72	63.85
Rufina	7,089	-0.53	9.83	27.85	283.21	44.68
San Godenzo	1,125	-10.14	9.42	28.62	303.77	46.20
Scarperia and San Piero	11,938	6.24	11.33	25.83	227.86	41.10
Vicchio	8,079	4.88	10.68	26.22	245.42	41.55
<i>Metropolitan City of Florence</i>	<i>989,460</i>	<i>3.94</i>	<i>11.25</i>	<i>26.31</i>	<i>233.83</i>	<i>42.15</i>
<i>Tuscany</i>	<i>3,660,834</i>	<i>2.31</i>	<i>11.04</i>	<i>26.71</i>	<i>241.87</i>	<i>42.91</i>

Source: Author’s own elaboration based on ISTAT (2025) data.

As regards the SNAI classification (NUVAP, 2022), of the eleven municipalities under study, Rufina is classified as an ‘outlying’ (average estimated travel time to the Bagno a Ripoli hub of 25.6 minutes) and the other municipalities are classified as intermediate inland areas (Bagno a Ripoli, Dicomano and Londa) and peripheral areas (Borgo San Lorenzo, Firenzuola, Marradi, Palazzuolo sul Senio, San Godenzo, Scarperia e San Piero, Vicchio) (Table 5.4; Figure 5.3). For the municipalities of Marradi and Palazzuolo sul Senio, for which high rates of out-of-region hospital mobility have already been highlighted (Chapter 4), the SNAI methodology identifies the reference centres in Emilia-Romagna: the municipality of Faenza for Marradi, with an estimated average travel time of 42.4 minutes, and the municipality Imola for Palazzuolo sul Senio, at an average travel time of 46.6 minutes (Regione Toscana, 2022). For the other municipality which, together with Marradi and Palazzuolo sul Senio, constitutes the area known as “*Alto Mugello*” – Firenzuola – the reference centre is identified in the municipality of Prato, for which an average travel time of 53.7 minutes is estimated, the highest among those estimated for the area. The municipality of Prato is also identified as the reference centre for the municipalities of Barberino di Mugello, Borgo San Lorenzo and Scarperia e San Piero, while the reference centre for the other five municipalities – Dicomano, Londa, Rufina, San Godenzo and Vicchio – is identified in Bagno a Ripoli (Table 5.4; Figure 5.3).

Table 5.4 – Territorial classification of the study area with reference to the 2020 classification of inland areas

Territory	Union of Municipalities	Inland Areas Label	Destination municipality	Average journey times
Barberino di Mugello	Mugello	Intermediate	Prato	31.4
Borgo San Lorenzo	Mugello	Peripheral	Prato	44.2
Dicomano	Mugello	Intermediate	Bagno a Ripoli	37.8
Firenzuola	Mugello	Peripheral	Prato	53.7
Londa	Valdarno and Valdisieve	Intermediate	Bagno a Ripoli	37.7
Marradi	Mugello	Peripheral	Faenza	42.4
Palazzuolo sul Senio	Mugello	Peripheral	Imola	46.6
Rufina	Valdarno and Valdisieve	Outlying	Bagno a Ripoli	25.6
San Godenzo	Valdarno and Valdisieve	Peripheral	Bagno a Ripoli	49.6
Scarperia and San Piero	Mugello	Peripheral	Prato	42.4
Vicchio	Mugello	Peripheral	Bagno a Ripoli	48.3

Source: Author's own elaboration based on Regione Toscana (2022) data.

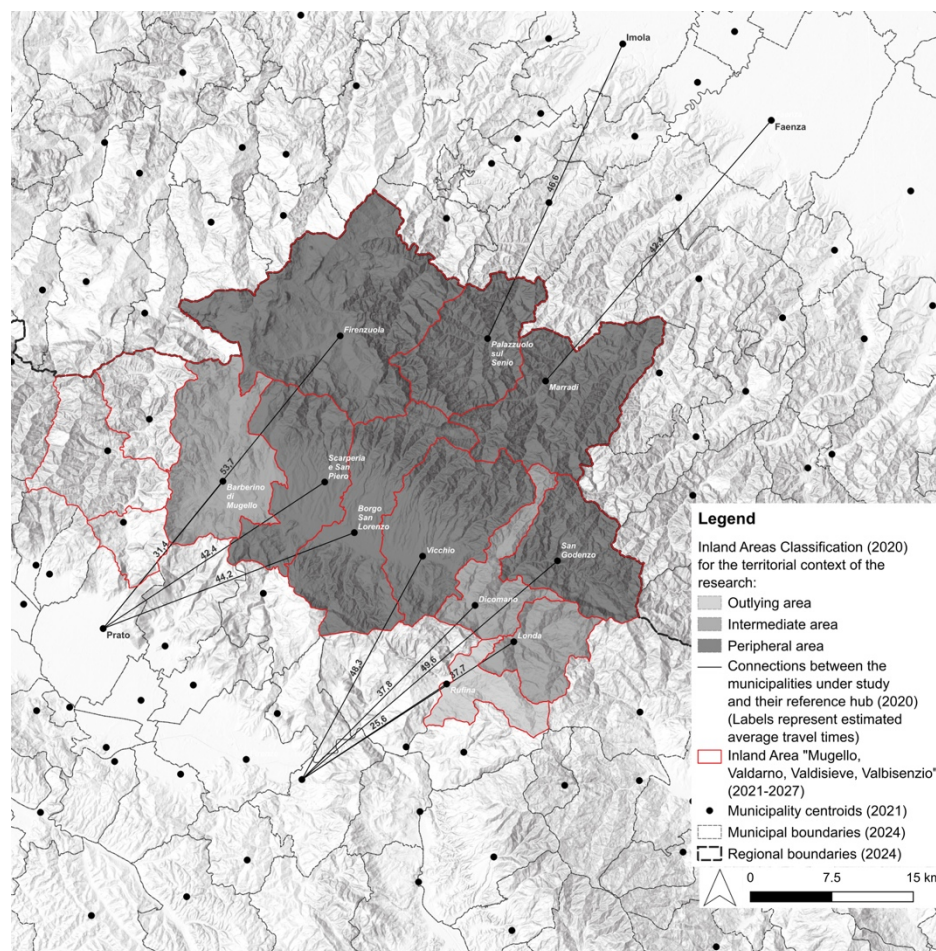


Figure 5.3 – Territorial overview of the study area with reference to the 2020 classification of inland areas.

Source: Author's own elaboration based on Tuscany Region data (Regione Toscana, 2022)

When analysing the role of distance in influencing access to health care services, it may also be useful to consider the ISTAT classification of “*Sistemi Locali del Lavoro*” [Local Labour Systems] (SLL; ISTAT, 2014). These are defined on the basis of commuting flows for study and work and group together municipalities characterised by “a significant degree of interdependence, which translates into practical interaction in the various aspects of the material life of the communities” (Dini and D’Orazio, 2022, p. 324).

The municipalities covered by the research belong to a total of four different Local Labour Systems, one of which is interregional, to which the municipality of Marradi belongs. The municipality of Palazzuolo sul Senio, which is the other municipality for which the SNAI reference centre is identified in the Emilia-Romagna region and which is characterised by a prevalence of hospital mobility towards extra-regional facilities, is instead included in the Firenzuola LLS. The other municipalities of the Mugello belong to the Borgo San Lorenzo SLL, whilst the municipalities of Londa and Rufina belong to the Florence SLL.

The identification of Local Labour Systems, together with the SNAI classification Inland Areas and the data on hospital mobility presented in Chapter 4, suggests that the functional geography of the municipalities of the “Alto Mugello” is poorly integrated with the rest of the area. This reveals a discontinuity between the administrative space and the actual spaces of life, work and access to services that characterise the daily practices of the population.

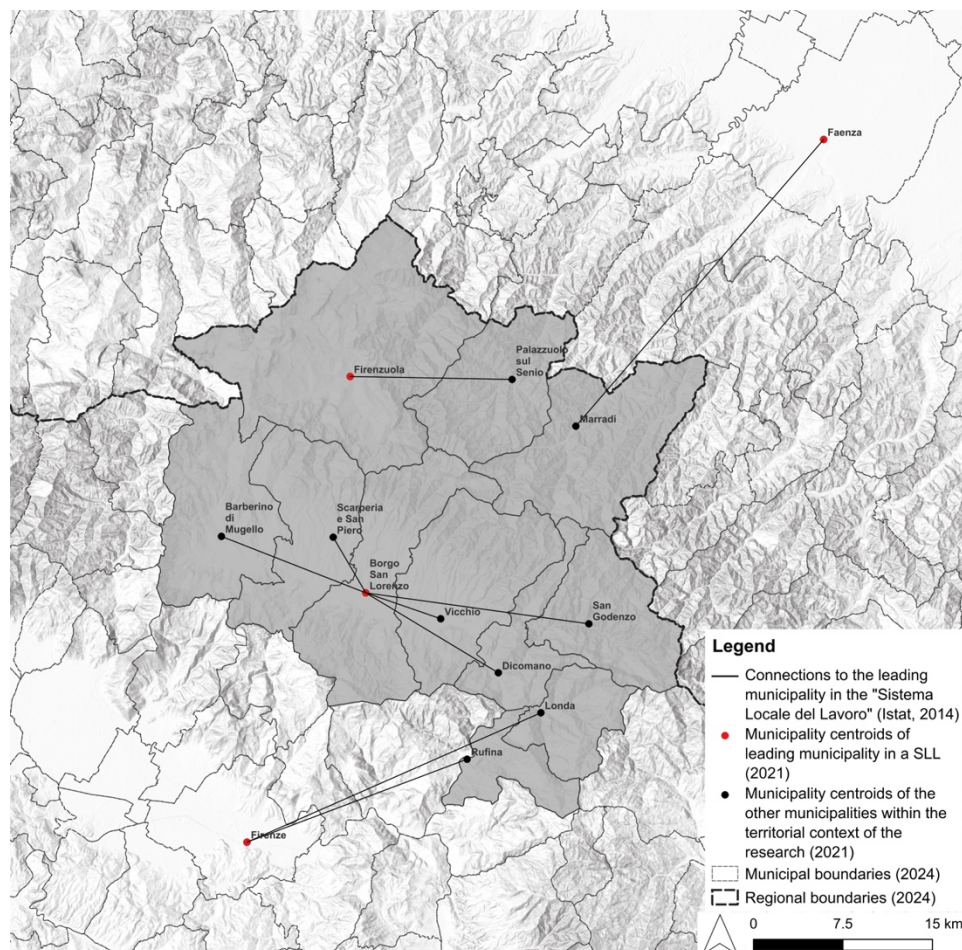


Figure 5.4 – Local Labour Systems (2011) for the municipalities in the study area.
Source: Author’s own elaboration based on ISTAT data (ISTAT, 2014).

5.4 Research materials and design

The research presented in this chapter forms part of a broader research programme developed within the context of the PNRR Project “Tuscany Health Ecosystem – Spoke 10 – Sub-Project 4”, coordinated by Professor Mario Biggeri and carried out in collaboration with the research group of the Department of Economics and Business at the University of Florence, the ARCO research centre of the “Fondazione PIN – Polo di Prato dell’Università di Firenze”, and a research group from the Department of Architecture at the University of Florence.

The project involved the mapping of social capital in the Inland Area “*Mugello, Valdarno and Valdisieve, Val di Bisenzio*” and the organisation of co-creation workshops with TSOs aimed at providing guidelines for the reorganisation of health and social care services in the Mugello area. TSOs operating in the health, socio-health and social sectors were involved in this process. For the purposes of this study, the analysis is limited to TSOs operating in the health and socio-health sectors.

From a methodological perspective, the research expressly conducted for the purposes of this study adopts a multi-phase, *mixed-methods* approach, integrating quantitative analysis, spatial analysis and participatory qualitative research. The aim is to assess, together with the TSOs mapping, the state of accessibility to health care services in the study area and to reconstruct TSOs’ role in the local health care system by triangulating various data sources.

The *mixed-methods* approach is structured around three main components:

- a mapping of the TSOs operating in the study area, carried out by integrating administrative sources and administering questionnaires;
- a spatial analysis of access to health care services, based on the analytical methods and results presented in the previous chapters (Chapters 3 and 4) and supplemented by an analysis of access to emergency medical transport services within the local emergency network;
- a qualitative component of participatory research, comprising semi-structured interviews and focus groups with representatives of local TSOs.

The integration of these three components allows the quantitative evidence presented in the previous chapters to be triangulated with the perceptions and experiences of local stakeholders. From this perspective, participatory research does not simply complement quantitative analysis, but enables the validation and interpretation of the evidence emerging from spatial analyses, enriching them with a focus on the relational, organisational and institutional dimensions of accessibility to health care services.

The following sections describe the various stages of the research in detail.

5.4.1 Mapping of Third Sector Organisations

The mapping of TSOs was carried out in two phases.

The first exploratory phase began in September 2023 in the Mugello area and aimed to construct an initial inventory of the TSOs operating in the health care and socio-health sectors and to conduct preliminary interviews. During this phase, an initial questionnaire was administered to the organisations identified as research target TSOs.

Subsequently, between March and May 2025, the mapping exercise was extended to the municipalities of the “*Area Interna Mugello, Valdarno, Valdisieve and Val di Bisenzio*”, which had been included in the 2014–2020 SNAI programming cycle (thus including the municipalities

of Cantagallo, Carmignano, Pelago, Pontassieve, Rignano sull'Arno, Reggello, Vaiano and Vernio). A second round of data collection was then carried out in collaboration with the ARCO research centre, involving the distribution of a similar questionnaire to TSOs operating in the health care and socio-health sector in the Inland area. This second phase made it possible to extend TSOs mapping and to collect comparable information across the different territories. For the purposes of this research, however, the analysis is limited to the results relating to the municipalities covered by the case study, that is, those located within the Metropolitan City of Florence.

The mapping of TSOs was carried out by integrating information from the Single National Register of the Third Sector (RUNTS) with the registers of voluntary organisations, social promotion associations, social cooperatives and social utility non-profit organisations ('*Organizzazioni Non Lucrative di Utilità Sociale*', ONLUS). Table 5.5 lists the data sources.

The *data cleaning* process involved various data verification and selection operations:

- removal of duplicates by comparing data based on the organisation's name, address and municipality;
- selection of organisations based on their sector of activity;
- removal of organisations due to inactivity by integrating information derived from desk research and telephone contacts with the associations.

The questionnaire was designed to collect the following information:

- basic details of the organisation (name, legal form, registered office, operational offices);
- availability of premises and functions at each location;
- quantitative data on the organisation's resources (number of volunteers, number of employees; economic budget);
- main organisation's activities.

Table 5.5 – Data sources for mapping the third sector

Register	Source	Date updated
Registro Unico Nazionale del Terzo Settore (RUNTS)	Ministero del Lavoro e delle Politiche Sociali	10 March 2025
Elenco Permanente delle Onlus Accreditate	Agenzia delle Entrate	31 December 2023
Registro Regionale delle Associazioni di Promozione Sociale	Regione Toscana	16 December 2020
Registro Regionale delle Organizzazioni di Volontariato	Regione Toscana	16 December 2020
Albo Regionale delle Cooperative Sociali	Regione Toscana	16 December 2020
Centrale Operativa Firenze-Prato ¹	Regione Toscana	30 April 2025
Allegato A Delibera della Giunta Regionale Toscana n. 1424 del 12 dicembre 2022	Regione Toscana	12 December 2022

¹The "*Centrale Operativa*" coordinates local emergency response operations. The "*Centrale Operativa Firenze-Prato*" coordinates services in the following areas: the Province of Florence (excluding the municipalities of Capraia e Limite, Cerreto Guidi, Certaldo, Castelfiorentino, Empoli, Fucecchio, Gambassi Terme, Montaione, Montelupo Fiorentino, Montespertoli and Vinci) and the Province of Prato.

Source: Author's own elaboration

The collection of information via questionnaire took place through a multi-stage procedure, based on the following steps:

- sending a request to complete the survey accompanied by a brief description of the research activity;
- sending a second reminder to complete the questionnaire;
- telephone contact with the organisations that had not completed the online questionnaire;

- search for alternative contacts and a further request to complete the survey;
- sending a third request to email addresses that had not opened the previous communications.

5.4.2 Accessibility of emergency services

The mapping of the TSOs managing emergency medical transport services (data from the “*Centrale Operativa Firenze–Prato*”, 2024; and “Annex A to Resolution No. 1424 of the Regional Council of Tuscany of 12 December 2022”) made it possible to incorporate into the research an aspect of hospital accessibility analysis that had not been explored in Chapter 4, namely the proximity between inhabited census sections and the operational bases of the TSOs managing emergency care transport services.

The availability of these data allows for a more detailed examination of a crucial aspect of accessibility to hospital care that could not be fully explored for the entire regional territory, as it is linked to the territorial organisation of the voluntary organisations affiliated with the networks of the “*Misericordia*”, the “*Associazione Nazionale Pubbliche Assistenze*” and the Italian Red Cross Committees. These organisations are frequently structured according to a multi-centre model, characterised by a central headquarters with coordination functions and a series of operational branches (‘operational sections’) distributed across the territory, which makes the adoption of mixed analytical methods and dialogue with local stakeholders central to the analysis.

Distances were estimated – as in the previous studies (chapters 3 and 4) – based on data from the Tuscany Region Road Network updated to 2022, with the point of origin centred on the operational headquarters of the TSOs from which emergency services depart and the points of destination centred on the centroids of inhabited census sections (ISTAT, 2021).

Data on the location of the operational offices of TSOs providing emergency transport services were validated through surveys and interviews, whilst the results of the proximity analysis were validated during the focus groups dedicated to exploring patient transport challenges.

5.4.3 Participatory research

The qualitative component of the research was developed through a participatory research process organised into several phases.

In the first phase, 24 semi-structured interviews were conducted with representatives of some of the mapped organisations (November 2023–March 2024), each lasting approximately one hour. The interviews aimed to identify the critical issues the community faces in accessing public health care, gather information on the main strengths and needs expressed by the TSO regarding the management of their activities, and assess the applicability to the local context of the evidence emerging from the international literature on the geography of health care voluntarism and rural volunteerism and ageing (Skinner and Fleuret, 2011).

Subsequently, following the distribution of the second questionnaire, two regional focus groups were organised, in Mugello and Val di Sieve respectively, which provided an opportunity to explore in greater depth one of the issues that had emerged as a priority during the preliminary interviews: the provision of patient transport services and their sustainability.

The two focus groups began with the presentation and discussion of a summary of the critical issues that had emerged during the preliminary phase of the research regarding emergency medical transport and general patient transport. During the discussion, the critical issues that had emerged were confirmed and discussed collectively, and a number of opinions and proposals regarding the future of the service were put forward. The sessions concluded with two

participatory mapping exercises of the routes to hospitals most frequently travelled by the participating voluntary organisations.

Table 5.6 presents the list of TSOs that participated in at least one of the various phases of the participatory research, comprising the two rounds of quantitative data collection (questionnaires), the cycle of preliminary interviews and the two territorial focus groups. In total, 28 TSOs participated in at least one of the research phases.

The semi-structured interviews were not recorded but documented through field notes taken during the meetings. The quotations included in the text therefore derive from the reconstruction of the interviewees' statements based on these notes. The focus groups, on the other hand, were recorded and subsequently transcribed in order to ensure greater accuracy in the reporting of the discussions.

All participants received verbal and written information regarding the study, its objective, the research design and privacy. Written informed consent was obtained prior to their inclusion in the study.

To ensure the confidentiality of the organisations involved in the research, data and quotations will be presented in anonymised form in the following sections. In particular, the Third Sector Organisations interviewed will be identified by sequential alphanumeric codes (e.g. TSO 1, TSO 2, etc.), avoiding the inclusion of any details that might allow the identification of individual organisations.

*Table 5.6 – Participation of target TSOs in the various stages of the research**

<i>TSOs' names</i>	<i>Questionnaire I</i>	<i>Preliminary interviews</i>	<i>Questionnaire II</i>	<i>Mugello Focus Group*</i>	<i>Valdisieve Focus Group</i>
Avis Comunale Barberino Di Mugello ODV	✓	✓	✓		
Pubblica Assistenza Maria Bouturlin Vedova Dini ODV	✓	✓	✓		
Confraternita di Misericordia Dei Ss. Sebastiano e Rocco ODV	✓	✓			
Avis Comunale Borgo San Lorenzo ODV	✓	✓	✓		
Avo Mugello ODV	✓	✓	✓		
Confraternita Misericordia Borgo San Lorenzo	✓	✓	✓	✓	
Cooperativa Sociale Libera Società Cooperativa	✓	✓	✓		
Gruppo Donatori Sangue Fratres Borgo San Lorenzo	✓	✓			
Gruppo Fratres Dicomano ODV	✓	✓	✓		
Confraternita di Misericordia Dicomano ODV		✓	✓		
CAT Cooperativa Sociale Onlus		✓	✓		
Fraternita Di Misericordia Di Firenzuola ODV			✓		
Avis Comunale Di Londa ODV			✓		
Confraternita di Misericordia Pontassieve - Sezione Di Londa					✓
Associazione di Protezione Civile Volontari Marradi			✓		
Confraternita di Misericordia Di Marradi ODV			✓	✓	
Confraternita Di Misericordia di Palazzuolo Sul Senio			✓		

Confraternita di Misericordia Rufina			✓		✓
Gruppo Donatori Sangue Fratres Rufina ODV			✓		
Croce Rossa Italiana Comitato di San Godenzo ODV			✓		✓
Avis Comunale Scarperia e San Piero ODV	✓	✓	✓		
Confraternita di Misericordia San Piero A Sieve ODV	✓	✓	✓	✓	
Confraternita di Misericordia Scarperia ODV	✓	✓	✓		
Gruppo Fratres Scarperia ODV	✓	✓			
Gruppo Donatori Sangue Fratres San Piero a Sieve ODV		✓			
Avis Comunale Vicchio ODV	✓	✓	✓		
Gruppo Donatori Sangue Fratres Vicchio ODV	✓	✓	✓		
Confraternita Di Misericordia Vicchio ODV		✓		✓	

*The two questionnaires and the focus group conducted with TSOs operating in the Mugello area also saw the participation of representatives from organisations not included in the mapping of health care or socio-health sectors, but active in other sectors. In particular, the following organisations took part in the focus group in the Mugello area: “*Progetto Accoglienza*”, “*Associazione Genitori del Mugello e Alto Mugello contro l’Emarginazione*”, “*Associazione La Casina*” and “*Federconsumatori*”. Furthermore, the focus group included multiple representatives from some organisations: three from the “*Misericordia di Borgo San Lorenzo*”, two from the “*Misericordia di Vicchio*” and two from the “*Misericordia di Marradi*”. The participation of organisations active in the social sector during the focus group held in Mugello is considered to have enriched the discussion, but the results presented in the following section refer solely to the healthcare and social-healthcare organisations identified.

Source: Author’s own elaboration.

5.5 Results

This section presents the research findings, organised into four paragraphs.

Subsection 5.5.1 presents the results of the TSOs mapping exercise, setting out some data on the organisations identified as targets during the mapping process – namely those operating in the health and social care sectors within the study area and having their registered or operational offices in the territory – and providing some data derived from the survey results.

Sub-section 5.5.2 examines the results emerging from the interviews regarding critical issues in accessing primary care, whilst Sub-section 5.5.3 focuses on difficulties in accessing hospital care. Both discussions link the perceptions of local stakeholders with the findings emerging from the quantitative analyses of accessibility.

Finally, Sub-section 5.5.4 offers an integrated analysis from the results of the interviews and the focus groups, exploring the role of TSOs in the management of health and social care services and the structural challenges that affect their operations.

5.5.1 Mapping of Third Sector Organisations

Thirty-eight TSOs operating in the health care and socio–health care sector within the study area were mapped, all of which are registered in the RUNTS register. Of these, 89.5% (34) are classified as voluntary organisations (“*Organizzazioni di Volontariato*”, ODV), 7.9% (3) as social enterprises, and the remaining 2.6% (1) as social promotion associations (“*Associazioni di Promozione Sociale*”, APS). The mapping was limited to including Type A social enterprises, i.e.

those whose main area of activity is the social and healthcare sector. As for the other organisations, the majority operate in the healthcare sector (32, accounting for 84% of the total), two in socio–health care sector and one in the civil protection sector.

Focusing on voluntary organisations, those included in the mapping include the “*Associazione Volontari Ospedalieri Mugello*” based in Borgo San Lorenzo, whose volunteers provide support and a listening ear to people in hospital wards, and two organisations working on mental health: the “*Unione Toscana per la Salute Mentale*” based in Rufina and the organisation “*Astolfo*” based in Borgo San Lorenzo. Of the remaining 31 voluntary organisations, 15 (44% of the total) are organisations affiliated with one of the three networks managing medical transport services, and 16 (47% of the total) with networks involved in promoting blood, organ and tissue donation in the healthcare sector (namely, “*AVIS*” and “*FRATRES*”) (Figure 5.5).

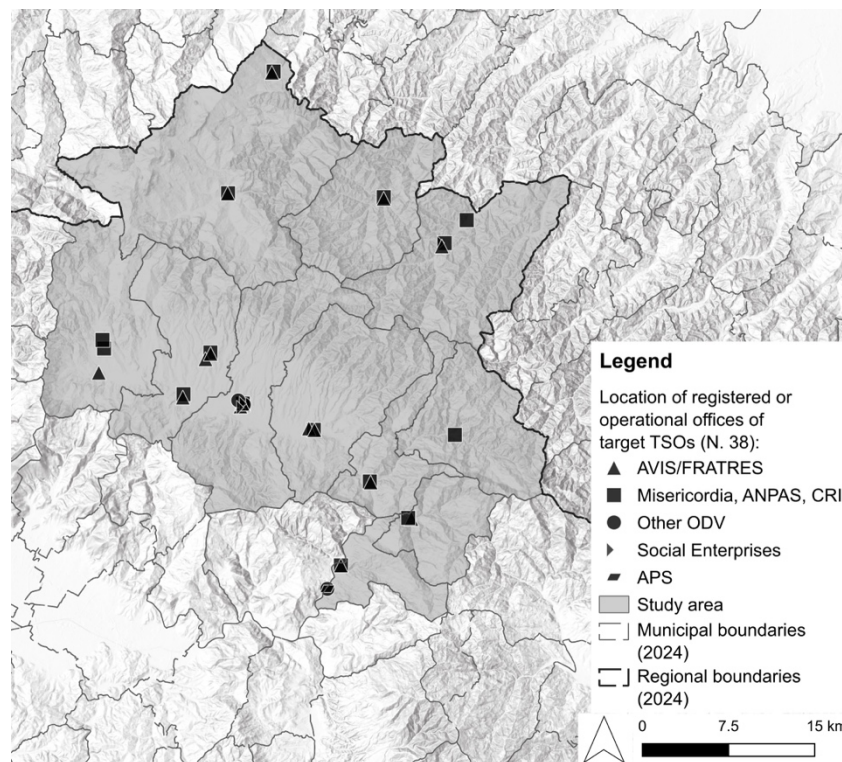


Figure 5.5 – Location of the registered or operational offices of target TSOs
Source: Author’s own elaboration

Of the 38 TSOs identified as research target organisations, 25 (66%) completed the questionnaire in at least one of the two phases (Figure 5.6). Of these, 48% (12) belong to networks managing medical transport services, 40% (10) to networks promoting the donation of blood, organs and tissues, and 12% (3) represent other types of organisations (“*AVO Mugello*”, “*Cooperativa CAT*”, “*Cooperativa Sociale Libera*”).

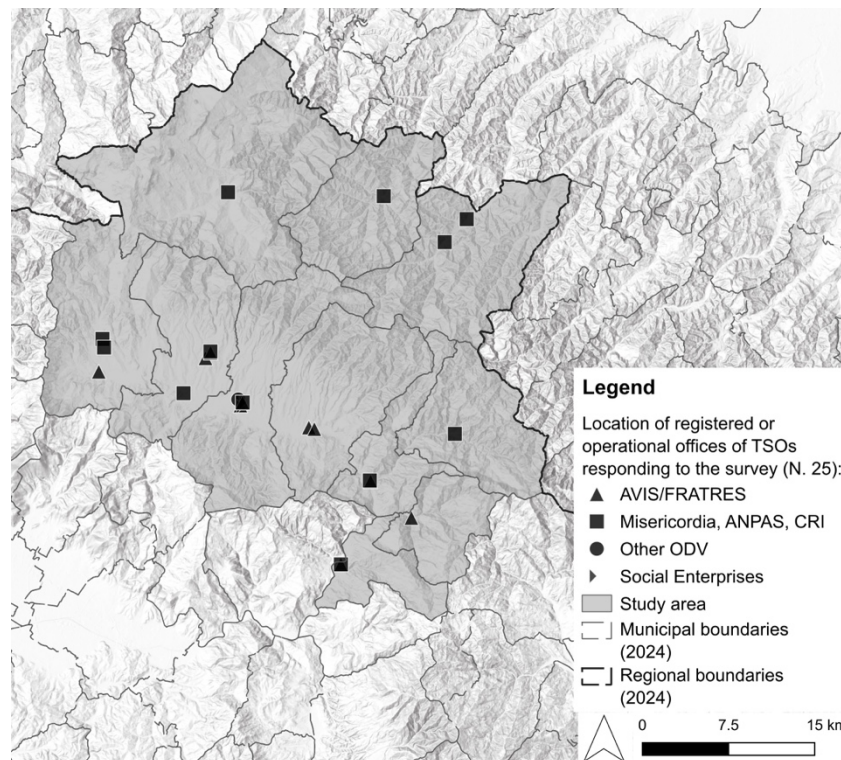


Figure 5.6 – Location of the registered or operational offices of the TSOs responding to the survey
Source: Author's own elaboration

All organisations affiliated with the “*Misericordia*”, “*ANPAS*” or the “*CRP*” (12, 48% of respondents) stated that they manage general patient transport and social patient transport services, whilst only some manage emergency medical transport services (9, 36% of respondents). In addition to promoting donations of blood, plasma, organs and tissues – an activity carried out by 40% of respondents – 32% of organisations stated that they provide healthcare and outpatient services, and 32% provide personal care and civil protection services.

Other activities include cultural and artistic initiatives, promoting the local area and helping disadvantaged people into work (12%), promoting healthy lifestyles and prevention (8%) and, to a lesser extent, activities related to care homes and the social inclusion of older people (4%) (Table 5.7).

Table 5.7 – Survey results: main activities carried out by the organisation (multiple answers possible)

Main activities carried out by the organisation	No. of responses (Total respondents 25)	%
Patient transport service	12	48.00
Social transport service	12	48.00
Donations of blood, plasma, organs and tissues	10	40.00
Emergency transport service	9	36.00
Health and outpatient services	9	32.00
Personal care services	8	32.00
Civil protection	8	32.00
Cultural and artistic activities	3	12.00
Promotion of the local area	3	12.00
Employment support for disadvantaged people	3	12.00

Social inclusion of people with disabilities	3	12.00
Promotion of healthy lifestyles, prevention	2	8.00
Care Homes	1	4.00
Semi-residential social and healthcare	1	4.00
Social inclusion of older people	1	4.00
Women's empowerment and gender equality	1	4.00

Source: Author's own elaboration.

With regard to human resources, 52% of respondents (13 out of 25 TSOs) stated that they had no employees, 32% (8) that they had between 1 and 10 employees, 8% (2 TSOs) that they had between 11 and 50 employees, and the remaining 8% (2 TSOs) over 100 employees (Figure 5.7). One of the Social Enterprises stated that it had no volunteers, 36% of TSOs (9) reported having between 1 and 10 volunteers, 24% (6 TSOs) reported having over 101 volunteers, 20% (5) between 50 and 100 volunteers, and 16% (4) reported having between 11 and 50 volunteers (Figure 5.8).

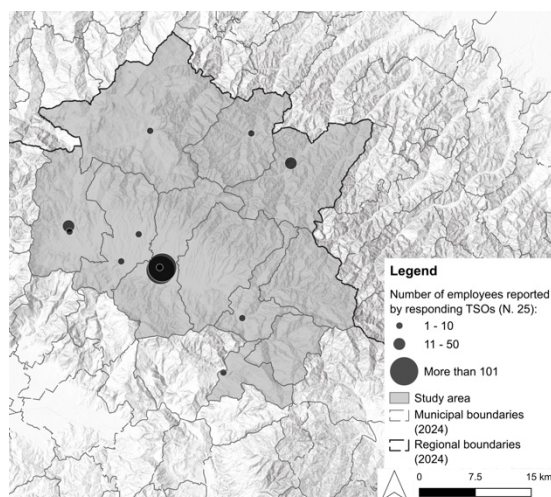


Figure 5.7 – Number of employees reported by responding TSOs (25 respondents)

Source: Author's own elaboration

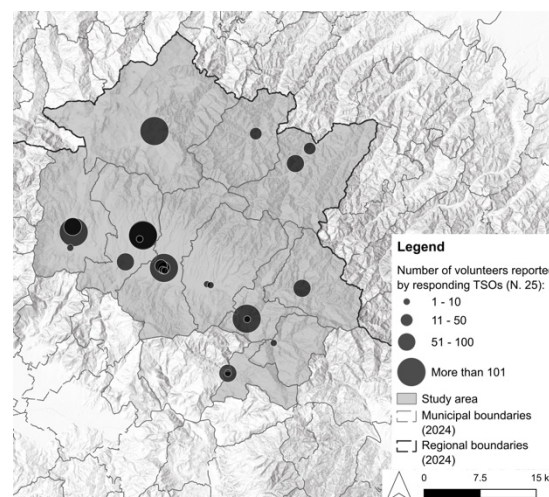


Figure 5.8 – Number of volunteers reported by responding TSOs (25 respondents)

Source: Author's own elaboration

As regards the total budget reported by the organisations that completed the questionnaire, 10 TSOs (45.45%) reported a budget over 220,000 euros, 9 organisations (40.91%) reported a budget of less than 10,000 euros, and the remainder fall into the intermediate categories: one TSO reported a budget of between 25,000 and 50,000 euros, one between 50,000 and 100,000 euros, and one between 100,000 and 150,000 euros (Figure 5.9). A detailed analysis of the organisational types reveals that all organisations involved in promoting blood and organ donation (“AVIS” and “FRATRES”) report a budget of less than 10,000 euros, confirming the predominantly voluntary and associative nature of their activities. Conversely, TSOs reporting higher budgets are concentrated among social enterprises and voluntary organisations involved in medical transport services that have their offices in the municipalities with higher population densities. In the case of the latter, however, the work relies heavily on volunteer staff, as shown by a comparison of Figure 5.9 and Figure 5.8.

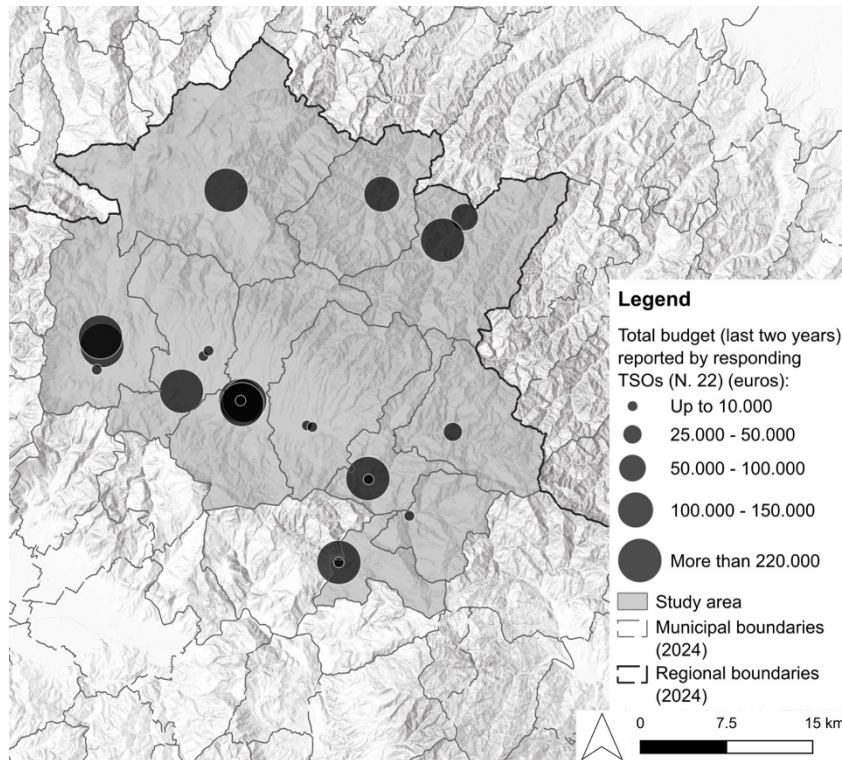


Figure 5.9 – Total budget (in the last two years) reported by responding TSOs (22 responses)

Source: Author's own elaboration

5.5.2 Critical issues regarding access to primary care

With regard to primary healthcare, the opinions gathered during the interviews confirm the widespread perception of a shortage of general practitioners and primary care paediatricians, which had already emerged from the analyses presented in Chapter 3. According to our estimates, only the “Barberino di Mugello” catchment area and the “Pelago, Pontassieve and Rufina” catchment area had, as of January 2024, a potential workload index for general practice below the national maximum of 1,500 patients per GP (population aged over 13) (Figure 5.10).

One interviewee mentioned that, given the shortage of health care provision in the area, the maximum number of patients per GP had been increased to 1,800 (see Chapter 3; Resolution No. 353 of 3 April 2023) and that this makes the workload of GPs unsustainable.

There aren't many GPs, the number of patients per doctor has increased, and the situation is becoming unsustainable. (TSO 1)

The shortage of GPs is felt particularly acutely in the hamlets and in the municipalities of the “Alto Mugello” (Firenzuola, Marradi and Palazzuolo sul Senio):

The lack of GPs in the 'Alto Mugello' is a major problem. There is a shortage of GPs and they are constantly changing. (TSO 2)

This shortfall has been highlighted by the results of spatial accessibility analyses. In some parts of Marradi and Palazzuolo sul Senio, no GP surgery can be reached within 20 minutes,

whilst for most of the area's scattered territory, the 2SFCA accessibility indicator²⁶ returns values of less than 0.5 GPs potentially accessible within 20 minutes. An interesting case is represented by the municipality of Firenzuola, where, as of January 2024, the potential caseload per GP was 2,000 patients, but the spatial accessibility indicator returns values generally better than those obtained for the other municipalities, thanks to the presence of five different general practice surgeries distributed across the municipal territory (Figure 5.11).

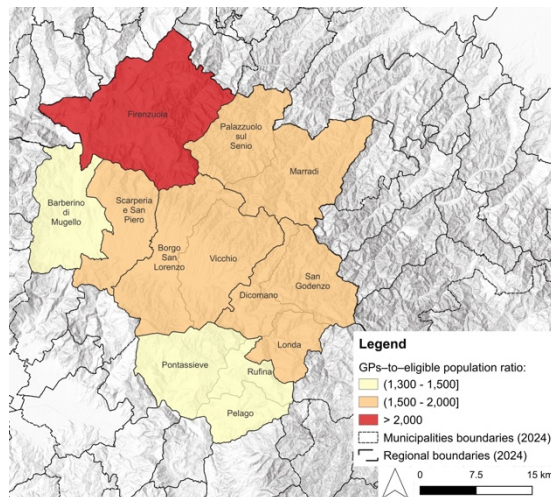


Figure 5.10 – GPs-to-eligible population ratio

Source: Author's own elaboration

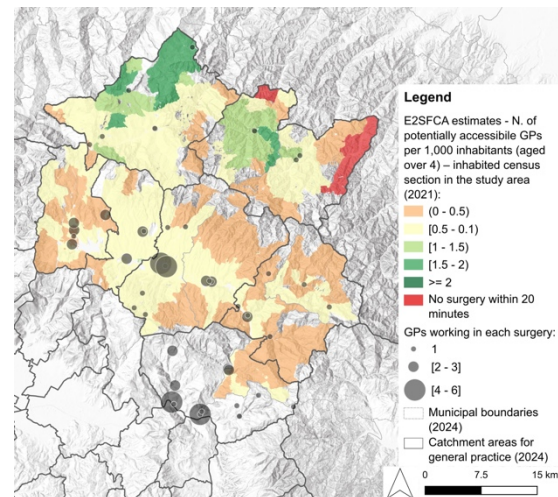


Figure 5.11 – Spatial accessibility indicator: general practice

Source: Author's own elaboration

Alongside the quantitative aspect of staff shortages, the interviews reveal concerns regarding the geographical distribution of essential services:

Whilst it may be understandable that specialist services are decentralised, basic services should be local. (TSO 3)

Respondents also highlight difficulties in accessing primary care paediatric surgeries, emphasising the vast geographical areas covered by the service:

The greatest shortage of basic services concerns primary care paediatricians. There are not enough paediatricians, and they cover areas that are too large. (TSO 4)

The catchment area for primary care paediatrics in Mugello includes all the municipalities covered by the research with the exception of Rufina (Figure 5.12). Beyond the widespread shortage of primary care paediatricians – which exceeds the optimal maximum ratio of 600 patients per paediatrician in Mugello and the maximum of 880 patients per paediatrician for the catchment area of “Pelago, Pontassieve and Rufina” (Figure 5.12) – analysis of spatial accessibility using the E2SFCA indicator shows that in some areas of the “Alto Mugello” and the municipalities of Londa and San Godenzo, no paediatric surgery is accessible within 20 minutes (Figure 5.13).

²⁶ This indicator measures the ratio of the number of physicians to the potentially eligible population (aged over 4) within areas defined by a 20-minute travel time, applying an E2SFCA model.

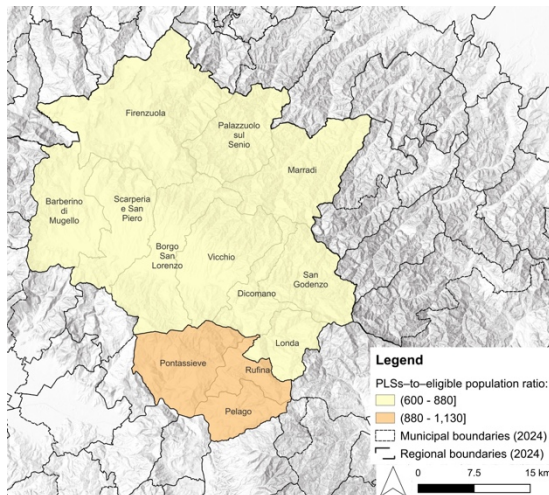


Figure 5.12 – PLSs-to-eligible population ratio

Source: Author's own elaboration

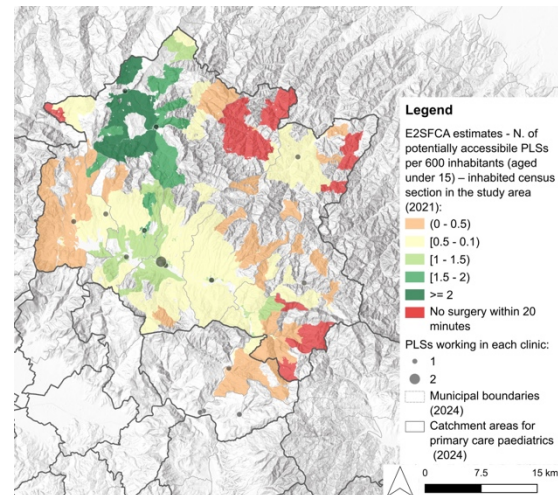


Figure 5.13 – Spatial accessibility indicator: primary care paediatrics

Source: Author's own elaboration

Several respondents also highlight the consequences of this shortage, which, according to them, result in a deterioration of the physician–patient relationship compared to the past and in increasing difficulties in accessing appointments and receiving ongoing care:

The problem is that there is no consultation with the doctor these days. There used to be a different relationship between doctor and patient, and it is not about professionalism but about the relationship. [...] They used to come to your home to see you. There has been a decline in that respect. (TSO 5)

The interviewees emphasise that GPs represent the first point of access to the health service, receiving patients without filters from other professionals and other levels of care (TSO 6, TSO 3, TSO 7). However, staff shortages and excessive workloads make it difficult to fulfil the role of filtering patients towards other levels of community and hospital care:

There is a shortage of GPs, and all community health care services are suffering as a result. (TSO 8)

In this context, even relatively minor health problems, in the absence of readily accessible alternatives, end up directing patients to AandE (TSO 3).

Finally, respondents highlight that the role of the GP has changed in recent years and that the care relationship is increasingly influenced by bureaucratic and administrative tasks (TSO 9, TSO 10). The interviewees refer in particular to growing workloads, the rising average age of doctors and administrative pressure:

General practitioners also face problems relating to staff shortages, workload and bureaucratic tasks. The number of patients is rising, the average age is increasing, and it is becoming increasingly difficult. (TSO 10)

According to some interviewees, these factors, together with the geographical extent of the catchment areas, contribute to making this area ‘unattractive to doctors’ (TSO 11).

5.5.3 Critical issues regarding access to hospital care

As regards hospital care, the interviewees report the importance of the Mugello Hospital located in Borgo San Lorenzo as a vital facility for the area, particularly in terms of the emergency department.

The Mugello Hospital is a point of reference; this is an emergency department which is a lifesaver and works well. There are some issues, but the first-aid service exists. (TSO 12)

However, respondents point out that, for certain portions of the valley, the Mugello Hospital is not the most easily accessible health care facility. According to the estimates presented in Chapter 4, for some census sections in Rufina, the nearest accessible facility is the “Santa Maria Annunziata” DEA I level department in Bagno a Ripoli, whilst for the municipality of Barberino di Mugello, the nearest hospitals are the “Santo Stefano Hospital” in Prato and the “Torregalli” Hospital in Florence (Figure 5.14).

Respondents highlight the difficulties associated with the distance to hospital facilities, particularly in the more peripheral areas and in the Alto Mugello, where the nearest points of reference are located in Emilia-Romagna.

Borgo San Lorenzo does not experience problems with distance from health care services. Municipalities such as Dicomano, Londa and Rufina feel distance most keenly. Then the ‘Alto Mugello’ is a world apart. The municipalities of the ‘Alto Mugello’ look to Romagna, Faenza and Forlì. (TSO 14)

Analyses of geographical accessibility show that for certain census sections of Marradi and Palazzuolo sul Senio, road travel times to the emergency department of the Mugello Hospital exceed 45 minutes, reaching 75 minutes in some cases, whilst for most of the areas of Firenzuola, Marradi, Palazzuolo sul Senio, Londa and San Godenzo, proximity estimates range between 30 and 45 minutes (Figure 5.15).

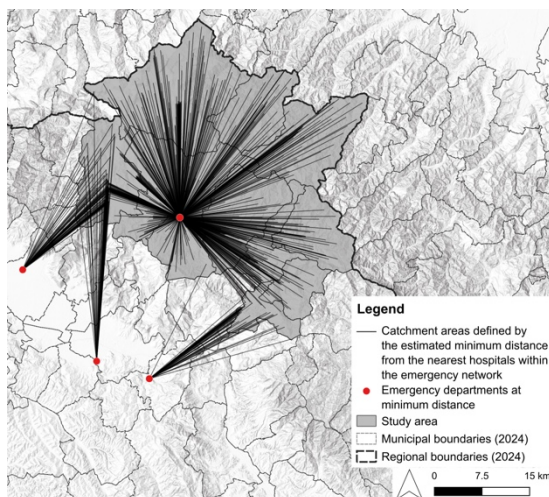


Figure 5.14 – Catchment areas defined by the minimum distance from the nearest emergency department.

Source: Author's own elaboration.

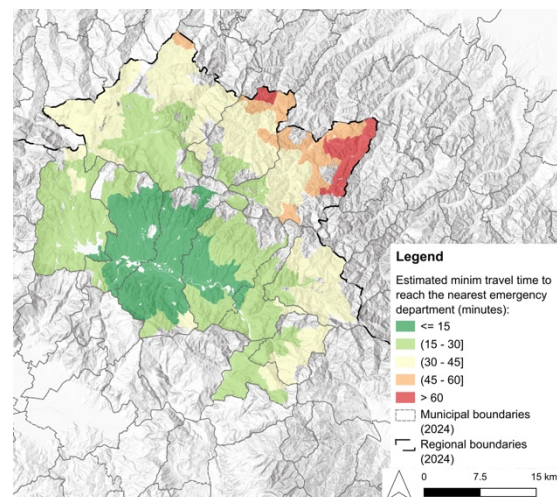


Figure 5.15 – Estimated minimum travel time to reach the nearest emergency department.

Source: Author's own elaboration.

The relevance of an emergency department within this area is confirmed by the estimated travel times to reach the nearest I Level DEA emergency department. Accessibility analyses show that, for almost the entire territory in the study area, travel times to the nearest regional DEA I exceed 30 minutes, whilst for most of the territory of the municipalities of Marradi and Palazzuolo sul Senio, travel times exceed 60 minutes, reaching values of over 75 minutes in some parts of the territory (Figure 5.17).

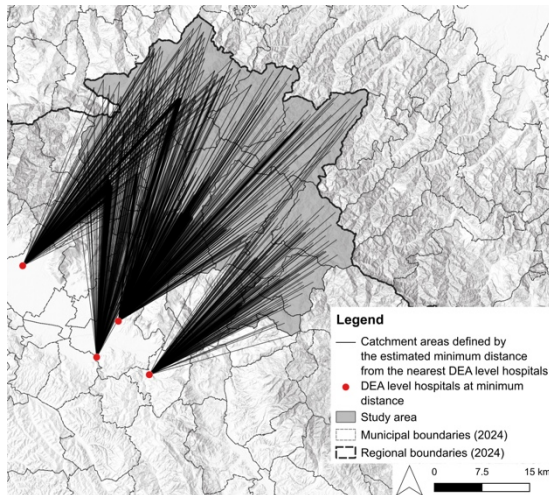


Figure 5.16 – Catchment areas defined by the minimum distance from the nearest DEA level emergency department.

Source: Author's own elaboration.

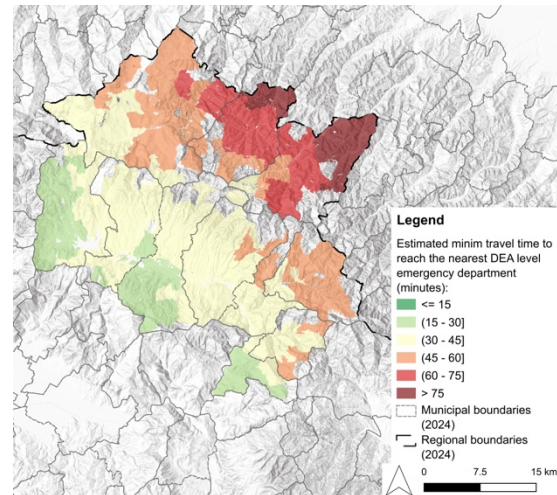


Figure 5.17 – Estimated minimum travel time to reach the nearest DEA level emergency department.

Source: Author's own elaboration.

However, the views of those interviewed on the relevance of the Mugello Hospital in meeting local healthcare needs are mixed. On the one hand, the professionalism of the staff and the central role of the facility are recognised:

For now, the hospital still plays a central role, particularly the emergency department. They are trying to expand some specialist clinics. More could be done, but it still provides numerous essential services. (TSO 3)

On the other hand, several interviewees highlighted issues relating to delays in the hospital's refurbishment, a gradual scaling back of hospital services and staff cuts (TSO 7; TSO 8):

They allocated funds for the refurbishment 10 years ago, but nothing has been done yet. (TSO 8)

The hospital has been due for renovation for some time, but there is still no sign of it, and this is a problem that affects the quality and quantity of the services provided. (TSO 1)

There used to be local hospitals which, whilst not centres of excellence, provided the initial response to the population's healthcare needs [...] The Mugello Hospital is experiencing a significant decline due to the centralisation of services in the cities, and this applies to both basic and specialist services [...] Apart from certain types of illnesses

requiring specific equipment and treatments, chronic and common illnesses should receive the same care in any hospital. (TSO 10)

Analysis of data on hospital mobility for inpatient admissions of Mugello residents between 2010 and 2023 shows a reduction in the proportion of admissions to the Mugello hospital, which fell from 46.85% in 2010 to 38.82% in 2023, and an increase in the percentage of admissions occurring outside the local area but within the “*Area Vasta Toscana Centro*” district, from 38.57% in 2010 to 45.53% in 2023 (Table 5.8).

Table 5.8 – Mobility in hospital admissions of Mugello residents (2010–2023)

<i>Year</i>	<i>% of admissions within the zone</i>	<i>% of admissions outside the zone (within the wider area)</i>	<i>% of admissions outside the wider area</i>	<i>% of admissions outside the region</i>
2010	46.85	38.57	1.52	13.06
2011	46.53	38.65	1.69	13.13
2012	45.85	40.09	1.22	12.85
2013	45.38	40.21	1.70	12.72
2014	45.22	40.17	1.65	12.95
2015	44.28	40.64	1.26	13.81
2016	45.28	40.14	1.53	13.05
2017	43.69	41.75	1.39	13.18
2018	44.42	40.55	1.48	13.56
2019	42.51	41.93	1.43	14.13
2020	44.00	42.52	1.51	11.97
2021	41.84	44.14	1.41	12.60
2022	40.46	44.01	1.67	13.86
2023	38.82	45.53	1.54	14.11

Source: Author’s own elaboration based on ARS Toscana data (2023)

Interviewees frequently attributed the downsizing of Mugello Hospital to centralisation processes of hospital services towards centres of excellence in the Florence area, in particular the Careggi University Hospital.

Respondents interpret this process in a nuanced way. On the one hand, it is recognised that the centralisation of certain services is necessary to ensure high quality standards in the treatment of complex conditions. On the other hand, several respondents highlight how such centralisation processes sometimes also affect services of medium or low complexity that could be provided at local hospitals.

Some forms of centralisation are necessary for the hospital system, but at the same time, healthcare legislation provides for intermediate centres to guarantee local services, which, however, have not been established. The centralisation in Florence is plain for all to see and places a burden on the public. (TSO 7)

For procedures of a certain importance, the right facilities and specialists are needed. However, certain functions that should be carried out in local hospitals need to be identified instead. (TSO 5)

The centralisation of services in the city is a problem because travelling to the city takes time and it is not easy to get around, especially for those without their own personal vehicles. (TSO 1)

Data on hospital admissions for inpatient care among residents of the eleven municipalities in the study area confirm the central role of the Hospital in Borgo San Lorenzo. In particular, a significant proportion of admissions among residents of the municipalities of Vicchio (50.29%), Scarperia and San Piero (50.52%), Borgo San Lorenzo (49.11%), San Godenzo (44.57%), Londa (40.34%) and Dicomano (39.88%) take place at this facility. In the municipalities of the “*Alto Mugello*” – Firenzuola (36.38%), Marradi (17.2%) and Palazzuolo sul Senio (16.24%) – the flow of patients to the hospital in Borgo San Lorenzo is more limited, whilst the flow from the municipalities of Marradi and Palazzuolo sul Senio to hospitals located in the metropolitan capital is negligible.

With the exception of these two cases, the data highlight the strong appeal of the other hospitals in the Metropolitan City. In particular, hospitals located in the municipality of Florence attract significant proportions of admissions from the various municipalities in the area, with values reaching 40.06% for residents of Rufina, 34.66% for Londa and 34.13% for Barberino di Mugello (Figure 5.18). The hospital in Bagno a Ripoli is also a significant point of reference, particularly for certain municipalities in the Val di Sieve, with figures amounting to 28.59% of admissions for residents of Rufina, 12.47% for Dicomano and around 8–10% for several other municipalities in the area (Figure 5.18).

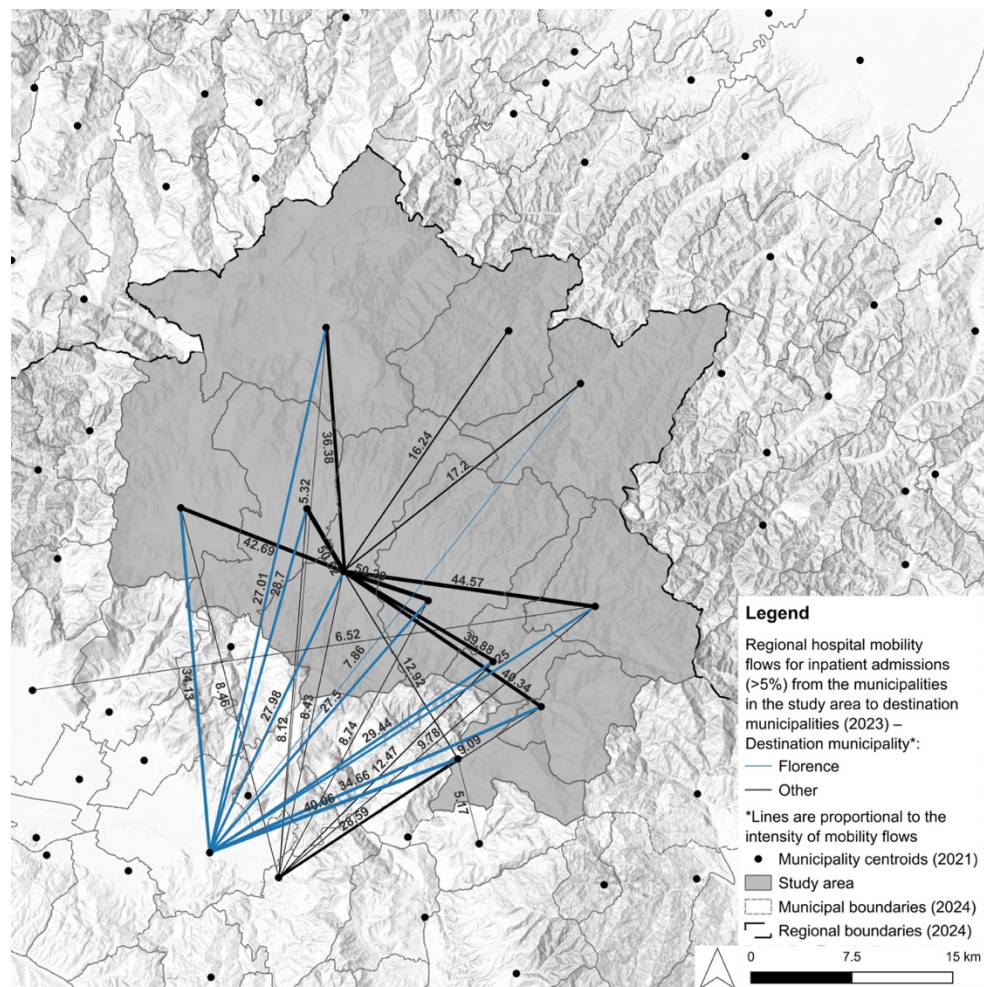


Figure 5.18 – Catchment areas for residents of the study area defined by acute inpatient hospital admission flows (flows defined as a percentage of total admissions exceeding 5%).

Source: Author's own elaboration

The opinions gathered during the interviews suggest that hospital mobility trends cannot be interpreted solely as a consequence of the downsizing of the Mugello Hospital. Several interviewees highlighted that these dynamics are part of a broader transformation of the Regional and National Healthcare Systems, and the consequent difficulties in recruiting health care staff, a reduction in the provision of certain specialist services, and progressively longer waiting lists.

In this context, hospital mobility emerges not only as a response to the availability of services in specific facilities, but also as a strategy to gain faster access to specialist consultations, diagnostic tests or surgical procedures.

The participatory mapping exercises conducted in the two territorial focus groups support this argument and the findings from the analysis of hospital mobility flows (Figure 5.19), while also highlighting extra-regional healthcare mobility flows, particularly towards facilities in Emilia-Romagna for the inhabitants in the municipalities of Marradi and Palazzuolo sul Senio in the “Alto Mugello” (Figure 5.19). These flows are not limited to the nearest facilities but extend over considerable distances.

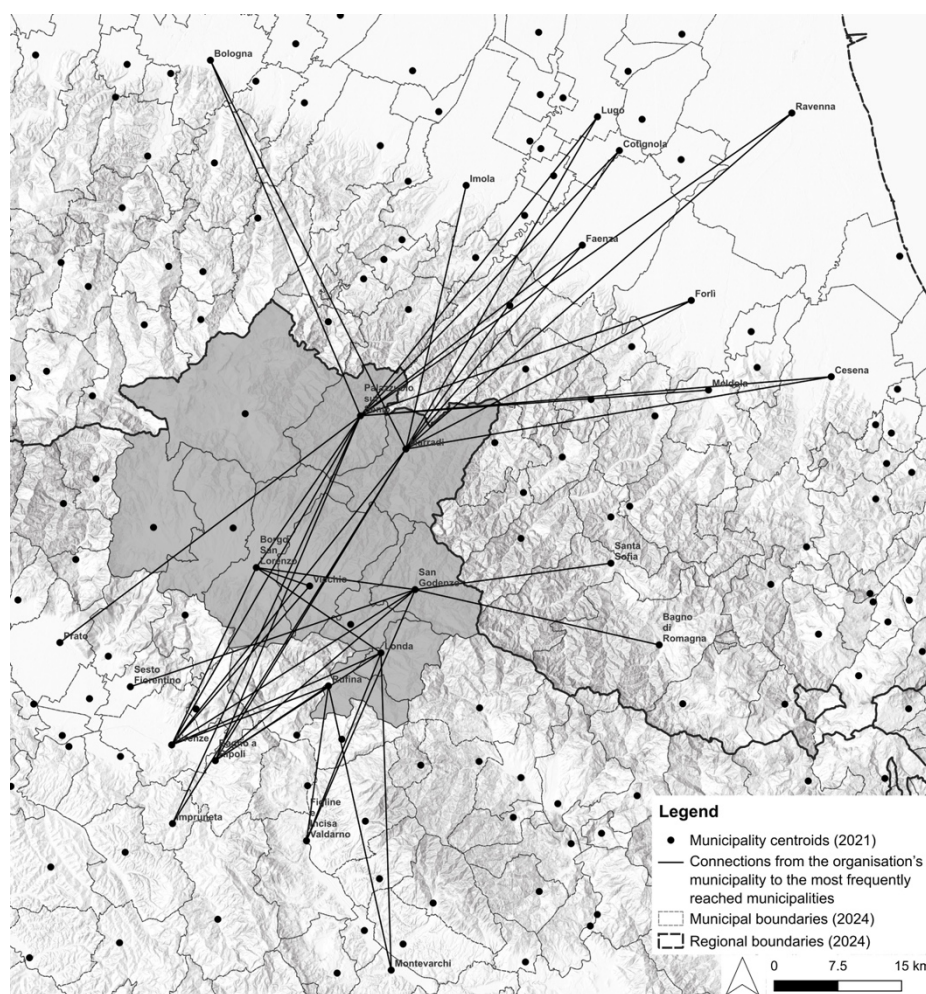


Figure 5.19 – Results of the participatory mapping

Source: Author's own elaboration.

During the interviews and focus groups, participants highlighted that the distance from hospitals and the demand for hospital care outside the area generated by these factors lead to an increasing demand for patient transport services, making the services provided by “*Misericordia*”, “*ANPAS*” and “*CRP*” increasingly important.

However, respondents highlighted some issues regarding access to these services. Firstly, they pointed to the high cost of transport borne by users and the difficulty in accessing free services, which are only guaranteed under specific conditions (specifically, for people on stretchers, those unable to walk, those undergoing dialysis or, generally, those with a medical prescription). It is also noted that free transport for cancer patients has ceased in January 2023, and that people face difficulties in accessing social transport services ‘for socio-economic vulnerability’, which is subject to specific requirements relating to income, family composition and distance from the place of treatment. A further critical issue concerns the need to book transport services well in advance: the growing demand for transport necessitates very strict scheduling, which creates difficulties for users, particularly when sudden needs arise (TSO 14).

Finally, regarding the territorial coverage of emergency care transport services, participants state that the area generally has good coverage (TSO 15), with the exception of certain areas of the “*Alto Mugello*” where emergencies necessarily require the deployment of helicopter rescue. An analysis of the proximity between the offices of TSOs providing emergency transport and inhabited census sections suggests general compliance with regional standards regarding response times (less than 8 minutes in urban areas and 20 minutes in rural areas), but highlights response times exceeding 20 minutes for almost the entire territory of Palazzuolo sul Senio and for certain parts of the territories of Firenzuola, Londa, Marradi and San Godenzo (Figure 5.20).

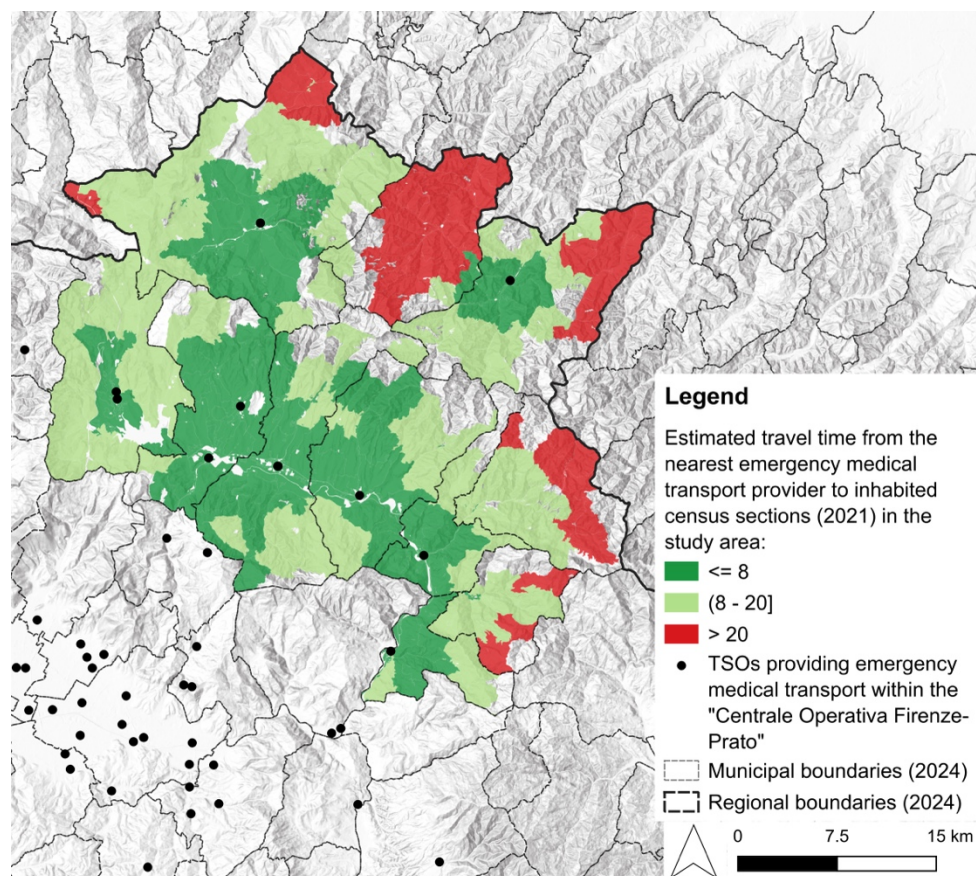


Figure 5.20 – Estimated minimum travel time between emergency transport bases of Third Sector Organisations and inhabited census sections

Source: Author's own elaboration.

5.5.4 ***Strengths, organisational limitations and sustainability of health and social care volunteering***

Interviewees frequently emphasised that their work is guided by principles of solidarity and the aim of supporting people in socially vulnerable situations and the local community, providing social and health care services that the public sector is not always able to deliver at a local level.

As regards the needs expressed by the interviewed organisations concerning the organisation of their services and the sustainability of volunteering, with the exception of those operating in the municipalities of Barberino di Mugello and Rufina, the main issue identified is the shortage of human resources. The interviewees highlight a gradual ageing of volunteers and the lack of a generational turnover.

In some contexts, this difficulty is explicitly linked to depopulation and the demographic structure of the area, characterised by an ageing population. Furthermore, according to the majority of research participants, the COVID-19 pandemic has accelerated the loss of volunteers, driving away the oldest and most vulnerable in particular.

1,100 inhabitants, 75% of whom are over 70. [...] of the 65 active volunteers we had five years ago, only 15 of us remain. (TSO 16)

I imagine that areas like Borgo San Lorenzo perhaps have more breathing space, but an area like ours in the 'Alto Mugello'... we're losing 50–60 people a year. We're down to 2,800 people... they're down to 1,100 people, more than half of whom are over 65. (TSO 17)

According to some interviewees, the decline in participation in volunteering has cultural aspects, relating to education to participation, volunteering and public life. However, in general, interviewees state that the decline in the appeal of volunteering is attributable to demographic trends and the increasing bureaucratisation and professionalisation of voluntary activities.

Organisations involved in promoting blood, bone marrow, organ and tissue donation emphasise in particular that the Third Sector Reform has led to an increase in the complexity of the administrative management of organisations. Managing procedures requires a great deal of technical expertise and time to be devoted to paperwork, with consequences for the Inland organisation of associations and the attractiveness of new volunteers.

At the same time, organisations involved in medical transport services highlight that regulatory and organisational changes to the regional emergency system have led to stricter training requirements for volunteers and that this professionalisation is discouraging voluntary engagement.

The regional emergency network is organised on several levels: it comprises first-aid ambulances (known as 'BRAVO'), nursing ambulances ('INDIA'), medicalised ambulances ('MIKE') and paramedic ambulances ('ALFA'), which are integrated and coordinated with one another and supported by the regional air ambulance service. The data contained in Annex 1 to Regional Council Decision No. 1424 of 2022 show that, in the area under study, there is one nursing ambulance in Dicomano, three medicalised ambulances in Barberino di Mugello, Firenzuola and Marradi, as well as the mobile medical unit located in Borgo San Lorenzo; whilst the others are all first-aid ambulances staffed solely by non-medical personnel, including: one in

Rufina-Montebonello, two in Borgo San Lorenzo, one in Barberino di Mugello, one in Firenzuola, one in Marradi, one in Scarperia e San Piero and one in Vicchio²⁷.

According to the interviewees, the entrusting of the provision of local emergency responses to non-medical staff in first-aid ambulances has led to an increase in the responsibilities assigned to volunteers, a strengthening of training programmes, and their growing professionalisation.

Regional Law No. 83 of 30 December 2019 (“Regulation of authorisations and supervision of medical transport activities”) has, in fact, introduced increasingly detailed health standards, competencies and training programmes for associations and volunteers, increasing the number of training hours and requiring final examinations and practical training in ambulances.

Those interviewed state that these changes have made participation in voluntary activities more demanding.

You go and approach people to encourage them to volunteer and you tell them: you have to do the first aid course, the basic level, then the defibrillator training. At that point, someone looks at you and says: ‘But why on earth would I want to volunteer with all these complications?’ There are clearly those who do it willingly, but there are also people who do not feel up to it. (TSO 18)

Young people, in particular, are no longer, or much less, drawn to volunteering when the requirements are so specific and professional. [...] Now there’s a professional training pathway that’s demanding, and not everyone is willing to undertake it [...] Even from the point of view of responsibility, isn’t it? This really scares people, when they realise that by getting into an ambulance, they have a [...] criminal liability. (TSO 17)

The shortage of volunteers also has significant economic and organisational implications, particularly for organisations managing medical transport services.

Financial difficulties represent a second critical issue highlighted by these organisations, whose representatives agree that the reimbursements provided for services contracted with the Local Health Authority – which are set at regional level – are insufficient to cover the costs actually incurred. These costs include the purchase and maintenance of vehicles, fuel, staff salaries and insurance cover.

As Misericordie, we find ourselves operating as part of the National Health Service without wanting to, but there are no funds to do so. If we had to rely solely on reimbursements, we would have to close down. We are here to help others, but there is a risk we will not be able to manage due to a lack of financial resources and volunteers. (TSO 14)

Medical transport services generally provide for reimbursement calculated on the basis of kilometres travelled, without, however, taking into account real travel times and waiting times at health care facilities. These critical issues are particularly acute in the Mugello area, where the long distances to be covered to access specialist services – concentrated in Florence’s healthcare facilities – are compounded by challenging terrain and infrastructure conditions which, especially

²⁷ In addition to these, for the “Valdarno and Val di Sieve” area: one mobile medical unit in San Francesco-Pontassieve, one in Serristori-Figline; two nursing units in Incisa Valdarno and Rignano sull’Arno respectively; two first-aid ambulances in Pontassieve, two in Figline Valdarno, and one in Reggello. For the Mugello area, in addition to those listed, there is one nurse-staffed ambulance and one first-aid ambulance in Vaglia (Annex 1 DGRT 1424, 2022).

in the “*Alto Mugello*”, often result in journey times being significantly longer than the actual distance in kilometres.

Between potholed roads, traffic lights, road closures [...] the hours pile up. (TSO 19)

Respondents also highlight various organisational issues related to the management of medical and general patient transport services.

A key issue concerns the impact of waiting lists on healthcare mobility. Waiting times for specialist and diagnostic services result in patients having to travel to healthcare facilities far from their place of residence, increasing the pressure on the organisations managing transport.

Added to this are the organisational difficulties linked to patients’ long stays within health care facilities, which can cause delays or cancellations of scheduled transport and make the management of volunteers and staff more complex.

You set off thinking you’ll be out for two hours, but you end up being out for ten. (TSO 17)

If you have staff, that’s fine, but if you also have a volunteer who has to go to work in the afternoon... you can’t just leave them there waiting for hours. (TSO 19)

Added to this are inefficiencies in emergency management:

They sent us to Marradi for the emergency and then sent us to Faenza Hospital, in the middle of the emergency! They called us to Marradi, to Firenzuola. Do you know what that means? It means leaving our area unstaffed for the whole morning. I mean, we set off in the morning for an emergency green code. (TSO 20)

Many associations manage to sustain their activities financially only thanks to a good balance between the number of volunteers and staff, and ancillary income, derived for example from the management of funeral services or the ownership of private clinics.

If we didn’t have property management that allows us to keep going... with transport – which is the company’s core business – we’d have to close down. (TSO 14)

In general, the shortage of volunteers and the inability to hire paid staff due to limited financial resources leads to a reduced availability of medical and patient transport services and, in some cases, has resulted in a reduction in emergency service coverage (TSO 20).

We find ourselves having to refuse help due to a lack of resources. (TSO 14).

The Misericordie were set up to provide social transport, not even health care transport, just social transport. (TSO 14)

In this context, in order not to refuse service, organisations in some cases offer free transport services (TSO 14; TSO 16):

Since 2023, services for cancer patients have been discontinued, but where does that leave us? They come to us for help; are we going to say ‘No’? We put our hands on our hearts and carry on, for as long as we can. (TSO 14)

We are an exceptional organisation. As for social services, [...] we are still operating on a voluntary basis... Which is unsustainable [...] because you go to Florence, you go to the Torregalli Hospital. (TSO 16)

In our sector, they are playing on our consciences. Because how can you say one morning, 'So the 'Misericordia' organisations are not providing emergency services today'? (TSO 20)

Several interviewees therefore express concern about the sustainability of the current model of medical transport based on volunteering. According to the interviewees and focus group participants, these critical issues affect the organisations' ability to guarantee the services for which they were established.

How much longer can we hold out? Ten years? Fifteen years? After that, we'll certainly be forced to give up certain services. I think the first to go will be the emergency services [...] and perhaps we'll continue to provide routine services. (TSO 17)

From this perspective, some interviewees highlight that voluntary organisations should play a supporting and complementary role, rather than replacing the public sector, and believe it would be desirable for the public sector to gradually take back the management of emergency health care services, as is the case in other regions.

Just as they do in other regions, associations must act, how shall I put it, in a supporting role, complementing a service, not replacing the public sector. (TSO 17)

Others, however, express concern about the possible privatisation of services.

If volunteers were to disappear, healthcare would inevitably become private, because it would no longer be sustainable. If solidarity cannot be practised on a non-profit basis, the risk is that it will become a private enterprise. (TSO 13).

Alongside these concerns, the focus group participants suggested two practical proposals: the involvement of the University and associations in co-creating a document analysing and proposing the reorganisation of transport services, and the establishment of permanent round-table discussions with institutions and citizens, allowing for the discussion of critical issues and the identification of shared solutions, drawing on the value of collective empowerment:

Do you know why the round table? Because the round table allows us all to be together and to have greater strength. Because as long as the negotiation is on an individual basis, you have little strength, don't you? And so perhaps you get a little something for yourself, just a bit... Whereas if it's collective and we're all there, and where the needs and requirements are shared – where perhaps in some areas there are greater issues in one sense and in others in another – you have more strength. (TSO 17)

5.6 Discussion

The mapping of the TSO confirmed the widespread presence, in the study area, of TSOs operating in the health care and socio-health care sectors. In particular, the central role of the voluntary organisations belonging to the networks that manage medical and patient transport services, and those belonging to the networks that promote the donation of blood, bone marrow,

organs and tissues, emerges. As also noted through the questionnaires, these are bodies that rely predominantly on voluntary work, in line with the findings of ISTAT data (2011, 2021) presented in the background section. At the same time, some of these organisations manage activities with substantial budgets and play a fundamental operational role within the Regional Health Service, particularly with regard to the management of emergency transport services and patient transport services.

The qualitative evidence emerging from the interviews enriches and contextualises the results of the quantitative analyses presented in the previous chapters, offering a broader perspective on the regional dynamics of access to health care.

With regard to access to primary care, respondents confirmed that the shortage of primary care physicians and the fact that they cover large geographical areas – which are factors already identified as critical in Chapter 3 – affect these healthcare professionals' ability to respond promptly to people's needs. In this sense, the interviewees frequently emphasised that accessibility is not determined solely by geographical distance, but also by organisational and relational factors. However, according to them, these factors are in turn heavily influenced by workload, which is driven by staff shortages, the increasing number of patients per doctor, and the size of the areas these professionals are required to cover.

As regards access to hospital facilities, the qualitative findings highlight the importance of the Borgo San Lorenzo emergency department as a local facility for emergency and urgent care. At the same time, the perceptions that emerged during the interviews raise the issue of the progressive downsizing of local hospitals and the centralisation of services towards more complex hospital centres.

These dynamics form part of the broader process of health care restructuring, aimed at concentrating specialist activities within facilities of greater size and complexity. This confirms, on the one hand, the relevance of indicators of remoteness based on distance from DEA level hospitals, such as the indicator used in the SNAI classification of inland areas. On the other hand, however, the interviews suggest that distance plays a relatively marginal role in access to non-emergency services within a health care context characterised by staff shortages and growing waiting lists.

In this context, it is becoming increasingly apparent that the choice of health care facilities is more often determined by the possibility of receiving treatment more quickly, rather than by geographical proximity. A particularly significant factor in this regard concerns the municipalities of Marradi and Palazzuolo sul Senio. Whilst, at first glance, the high level of extra-regional hospital mobility might be interpreted as a consequence of geographical isolation from the rest of the Tuscany region, participatory mapping has shown that access to hospital facilities in the Emilia-Romagna region is not limited to the nearest facilities, but also extends over greater distances. This evidence therefore suggests that such dynamics should be situated within a broader reflection on the functional spaces of life and work in these territories, such as those delineated by the Local Labour Systems (SLL; ISTAT, 2011).

In a context characterised by an ageing population and depopulation, the growing demand for health care mobility is placing increasing pressure on voluntary organisations that manage patient transport services.

Overall, the interviews and focus groups confirm, for this specific territory, the concerns highlighted in the literature regarding the emergence of potential territorial marginalisation traps within the local welfare systems of inland areas (Carrosio and Osti, 2020), as well as the evidence from the international literature on the geography of health care voluntarism, which emphasises

the precarious nature of volunteering in rural contexts, the ageing of the volunteer population and the tensions that state withdrawal can create for civil society organisations.

In fact, the challenges that voluntary organisations face in providing medical transport services are, in fact, influenced by political-institutional and socio-demographic dynamics. On the one hand, they reflect the effects of decisions regarding the progressive reorganisation of the health care system, the increasing delegation of certain operational functions to voluntary organisations, and the professionalisation of voluntary work. On the other hand, these challenges form part of a broader context of demographic and social transformations, characterised by an ageing population, the depopulation of inland areas, and the structural difficulties currently affecting the National Health Service, including chronic staff shortages and lengthening waiting lists.

In this context, the sustainability of voluntary work appears to be heavily dependent on local specificities. The ability of organisations to provide such services varies, in fact, according to various local factors, including the demographic structure of the population, the geographical extent of the area, the quality of infrastructures and the organisation of health care provision.

In summary, the concerns that emerged from the interviews and focus groups echo the debate on the welfare mix and the risk that the growing involvement of the third sector in the management of welfare services – which represents a way of enhancing collective response capacity – may result in a gradual replacement of public responsibilities, rather than a strengthening of the inclusive capacity of social policies (Ascoli, 2024).

Overall, with regard to the study of access to health care, the results confirm the need to move beyond exclusively *people-based* approaches that do not take into account the specific characteristics of local areas (Vendemmia et al., 2022) and to adopt perspectives that integrate the territorial and organisational dimensions of access to services.

In line with a territorial approach to local human development (Biggeri and Ferrannini, 2014), the emerged evidence confirms, more generally, the relevance of the territorial context and civil society organisations in determining people's aggregate opportunities, as well as the need to promote forms of public participation, collective empowerment and multi-stakeholder collaboration in order to identify obstacles to local development and the potential for social innovation (Biggeri et al., 2025).

5.7 Conclusions

This latest study has given a voice to the community to explore accessibility from a multidimensional perspective, whilst highlighting the role of civil society organisations in the management of health and social care services.

The results highlight that accessibility to healthcare is a complex, multidimensional and deeply territorial phenomenon. This finding does not contradict the discussion developed in the previous chapters, which focused on presenting methods of territorial healthcare planning that take into account geographical measures of accessibility and the health needs of the population. Rather, it suggests that accessibility cannot be interpreted exclusively as a spatial property, but must be understood as a complex territorial relationship, in which political, organisational and relational dimensions are intertwined.

In this regard, the discussion did not merely involve integrating qualitative analysis with community perceptions, but highlighted the crucial role played by voluntary organisations in facilitating access to health care services in rural and peripheral areas. In particular, these organisations help people overcome geographical and organisational barriers to accessing care, ensuring essential support for access to health care services. At the same time, the findings

highlight that the increasing professionalisation of volunteering and demographic trends such as population decline and ageing render health and social care services managed by TSOs highly precarious.

This evidence suggests that promoting territorial equity in healthcare requires a participatory analysis of the territorial dynamics of local welfare and the role of civil society organisations in health care systems, as well as the adoption of co-creation methodologies that promote multi-stakeholder discussion of territorial challenges and possible solutions.

From a policy perspective, the findings highlight the need to examine the territorial consequences of welfare state restructuring processes, to develop policies capable of recognising the specificities of local contexts (Barca, 2009; Biggeri and Ferrannini, 2014; Barca et al., 2014) and, on this basis, to identify balanced forms of the welfare mix that do not hinder, but rather enhance, civil society's capacity to respond to community's needs (Carrosio and Osti, 2020).

In this context, the importance of structured forms of public participation that involve the various local stakeholders in identifying priorities for action becomes clear.

In the absence of such attention to the territorial dimensions of welfare, there is a risk that the *welfare mix*, from being a tool for promoting participation and empowerment and for place-based and people-centred identification of local needs, will gradually transform into a mechanism that contributes to amplifying the elements of structural and social disadvantage and fueling processes of territorial peripheralisation and marginalisation (Andreotti and Mingione, 2016; 2019; Carrosio and Osti, 2020)

Conclusions

This research arose from an interest in studying the processes of peripheralisation in Italian inland areas and the issue of territorial equity in access to health care services.

Access to care is a highly multidimensional phenomenon. It depends on individual variables, such as healthcare needs, the perception of those needs, the availability of information and financial resources, and opportunities for mobility; on geographical variables, such as the availability of services and their proximity; on structural elements linked to healthcare organisation and policies; and on relational factors, such as the presence of family, friend and community support networks that can facilitate or hinder access to services.

Whilst acknowledging this complex nature, the research has focused on the geographical and relational dynamics of access to health care, adopting a critical spatial perspective (Soja, 2010).

From this perspective, space is not conceived as a neutral container within which services and populations are distributed, but as a dimension actively involved in the production and reproduction of social inequalities. Consequently, access to care is not interpreted merely as a problem of the spatial distribution of health care provision, but as the result of socio-spatial configurations in which healthcare planning choices, processes of territorial marginalisation and transformations of local welfare systems are intertwined.

The research therefore set out to investigate the role of administrative and functional zoning in the territorial organisation of health care services and the dynamics of local welfare in (re)producing territorial inequalities in access to care.

Building on this objective, the study outlined a perspective on the geography of health care that focuses on the territorial dimensions of accessibility and reaffirmed the political and social role of geography.

Within this interpretative framework, the research has made two main contributions to the literature on the geography of health care and on territorial equity in access to care.

Firstly, the analyses developed in Chapters 3 and 4 show how the definition of administrative and functional zoning that governs the organisation of health care services and health care planning criteria contributes to the production of territorial inequalities in access to care. Through the use of advanced spatial accessibility analysis methodologies, these studies have highlighted that the adoption of indicators combining measures of service availability, geographical proximity and the population's healthcare needs yields geographies of health care accessibility that are significantly different from those derived from the application of traditional indicators of medical density. Therefore, while giving priority attention to the geographical dimensions of accessibility, these analyses were not limited to describing spatial variations in access to health care services. Their discussion has in fact highlighted that the indicators commonly used in healthcare planning tend to mask significant territorial inequalities within functional healthcare areas, and that the promotion of territorial equity cannot be achieved without the systematic integration of distance and healthcare needs into health care planning criteria and the overcoming of inefficient administrative zoning.

Secondly, the research highlighted the relational and community dimensions of access to health care, emphasising that this cannot be understood solely through quantitative tools for analysing accessibility, but is determined by place-based and community-driven dynamics (Biggeri and Ferrannini, 2014). The case study presented in Chapter 5 explored the territorial dimensions of accessibility in a peripheral area of the Metropolitan City of Florence, bringing the

results of quantitative analyses into dialogue with the perceptions of local stakeholders and highlighting the role of voluntary organisations in facilitating access to health care services. The results show that, in this context, the role of TSO is crucial, particularly with regard to the provision of medical transport services. However, consistently with the evidence emerging from the literature, the research results highlight that the local welfare system is exposed to growing structural vulnerabilities linked to demographic decline, the ageing of the volunteer population and increasing demands for professionalisation from the public sector. Under these conditions, the gradual transfer of responsibilities from the public sector to voluntary organisations risks transforming subsidiarity from a tool for participation and *place-based* identification of local needs into a further mechanism of territorial marginalisation.

Taken together, these findings help to reaffirm the role of health geography as a discipline capable of describing territorial inequalities in access to health services, as well as the need for geographers to reorient their theoretical and empirical objectives on multiple fronts, in order to enhance their social and political relevance and orient themselves towards action (Evangelista, 2017). From this perspective, research is called upon to present itself not merely as a tool for studying and explaining change, but also as an active agent in promoting change and territorial equity (Martin, 2001).

From this perspective, the present research contributes to the international literature, which in recent decades has developed a wide repertoire of sophisticated measures of spatial accessibility to health care services, but which tends to overlook the territorial and institutional dimensions of accessibility and the planning role of geography, remaining anchored to a predominantly medical perspective. At the same time, it refocuses attention on the traditional themes of Italian geographical literature, which, within its strand of medical geography, has traditionally emphasised the political and organisational dimensions of accessibility to health care services. However, this contribution enriches the Italian literature, which has generally neglected the application of advanced spatial analysis tools, the analysis of the territorial concentration of healthcare needs, and the social and community dimensions of access to care.

The research has certain limitations. Firstly, the empirical analyses focus on the regional context of Tuscany, which does not fully reflect the variety of territorial configurations within the Italian health care system, which is characterised by a high degree of regionalisation. On the one hand, whilst the planning criteria for primary care and hospital care are defined at national level, the administrative and functional zoning for the organisation of health care services varies at regional level. A possible future direction for research could therefore involve applying the methodologies proposed in this study to the analysis of territorial inequalities in other regional contexts. On the other hand, the case study offers relevant insights into the dynamics of local welfare in inland areas, but these dynamics are strongly place-based. Therefore, future development of the research could involve extending the study area to urban contexts or to peripheral areas of other regions, characterised by different local welfare systems.

A second limitation of the research concerns the definition of proxy measures of healthcare need in the analyses conducted in Chapters 3 and 4. The demographic and socioeconomic variables used – such as the age structure of the population, educational attainment or income – are considered proxies for healthcare need based on established evidence in the literature on the social inequalities in health (Costa et al., 2014). The present study did not, in fact, aim to estimate causal relationships between socioeconomic conditions, health status and access to health care services. Future research could therefore incorporate more detailed measures of healthcare need and social disadvantage.

Finally, a further development of the analyses presented in Chapters 3 and 4 could involve the construction of ‘*what-if*’ simulation scenarios, useful for assessing the effects of possible reconfigurations of administrative zoning and the spatial distribution of primary care physicians and hospital beds (Catania et al., 2025) and conducting efficiency analyses (see, for example, Diaz-Milanes et al., 2023). Analyses of this kind would make it possible to simulate, for example, the effects of a redistribution of health care resources from facilities characterised by a surplus to those with levels significantly below standard, or the impact of establishing new operational units in peripheral areas characterised by high potential demand for health care services. In this context, data on service availability and localisation could be integrated with data on health care utilisation and quality to support evidence-based decision-making processes (Salvador-Carulla et al., 2015; Almeda et al., 2022; Diaz-Milanes et al., 2023).

Despite these limitations and in light of possible future developments, the research findings highlight the benefits of shifting the perspective from the *spaces of health care* – understood as technical-functional configurations of service provision – to *places of health care*, conceived as situated, socially constructed and politically governed territorial realities, and of defending the evaluative and planning role of geography, promoting the dissemination of analytical tools capable of steering public policies towards more territorially equitable configurations.

Therefore, the findings of this study call on researchers and policymakers not so much to focus on the location of so-called ‘medical deserts’, but rather to adopt post-medical perspectives and to explore and address the dynamics that lead to the proliferation of *health care peripheries*, defined as places characterised by poor access to health care, resulting from inefficient administrative zoning and outdated planning tools based on measures of mere availability, simple demographic thresholds and large catchment areas, and neglecting actual distances, the healthcare needs of the population and the territorial dimensions of access to health care.

As Costa (2014, p. 13) observes, “the authors recognise that it is not enough for the scientific knowledge held by technical experts to be communicated to decision-makers for it to translate directly into policy choices”.

This research does not claim to bridge this gap between scientific knowledge and public decision-making, but the approaches put forward highlight the territorial implications of health care planning choices and provide a basis for developing planning tools useful for pursuing territorial equity in healthcare. It is therefore desirable that approaches from the geography of health care do not remain merely academic products, but reach public administration offices and strengthen the capacity of public policies to recognise and address the territorial dimensions of inequalities in access to health services.

At present, the observation made by Costa et al. (1994, p. 24) still seems to prevail:

In reality, all policies that assert equity as equality of access according to individual need are subsequently translated – at best, and by the most conscientious administrations – into equality of ‘inputs’ at an aggregated territorial level. The Italian case does not contradict this divergence between constitutional value statements concerning health as a fundamental right of the individual, irrespective of personal responsibility, and the more limited objectives of mere territorial equalisation of resources and services – objectives which, moreover, are strikingly belied by the facts.

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Data Appendix

Table A.1 – E2SFCA estimates for general practitioners by catchment area

Catchment areas for general practitioners	Min	Max	Mean	Standard deviation
Abetone, Cutigliano, San Marcello, Piteglio, Marliana	0.10	3.53	1.50	0.85
Agliana	0.94	1.49	1.21	0.12
Alta Lunigiana: Bagnone, Filattiera, Mulazzo, Pontremoli, Villafranca, Zeri	0.10	1.08	0.59	0.22
Alta Val d'Elsa: Casole d'Elsa, Colle Val d'Elsa, Radicondoli, San Gimignano	0.04	1.96	0.83	0.26
Amiata Grossetana: Arcidosso, Castel del Piano, Castell'Azzara, Cinigiano, Roccalbegna, Santa Fiora, Seggiano, Semproniano	0.22	3.04	1.29	0.53
Amiata Val d'Orcia: Abbadia San Salvatore, Piancastagnaio, Radicofani, Castiglione d'Orcia, San Quirico d'Orcia	0.15	1.78	1.18	0.34
Aretino: Arezzo, Capolona, Castiglion Fibocchi, Subbiano, Civitella Val di Chiana, Monte San Savino	0.03	1.61	0.93	0.27
Bagno a Ripoli	0.40	1.43	1.03	0.22
Barberino di Mugello	0.14	1.04	0.52	0.14
Barberino Tavarnelle	0.38	1.02	0.80	0.14
Bassa Lunigiana: Aulla, Casola, Comano, Fivizzano, Fosdinovo, Licciana Nardi, Podenzana, Tresana	0.06	1.32	0.72	0.28
Bientina, Buti, Calcinai, Santa Maria a Monte	0.37	1.34	0.90	0.18
Borgo San Lorenzo, Vicchio	0.04	1.03	0.77	0.18
Calci	0.35	1.14	0.70	0.25
Calenzano	0.27	1.55	1.08	0.35
Campi Bisenzio	0.92	1.74	1.37	0.17
Cantagallo, Vernio	0.04	0.97	0.79	0.17
Capraia e Limite	0.40	0.80	0.69	0.10
Carmignano	0.55	1.12	0.80	0.13
Carrara	0.06	1.34	0.98	0.17
Casciana Terme Lari	0.58	1.42	0.85	0.21
Cascina, Crespina Lorenzana, Fauglia, Orciano Pisano	0.05	1.80	1.13	0.19
Casentino: Bibbiena, Castel Focognano, Castel San Niccolò, Chitignano, Chiusi della Verna, Montemignaio, Ortignano Raggiolo, Poppi, Pratovecchio Stia, Talla	0.09	2.70	1.13	0.48
Castagneto Carducci: Bibbona, Riparbella, Casale Marittimo, Guardistallo, Castagneto Carducci, Montescudaio	0.12	1.46	1.04	0.25
Castelfiorentino	0.43	0.81	0.66	0.06
Castelfranco di Sotto	0.41	1.21	0.89	0.14
Castelnuovo Berardenga, Gaiole in Chianti, Castellina in Chianti, Radda in Chianti	0.05	1.45	0.85	0.26
Castelnuovo Val di Cecina, Pomarance	0.34	2.23	1.68	0.46
Cecina	0.82	1.47	1.15	0.11
Cerreto Guidi	0.52	0.98	0.72	0.13
Certaldo	0.56	0.93	0.80	0.07
Collesalveti	0.37	1.80	1.27	0.27
Colline dell'Albegna: Capalbio, Isola del Giglio, Magliano in Toscana, Manciano, Monte Argentario, Orbetello, Pitigliano, Sorano	0.05	4.30	1.38	0.58
Colline Metallifere: Follonica, Gavorrano, Massa Marittima, Monterotondo Marittimo, Montieri, Scarlino	0.06	2.09	1.15	0.33
Crete Senesi: Asciano, Rapolano Terme	0.22	1.56	0.83	0.26
Dicomano, Londa, San Godenzo	0.01	0.96	0.55	0.27
Elba	0.23	1.50	1.01	0.24
Empoli	0.70	1.17	0.93	0.09
Fiesole, Vaglia	0.14	1.06	0.74	0.25
Figline e Incisa Valdarno	0.21	1.12	0.82	0.19
Firenze	0.67	1.65	1.14	0.12
Firenzuola	0.11	1.86	0.98	0.45

Fucecchio	0.43	1.12	0.78	0.12
Gambassi Terme, Montaione	0.16	0.88	0.60	0.15
Greve in Chianti	0.18	0.84	0.46	0.15
Grossetana: Campagnatico, Castiglione della Pescaia, Civitella Paganico, Grosseto, Roccastrada, Scansano	0.12	2.33	0.87	0.29
Impruneta	0.37	1.35	0.92	0.27
Lastra a Signa	0.42	1.33	0.92	0.20
Livorno, Capraia Isola	0.53	1.60	1.20	0.15
Lucca 1: Lucca, Pescaglia	0.04	1.63	1.10	0.23
Lucca 2: Altopascio, Capannori, Porcari, Montecarlo, Villa Basilica	0.14	1.50	0.98	0.28
Marradi, Palazzuolo sul Senio	0.22	1.59	0.86	0.40
Massa, Montignoso	0.20	1.45	1.01	0.24
Monsummano Terme, Lamporecchio, Larciano	0.34	1.31	0.63	0.18
Montale	0.14	1.23	0.66	0.27
Montecatini Terme, Massa e Cozzile, Pieve a Nievole, Ponte Buggianese	0.40	1.34	0.97	0.21
Montecatini Val di Cecina, Volterra	0.30	1.98	1.23	0.35
Montelupo Fiorentino	0.65	1.01	0.85	0.09
Montemurlo	0.48	1.26	0.88	0.17
Montespertoli	0.27	0.91	0.64	0.14
Montopoli	0.54	1.22	0.98	0.18
Palaia, Peccioli, Capannoli, Chianni, Lajatico, Terricciola	0.21	1.19	0.78	0.21
Pelago, Pontassieve, Rufina	0.05	1.12	0.63	0.17
Pescia, Chiesina Uzzanese, Buggiano, Uzzano	0.25	1.52	0.93	0.24
Piombino	0.47	1.48	0.93	0.17
Pisa	0.28	1.89	1.17	0.29
Pistoia, Sambuca Pistoiese	0.01	1.74	0.87	0.25
Poggibonsi	0.60	1.22	0.92	0.09
Poggio a Caiano	0.75	1.09	0.95	0.08
Ponsacco	0.78	1.35	1.18	0.09
Pontedera	0.70	1.47	1.09	0.15
Prato	0.03	1.75	1.13	0.20
Quarrata	0.36	1.30	0.81	0.18
Reggello	0.27	1.21	0.67	0.21
Rignano sull'Arno	0.35	1.17	0.81	0.19
Rosignano Marittimo: Castellina Marittima, Rosignano Marittimo, Santa Luce	0.15	1.39	0.95	0.22
San Casciano Val di Pesa	0.30	1.06	0.65	0.13
San Giuliano Terme, Vecchiano	0.30	1.80	1.26	0.18
San Miniato	0.53	1.20	0.93	0.15
San Vincenzo: San Vincenzo, Suvereto, Sassetta, Campiglia Marittima, Monteverdi Marittimo	0.27	1.72	0.92	0.23
Santa Croce sull'Arno	0.51	0.93	0.78	0.10
Scandicci	0.60	1.54	1.22	0.18
Scarperia e San Piero	0.23	1.02	0.80	0.16
Senese: Siena, Monteriggioni	0.23	1.77	1.34	0.18
Serravalle Pistoiese	0.41	1.27	0.83	0.23
Sesto Fiorentino	0.26	1.72	1.13	0.17
Signa	0.65	1.34	1.02	0.17
Vaiano	0.39	0.85	0.68	0.11
Val d'Arbia: Buonconvento, Montalcino, Monteroni d'Arbia, Murlo	0.21	1.88	1.04	0.38
Val di Merse: Chiusdino, Monticiano, Sovicille	0.23	2.10	1.14	0.37
Valdarno: San Giovanni Valdarno, Caviglia, Castelfranco Piandiscò, Loro Ciuffenna, Terranuova Bracciolini, Montevarchi, Bucine, Laterina Pegine Valdarno	0.03	1.58	0.88	0.32
Valdichiana Aretina: Castiglion Fiorentino, Cortona, Lucignano, Foiano della Chiana, Marciano della Chiana	0.02	6.39	1.05	0.91
Valdichiana Senese Nord: Montepulciano, Pienza, Sinalunga, Torrita di Siena, Trequanda	0.37	2.18	1.27	0.30
Valdichiana Senese Sud: Chianciano Terme, Cetona, Chiusi, San Casciano, Sarteano	0.34	2.15	1.42	0.34
Valle del Serchio	0.02	2.08	1.11	0.44
Valtiberina: Anghiari, Badia Tedalda, Caprese Michelangelo, Monterchi, Pieve Santo Stefano, Sansepolcro, Sestino	0.07	1.82	0.82	0.34

Versilia Nord: Forte dei Marmi, Pietrasanta, Seravezza, Stazzema	0.01	1.53	0.96	0.40
Versilia Sud: Camaiore, Massarosa, Viareggio	0.04	1.60	0.98	0.28
Vicopisano	0.87	1.23	1.06	0.09
Vinci	0.44	0.93	0.74	0.13

Table A.2 – E2SFCA estimates for primary care paediatricians by catchment area

Catchment area for primary care paediatricians	Min	Max	Mean	Standard deviation
Abbadia San Salvatore, Castiglione d'Orcia, Cetona, Chiusi, Piancastagnaio, Radicofani, San Casciano dei Bagni, Sarteano	0.00	1.95	0.70	0.58
Alto Casentino: Castel San Niccolò, Montemignaio, Poppi, Pratovecchio Stia	0.00	1.54	0.44	0.49
Arcidosso, Castel del Piano, Castell'Azzara, Cinigiano, Roccalbegna, Santa Fiora, Seggiano, Semproniano	0.00	2.82	0.87	0.52
Arezzo	0.00	1.34	0.71	0.18
Asciano, Rapolano Terme	0.27	1.66	1.03	0.29
Bagno a Ripoli	0.27	1.12	0.80	0.18
Basso Casentino: Bibbiena, Castel Focognano, Chitignano, Chiusi della Verna, Ortignano Raggiolo, Talla	0.00	1.72	0.84	0.55
Bientina, Buti, Calcinaia, Santa Maria a Monte	0.24	1.03	0.72	0.15
Bucine, Castelfranco Piandiscò, Cavriglia, Laterina Pergine Valdarno, Loro Ciuffenna, Montevarchi, San Giovanni Valdarno, Terranuova Bracciolini	0.00	1.51	0.90	0.35
Buggiano, Massa e Cozzile, Monsummano Terme, Montecatini Terme, Pieve a Nievole	0.24	0.96	0.65	0.15
Buonconvento, Montalcino	0.09	2.51	1.53	0.56
Calci, Vicopisano	0.22	0.97	0.71	0.20
Calenzano, Sesto Fiorentino	0.17	1.09	0.72	0.14
Campagnatico, Civitella Paganico, Roccastrada	0.30	3.15	1.76	0.62
Campi Bisenzio	0.61	1.19	0.88	0.11
Cantagallo, Vaiano, Vernio	0.00	0.78	0.56	0.15
Capalbio, Manciano, Pitigliano, Sorano	0.00	3.06	1.46	0.65
Capannoli, Palaia, Peccioli, Terricciola	0.12	1.02	0.61	0.21
Capolona, Castiglion Fibocchi, Subbiano	0.27	1.09	0.72	0.16
Capraia e Limite, Montelupo Fiorentino	0.35	0.80	0.61	0.10
Carmignano, Poggio a Caiano	0.34	0.76	0.59	0.08
Carrara	0.00	0.96	0.64	0.17
Casciana Terme Lari, Chianni, Lajatico	0.21	1.43	0.75	0.21
Cascina, Crespina Lorenzana, Fauglia, Orciano Pisano	0.01	1.13	0.83	0.17
Casole d'Elsa, Colle di Val d'Elsa, Poggibonsi, Radicondoli, San Gimignano	0.00	3.24	0.95	0.33
Castelfiorentino, Montespertoli	0.17	0.73	0.52	0.11
Castelfranco di Sotto, Santa Croce sull'Arno, Montopoli	0.31	1.00	0.67	0.13
Castellina in Chianti, Castelnuovo Berardenga, Gaiole in Chianti, Monteriggioni, Radda in Chianti	0.25	1.90	0.89	0.26
Cecina: Bibbona, Casale Marittimo, Castagneto Carducci, Cecina, Guardistallo, Montescudaio, Riparbella	0.10	1.17	0.70	0.14
Cerreto Guidi, Vinci	0.39	0.80	0.61	0.10
Certaldo, Gambassi Terme, Montaione	0.21	0.89	0.70	0.15
Chianciano Terme, Montepulciano, Pienza, San Quirico d'Orcia	0.34	2.34	1.38	0.35
Chiesina Uzzanese, Ponte Buggianese, Pescia, Uzzano	0.07	1.06	0.60	0.21
Civitella Val di Chiana	0.02	1.34	0.72	0.30
Collesalveti	0.12	1.00	0.66	0.19
Elba	0.02	3.76	1.77	0.80
Empoli	0.51	0.93	0.75	0.07
Fiesole, Vaglia	0.11	0.93	0.52	0.14
Figline e Incisa Valdarno, Reggello, Rignano sull'Arno	0.20	1.38	0.85	0.27
Firenze	0.40	1.12	0.77	0.09

Follonica, Gavorrano, Massa Marittima, Monterotondo Marittimo, Montieri, Scarlino	0.29	3.24	1.65	0.58
Fucecchio	0.34	0.81	0.60	0.09
Greve in Chianti, Impruneta	0.19	1.92	0.87	0.36
Grossetana: Castiglione della Pescaia, Grosseto, Scansano	0.00	1.83	0.72	0.27
Larciano, Lamporecchio	0.28	0.63	0.47	0.07
Livorno	0.00	0.89	0.55	0.07
Lucca 1: Lucca, Pescaglia	0.07	1.16	0.81	0.16
Lucca 2: Altopascio, Capannori, Porcari, Montecarlo, Villa Basilica	0.09	1.11	0.73	0.21
Lunigiana	0.00	2.41	1.05	0.49
Magliano, Monte Argentario, Orbetello	0.00	2.94	1.64	0.62
Massa, Montignoso	0.05	1.04	0.68	0.19
Montale, Agliana	0.05	1.01	0.73	0.22
Monte San Savino	0.16	1.11	0.64	0.22
Montecatini Val di Cecina, Volterra, Pomarance, Castelnuovo Val di Cecina	0.00	3.16	1.68	0.72
Montemurlo, Prato	0.00	1.08	0.73	0.13
Monteroni, Murlo	0.24	1.58	0.74	0.22
Mugello: Borgo San Lorenzo, Barberino di Mugello, Scarperia e San Piero, Vicchio, Dicomano, Londa, San Godenzo, Marradi, Firenzuola, Palazzuolo sul Senio	0.00	2.92	0.96	0.59
Pelago, Pontassieve, Rufina	0.04	1.01	0.43	0.15
Piombino, San Vincenzo: Piombino, San Vincenzo, Campiglia Marittima, Monteverdi Marittimo, Sassetta, Suvereto	0.00	1.18	0.64	0.22
Pisa	0.27	1.23	0.75	0.19
Pistoia, Marliana, San Marcello Piteglio, Abetone Cutigliano, Sambuca Pistoiese	0.00	2.71	0.64	0.43
Pontedera, Ponsacco	0.61	1.20	0.96	0.11
Rosignano Marittimo	0.00	0.94	0.65	0.19
San Casciano Val di Pesa, Barberino Tavarnelle	0.16	1.37	0.68	0.23
San Giuliano Terme, Vecchiano	0.18	1.19	0.82	0.13
San Miniato	0.36	0.95	0.69	0.12
Scandicci	0.40	1.09	0.84	0.13
Serravalle Pistoiese, Quarrata	0.26	0.90	0.58	0.13
Siena	0.44	1.47	0.96	0.13
Signa, Lastra a Signa	0.30	0.91	0.66	0.13
Sinalunga, Torrita di Siena, Trequanda	0.57	1.94	1.33	0.23
Val di Merse: Chiusdino, Monticiano, Sovicille	0.07	2.54	0.98	0.73
Valdichiana	0.00	1.60	0.90	0.36
Valle del Serchio	0.00	1.93	0.62	0.30
Valtiberina	0.00	1.01	0.58	0.33
Versilia Centro	0.07	1.13	0.65	0.21
Versilia Nord: Forte dei Marmi, Pietrasanta, Seravezza, Stazzema	0.09	1.15	0.74	0.25
Versilia Sud	0.22	1.07	0.73	0.15

Table A.3 – LPA estimates for general practitioners by catchment area

Catchment area for general practitioners	Min	Max	Mean	Standard deviation
Abetone, Cutigliano, San Marcello, Piteglio, Marliana	0.06	1.16	0.55	0.27
Agliana	0.71	1.11	0.91	0.09
Alta Lunigiana: Bagnone, Filattiera, Mulazzo, Pontremoli, Villafranca, Zeri	0.06	0.87	0.51	0.18
Alta Val d'Elsa: Casole d'Elsa, Colle Val d'Elsa, Radicondoli, San Gimignano	0.00	1.10	0.61	0.19
Amiata Grossetana: Arcidosso, Castel del Piano, Castell'Azzara, Cinigiano, Roccalbegna, Santa Fiora, Seggiano, Semproniano	0.09	1.01	0.62	0.17
Amiata Val d'Orcia: Abbazia San Salvatore, Piancastagnaio, Radicofani, Castiglione d'Orcia, San Quirico d'Orcia	0.12	1.07	0.75	0.22
Aretino: Arezzo, Capolona, Castiglion Fibocchi, Subbiano, Civitella Val di Chiana, Monte San Savino	0.00	1.19	0.68	0.20
Bagno a Ripoli	0.26	1.01	0.72	0.16

Barberino di Mugello	0.13	0.64	0.35	0.07
Barberino Tavarnelle	0.27	0.91	0.65	0.14
Bassa Lunigiana: Aulla, Casola, Comano, Fivizzano, Fosdinovo, Lucciana Nardi, Podenzana, Tresana	0.04	0.99	0.51	0.22
Bientina, Buti, Calcinaia, Santa Maria a Monte	0.27	0.97	0.67	0.13
Borgo San Lorenzo, Vicchio	0.04	0.73	0.60	0.13
Calci	0.25	0.80	0.49	0.17
Calenzano	0.22	1.14	0.81	0.26
Campi Bisenzio	0.66	1.30	1.00	0.13
Cantagallo, Vernio	0.00	0.53	0.42	0.11
Capraia e Limite	0.31	0.59	0.51	0.08
Carmignano	0.39	0.81	0.57	0.10
Carrara	0.02	0.88	0.63	0.13
Casciana Terme Lari	0.31	0.99	0.53	0.17
Cascina, Crespina Lorenzana, Fauglia, Orciano Pisano	0.03	1.16	0.79	0.15
Casentino: Bibbiena, Castel Focognano, Castel San Niccolò, Chitignano, Chiusi della Verna, Montemignaio, Ortignano Raggiolo, Poppi, Pratovecchio Stia, Talla	0.00	1.15	0.54	0.28
Castagneto Carducci: Bibbona, Riparbella, Casale Marittimo, Guardistallo, Castagneto Carducci, Montescudaio	0.07	0.93	0.66	0.16
Castelfiorentino	0.35	0.70	0.57	0.06
Castelfranco di Sotto	0.33	0.84	0.66	0.09
Castelnuovo Berardenga, Gaiole in Chianti, Castellina in Chianti, Radda in Chianti	0.05	0.93	0.51	0.18
Castelnuovo Val di Cecina, Pomarance	0.24	1.17	0.88	0.23
Cecina	0.60	0.98	0.79	0.07
Cerreto Guidi	0.39	0.77	0.55	0.10
Certaldo	0.45	0.81	0.68	0.07
Collesalveti	0.20	1.16	0.81	0.19
Colline dell'Albegna: Capalbio, Isola del Giglio, Magliano in Toscana, Manciano, Monte Argentario, Orbetello, Pitigliano, Sorano	0.00	2.57	0.81	0.36
Colline Metallifere: Follonica, Gavorrano, Massa Marittima, Monterotondo Marittimo, Montieri, Scarlino	0.00	1.06	0.61	0.15
Crete Senesi: Asciano, Rapolano Terme	0.17	1.02	0.54	0.16
Dicomano, Londa, San Godenzo	0.01	0.64	0.33	0.18
Elba	0.12	1.11	0.67	0.21
Empoli	0.56	0.90	0.72	0.07
Fiesole, Vaglia	0.05	0.69	0.47	0.19
Figline e Incisa Valdarno	0.15	0.80	0.59	0.14
Firenze	0.42	1.18	0.82	0.09
Firenzuola	0.06	0.73	0.48	0.15
Fucecchio	0.32	0.78	0.59	0.08
Gambassi Terme, Montaione	0.13	0.73	0.48	0.14
Greve in Chianti	0.12	0.52	0.31	0.09
Grossetana: Campagnatico, Castiglione della Pescaia, Civitella Paganico, Grosseto, Roccastrada, Scansano	0.07	0.94	0.63	0.13
Impruneta	0.26	0.95	0.65	0.19
Lastra a Signa	0.31	0.97	0.67	0.15
Livorno, Capraia Isola	0.32	1.00	0.73	0.09
Lucca 1: Lucca, Pescaglia	0.04	1.09	0.71	0.19
Lucca 2: Altopascio, Capannori, Porcari, Montecarlo, Villa Basilica	0.09	1.03	0.65	0.20
Marradi, Palazzuolo sul Senio	0.00	0.73	0.37	0.20
Massa, Montignoso	0.13	0.97	0.67	0.16
Monsummano Terme, Lamporecchio, Larciano	0.24	0.90	0.46	0.12
Montale	0.11	0.92	0.49	0.20
Montecatini Terme, Massa e Cozzile, Pieve a Nievole, Ponte Buggianese	0.26	0.91	0.66	0.14
Montecatini Val di Cecina, Volterra	0.00	1.25	0.82	0.26
Montelupo Fiorentino	0.49	0.77	0.64	0.07
Montemurlo	0.34	0.94	0.65	0.13
Montespertoli	0.20	0.75	0.50	0.11
Montopoli	0.37	0.91	0.73	0.14
Palaia, Peccioli, Capannoli, Chianni, Lajatico, Terricciola	0.11	0.70	0.46	0.14
Pelago, Pontassieve, Rufina	0.04	0.58	0.41	0.11

Pescia, Chiesina Uzzanese, Buggiano, Uzzano	0.07	0.99	0.55	0.20
Piombino	0.32	0.98	0.62	0.12
Pisa	0.19	1.24	0.79	0.20
Pistoia, Sambuca Pistoiese	0.00	1.03	0.59	0.21
Poggibonsi	0.54	0.99	0.79	0.07
Poggio a Caiano	0.52	0.79	0.69	0.06
Ponsacco	0.50	0.97	0.81	0.08
Pontedera	0.47	1.04	0.79	0.10
Prato	0.02	1.31	0.83	0.16
Quarrata	0.26	0.96	0.60	0.14
Reggello	0.10	0.87	0.44	0.18
Rignano sull'Arno	0.25	0.83	0.55	0.14
Rosignano Marittimo: Castellina Marittima, Rosignano Marittimo, Santa Luce	0.07	0.94	0.62	0.16
San Casciano Val di Pesa	0.22	0.76	0.47	0.10
San Giuliano Terme, Vecchiano	0.20	1.20	0.85	0.12
San Miniato	0.38	0.91	0.71	0.12
San Vincenzo: San Vincenzo, Suvereto, Sassetta, Campiglia Marittima, Monteverdi Marittimo	0.16	0.96	0.62	0.17
Santa Croce sull'Arno	0.40	0.70	0.60	0.07
Scandicci	0.43	1.10	0.87	0.13
Scarperia e San Piero	0.16	0.76	0.61	0.14
Senese: Siena, Monteriggioni	0.17	1.18	0.93	0.11
Serravalle Pistoiese	0.31	0.90	0.61	0.16
Sesto Fiorentino	0.18	1.27	0.83	0.13
Signa	0.47	0.96	0.73	0.12
Vaiano	0.27	0.60	0.45	0.07
Val d'Arbia: Buonconvento, Montalcino, Monteroni d'Arbia, Murlo	0.00	1.01	0.58	0.20
Val di Merse: Chiusdino, Monticiano, Sovicille	0.13	0.93	0.63	0.16
Valdarno: San Giovanni Valdarno, Cavriglia, Castelfranco Piandiscò, Loro Ciuffenna, Terranuova Bracciolini, Montevarchi, Bucine, Laterina Pegine Valdarno	0.02	1.15	0.63	0.24
Valdichiana Aretina: Castiglion Fiorentino, Cortona, Lucignano, Foiano della Chiana, Marciano della Chiana	0.00	1.13	0.61	0.19
Valdichiana Senese Nord: Montepulciano, Pienza, Sinalunga, Torrita di Siena, Trequanda	0.25	1.40	0.81	0.19
Valdichiana Senese Sud: Chianciano Terme, Cetona, Chiusi, San Casciano, Sarteano	0.21	1.26	0.84	0.20
Valle del Serchio	0.00	1.07	0.65	0.26
Valtiberina: Anghiari, Badia Tedalda, Caprese Michelangelo, Monterchi, Pieve Santo Stefano, Sansepolcro, Sestino	0.00	0.93	0.56	0.18
Versilia Nord: Forte dei Marmi, Pietrasanta, Seravezza, Stazzema	0.01	1.03	0.65	0.27
Versilia Sud: Camaiore, Massarosa, Viareggio	0.03	1.07	0.66	0.19
Vicopisano	0.63	0.87	0.77	0.06
Vinci	0.32	0.71	0.56	0.10

Table A.4 – LPA estimates for primary care paediatricians by catchment area

Catchment areas for primary care paediatricians	Min	Max	Mean	Standard deviation
Abbadia San Salvatore, Castiglione d'Orcia, Cetona, Chiusi, Piancastagnaio, Radicofani, San Casciano dei Bagni, Sarteano	0.00	1.87	0.64	0.55
Alto Casentino: Castel San Niccolò, Montemignaio, Poppi, Pratovecchio Stia	0.00	1.10	0.36	0.35
Arcidosso, Castel del Piano, Castell'Azzara, Cinigiano, Roccalbegna, Santa Fiora, Seggiano, Semproniano	0.00	1.77	0.76	0.37
Arezzo	0.00	1.39	0.82	0.16
Asciano, Rapolano Terme	0.23	1.18	0.76	0.21
Bagno a Ripoli	0.28	1.14	0.79	0.18
Basso Casentino: Bibbiena, Castel Focognano, Chitignano, Chiusi della Verna, Ortignano Raggiolo, Talla	0.00	1.22	0.63	0.41
Bientina, Buti, Calcinaia, Santa Maria a Monte	0.27	1.12	0.81	0.16

Bucine, Castelfranco Piandiscò, Caviglia, Laterina Pergine Valdarno, Loro Ciuffenna, Montevarchi, San Giovanni Valdarno, Terranuova Bracciolini	0.00	1.32	0.73	0.30
Buggiano, Massa e Cozzile, Monsummano Terme, Montecatini Terme, Pieve a Nievole	0.29	1.15	0.78	0.18
Buonconvento, Montalcino	0.05	1.39	0.81	0.34
Calci, Vicopisano	0.27	1.08	0.79	0.22
Calenzano, Sesto Fiorentino	0.20	1.27	0.84	0.17
Campagnatico, Civitella Paganico, Roccastrada	0.20	1.81	1.05	0.38
Campi Bisenzio	0.67	1.38	1.00	0.13
Cantagallo, Vaiano, Vernio	0.00	0.52	0.38	0.10
Capalbino, Manciano, Pitigliano, Sorano	0.00	1.89	0.75	0.40
Capannoli, Palaia, Peccioli, Terricciola	0.06	0.76	0.42	0.17
Capolona, Castiglion Fibocchi, Subbiano	0.12	0.95	0.64	0.19
Capraia e Limite, Montelupo Fiorentino	0.36	0.94	0.71	0.13
Carmignano, Poggio a Caiano	0.35	0.86	0.65	0.10
Carrara	0.00	1.11	0.76	0.21
Casciana Terme Lari, Chianni, Lajatico	0.09	1.09	0.54	0.23
Cascina, Crespina Lorenzana, Fauglia, Orciano Pisano	0.02	1.20	0.89	0.19
Casole d'Elsa, Colle di Val d'Elsa, Poggibonsi, Radicondoli, San Gimignano	0.00	1.49	1.00	0.25
Castelfiorentino, Montespertoli	0.25	0.94	0.65	0.13
Castelfranco di Sotto, Santa Croce sull'Arno, Montopoli	0.36	1.16	0.79	0.14
Castellina in Chianti, Castelnuovo Berardenga, Gaiole in Chianti, Monteriggioni, Radda in Chianti	0.14	1.36	0.74	0.27
Cecina: Bibbona, Casale Marittimo, Castagneto Carducci, Cecina, Guardistallo, Montescudaio, Riparbella	0.14	1.33	0.91	0.23
Cerreto Guidi, Vinci	0.44	0.94	0.73	0.12
Certaldo, Gambassi Terme, Montaione	0.16	1.06	0.81	0.20
Chianciano Terme, Montepulciano, Pienza, San Quirico d'Orcia	0.30	2.04	1.33	0.29
Chiesina Uzzanese, Ponte Buggianese, Pescia, Uzzano	0.07	1.27	0.70	0.27
Civitella Val di Chiana	0.03	1.36	0.78	0.31
Collesalveti	0.13	1.12	0.76	0.22
Elba	0.01	2.29	1.14	0.50
Empoli	0.65	1.12	0.90	0.09
Fiesole, Vaglia	0.03	0.70	0.45	0.20
Figline e Incisa Valdarno, Reggello, Rignano sull'Arno	0.14	1.22	0.76	0.24
Firenze	0.39	1.22	0.86	0.10
Follonica, Gavorrano, Massa Marittima, Monterotondo Marittimo, Montieri, Scarlino	0.08	1.62	0.89	0.23
Fucecchio	0.42	0.99	0.72	0.11
Greve in Chianti, Impruneta	0.13	1.09	0.61	0.22
Grossetana: Castiglione della Pescaia, Grosseto, Scansano	0.00	1.39	0.79	0.17
Larciano, Lamporecchio	0.35	0.77	0.57	0.08
Livorno	0.00	1.03	0.74	0.08
Lucca 1: Lucca, Pescaglia	0.05	1.35	0.91	0.21
Lucca 2: Altopascio, Capannori, Porcari, Montecarlo, Villa Basilica	0.09	1.33	0.87	0.25
Lunigiana	0.00	1.54	0.83	0.37
Magliano, Monte Argentario, Orbetello	0.00	1.63	0.97	0.30
Massa, Montignoso	0.07	1.17	0.82	0.20
Montale, Aghiana	0.07	1.19	0.85	0.26
Monte San Savino	0.20	1.20	0.67	0.24
Montecatini Val di Cecina, Volterra, Pomarance, Castelnuovo Val di Cecina	0.00	1.63	0.98	0.35
Montemurlo, Prato	0.01	1.27	0.83	0.17
Monteroni, Murlo	0.13	1.03	0.57	0.21
Mugello: Borgo San Lorenzo, Barberino di Mugello, Scarperia e San Piero, Vicchio, Dicomano, Londa, San Godenzo, Marradi, Firenzuola, Palazzuolo sul Senio	0.00	1.52	0.67	0.36
Pelago, Pontassieve, Rufina	0.06	0.62	0.42	0.13

Piombino, San Vincenzo: Piombino, San Vincenzo, Campiglia Marittima, Monteverdi Marittimo, Sassetta, Suvereto	0.00	1.20	0.72	0.25
Pisa	0.19	1.28	0.77	0.23
Pistoia, Marliana, San Marcello Piteglio, Abetone Cutigliano, Sambuca Pistoiese	0.00	1.44	0.65	0.27
Pontedera, Ponsacco	0.52	1.23	0.97	0.11
Rosignano Marittimo	0.00	1.35	0.92	0.29
San Casciano Val di Pesa, Barberino Tavarnelle	0.14	1.21	0.67	0.22
San Giuliano Terme, Vecchiano	0.17	1.27	0.90	0.14
San Miniato	0.39	1.11	0.83	0.16
Scandicci	0.45	1.16	0.93	0.13
Serravalle Pistoiese, Quarrata	0.30	1.07	0.68	0.15
Siena	0.53	1.30	1.00	0.10
Signa, Lastra a Signa	0.35	1.05	0.75	0.15
Sinalunga, Torrita di Siena, Trequanda	0.44	1.97	1.26	0.26
Val di Merse: Chiusdino, Monticiano, Sovicille	0.07	0.80	0.49	0.15
Valdichiana	0.00	1.53	0.77	0.31
Valle del Serchio	0.00	1.15	0.39	0.21
Valtiberina	0.00	1.03	0.59	0.36
Versilia Centro	0.09	1.24	0.70	0.23
Versilia Nord: Forte dei Marmi, Pietrasanta, Seravezza, Stazzema	0.08	1.23	0.79	0.30
Versilia Sud	0.20	1.16	0.78	0.17

Table A.5 – Hospital mobility for all causes, year 2023

Municipality	% Hospitalizations within the local health district	% Hospitalizations outside the local health district	% Hospitalizations within the catchment area	% Hospitalizations outside the catchment area	% Hospitalizations outside the region
Abbadia San Salvatore	44.17	43.51	87.68	7.74	4.58
Abetone Cutigliano	58.98	23.44	82.42	10.16	7.42
Agliana	40.96	48.28	89.24	4.11	6.65
Altopascio	48.49	24.57	73.06	21.35	5.59
Anghiari	71.06	3.98	75.04	5.97	18.99
Arcidosso	62.96	21.72	84.67	6.57	8.76
Arezzo	76.22	7.38	83.60	8.61	7.79
Asciano	81.91	8.88	90.79	4.71	4.50
Aulla	27.64	42.44	70.07	2.95	26.98
Badia Tedalda	41.59	1.77	43.36	4.42	52.21
Bagni di Lucca	33.74	56.33	90.07	6.94	2.99
Bagno a Ripoli	48.74	43.48	92.22	2.86	4.91
Bagnone	41.67	38.73	80.39	3.92	15.69
Barberino di Mugello	37.14	52.95	90.09	1.11	8.80
Barberino Tavarnelle	25.99	36.28	62.27	35.37	2.36
Barga	46.02	42.37	88.39	7.52	4.09
Bibbiena	75.42	5.50	80.92	12.08	7.00
Bibbona	47.13	37.66	84.79	7.48	7.73
Bientina	43.72	41.93	85.65	9.16	5.19
Borgo a Mozzano	24.38	63.65	88.03	8.84	3.13
Borgo San Lorenzo	43.31	47.32	90.63	1.84	7.53
Bucine	50.23	29.16	79.39	16.49	4.12
Buggiano	43.84	38.25	82.09	13.99	3.92
Buonconvento	76.27	10.42	86.70	9.31	3.99
Buti	43.80	44.53	88.32	6.86	4.82
Calci	82.27	11.64	93.91	2.30	3.79
Calcinaia	43.54	42.08	85.61	9.38	5.01
Calenzano	0.00	91.28	91.28	1.85	6.87
Camaiore	62.36	24.26	86.62	6.81	6.57
Campagnatico	69.32	12.22	81.53	9.09	9.38
Campi Bisenzio	0.00	90.77	90.77	2.99	6.24
Campiglia Marittima	52.13	29.72	81.85	11.81	6.34
Campo nell'Elba	45.48	29.78	75.26	10.96	13.78
Camporgiano	47.38	40.00	87.38	7.38	5.23
Cantagallo	64.32	21.37	85.68	4.19	10.13
Capalbio	28.35	45.24	73.59	5.05	21.36
Capannoli	50.12	34.03	84.15	11.06	4.79
Capannori	59.74	26.18	85.91	9.73	4.36

Capoliveri	41.19	31.61	72.80	11.11	16.09
Capolona	75.53	9.91	85.44	9.61	4.96
Capraia e Limite	50.06	31.43	81.48	11.22	7.30
Capraia Isola	32.50	32.50	65.00	20.00	15.00
Caprese Michelangelo	70.74	4.26	75.00	11.17	13.83
Careggine	50.63	37.97	88.61	1.27	10.13
Carmignano	60.03	30.85	90.88	3.11	6.01
Carrara	61.14	24.32	85.46	4.24	10.31
Casale Marittimo	51.69	34.75	86.44	2.54	11.02
Casciana Terme Lari	47.47	39.38	86.85	8.20	4.95
Cascina	77.88	12.68	90.56	5.69	3.75
Casola in Lunigiana	44.07	41.53	85.59	4.24	10.17
Casole d'Elsa	37.40	44.11	81.50	12.60	5.89
Castagneto Carducci	47.67	36.99	84.66	8.93	6.41
Castel del Piano	66.67	17.55	84.22	8.53	7.25
Castel Focognano	77.40	6.85	84.25	13.01	2.74
Castel San Niccolò	75.47	4.31	79.78	16.17	4.04
Castelfiorentino	53.08	21.49	74.58	18.95	6.48
Castelfranco di Sotto	41.71	18.83	60.54	34.35	5.12
Castelfranco Piandiscò	45.57	17.73	63.30	33.58	3.12
Castell'Azzara	44.39	39.72	84.11	2.80	13.08
Castellina in Chianti	66.37	18.45	84.82	10.12	5.06
Castellina Marittima	46.64	40.32	86.96	7.11	5.93
Castelnuovo Berardenga	81.11	7.98	89.08	5.37	5.54
Castelnuovo di Garfagnana	51.18	37.23	88.41	7.09	4.50
Castelnuovo di Val di Cecina	31.21	26.95	58.16	36.88	4.96
Castiglion Fibocchi	73.00	12.55	85.55	7.98	6.46
Castiglione Fiorentino	16.36	70.21	86.57	7.04	6.39
Castiglione d'Orcia	39.49	50.64	90.13	5.41	4.46
Castiglione della Pescaia	64.42	12.55	76.97	11.10	11.93
Castiglione di Garfagnana	56.88	34.06	90.94	4.71	4.35
Cavriglia	52.87	21.15	74.02	22.31	3.66
Cecina	48.72	36.80	85.52	7.85	6.62
Cerreto Guidi	61.05	21.60	82.65	12.46	4.90
Certaldo	29.99	16.56	46.55	48.45	5.00
Cetona	46.30	31.75	78.04	7.14	14.81
Chianciano Terme	48.64	32.32	80.96	6.96	12.08
Chianni	50.57	39.66	90.23	6.90	2.87
Chiesina Uzzanese	43.90	36.77	80.67	16.32	3.01
Chitignano	78.62	10.34	88.97	6.90	4.14
Chiusdino	75.33	12.78	88.11	8.81	3.08
Chiusi	48.91	28.68	77.59	7.17	15.25
Chiusi della Verna	69.96	5.70	75.67	15.59	8.75
Cinigiano	66.88	21.77	88.64	7.26	4.10
Civitella in Val di Chiana	72.70	11.63	84.32	8.61	7.06
Civitella Paganico	63.16	24.47	87.63	5.53	6.84
Colle di Val d'Elsa	45.36	39.87	85.22	9.83	4.95
Collesalveti	43.09	46.09	89.18	5.95	4.86
Comano	44.34	33.02	77.36	0.00	22.64
Coreglia Antelminelli	42.60	47.43	90.03	7.10	2.87
Cortona	20.97	56.92	77.90	5.41	16.69
Crespina Lorenzana	61.90	25.91	87.82	6.16	6.02
Dicomano	34.92	54.89	89.80	2.10	8.10
Empoli	61.58	23.61	85.19	8.72	6.08
Fabbrie di Vergemoli	50.42	35.29	85.71	5.88	8.40
Fauglia	69.07	22.68	91.75	5.15	3.09
Fiesole	19.21	74.33	93.54	2.47	3.99
Figline e Incisa Valdarno	47.52	32.68	80.20	14.71	5.09
Filattiera	35.19	39.59	74.78	2.35	22.87
Firenze	73.80	17.05	90.85	3.25	5.90
Firenzuola	31.08	40.39	71.47	1.20	27.33
Fivizzano	43.01	37.22	80.23	2.73	17.04
Foiano della Chiana	16.20	66.67	82.87	7.81	9.32
Follonica	63.47	12.82	76.29	17.07	6.65
Forte dei Marmi	49.49	28.28	77.77	6.97	15.27
Fosciandora	63.01	32.88	95.89	2.74	1.37
Fosdinovo	9.90	55.38	65.28	3.16	31.56

Fucecchio	54.59	20.28	74.87	19.83	5.30
Gaiole in Chianti	73.29	11.57	84.87	9.79	5.34
Galliciano	48.43	39.57	87.99	7.87	4.13
Gambassi Terme	35.60	23.00	58.60	35.78	5.62
Gavorrano	68.77	12.16	80.93	12.42	6.65
Greve in Chianti	51.33	38.19	89.51	5.24	5.24
Grosseto	68.00	13.51	81.51	9.24	9.25
Guardistallo	45.59	43.38	88.97	9.56	1.47
Impruneta	35.02	56.66	91.69	3.29	5.02
Isola del Giglio	18.64	46.89	65.54	20.90	13.56
Lajatico	46.41	42.48	88.89	6.54	4.58
Lamporecchio	12.43	74.26	86.70	8.07	5.23
Larciano	22.59	63.33	85.93	8.89	5.19
Lastra a Signa	0.00	91.08	91.08	2.65	6.27
Laterina Pergine Valdarno	28.85	49.94	78.79	13.69	7.52
Licciana Nardi	31.85	43.56	75.41	5.33	19.26
Livorno	62.80	25.46	88.26	5.34	6.40
Londa	20.00	72.55	92.55	0.78	6.67
Loro Ciuffenna	45.88	26.92	72.79	22.58	4.63
Lucca	57.43	29.15	86.58	7.80	5.61
Lucignano	11.55	72.98	84.53	7.84	7.63
Magliano in Toscana	16.98	61.64	78.62	9.22	12.16
Manciano	26.22	50.00	76.22	8.06	15.71
Marciana	37.21	37.98	75.19	11.63	13.18
Marciana Marina	40.19	35.41	75.60	11.48	12.92
Marciano della Chiana	10.92	74.02	84.93	6.77	8.30
Marliana	48.46	41.33	89.79	6.65	3.56
Marradi	15.07	13.10	28.17	0.44	71.40
Massa	59.44	26.01	85.45	4.59	9.96
Massa e Cozzile	39.66	43.30	82.95	13.03	4.02
Massa Marittima	73.04	8.87	81.91	11.39	6.70
Massarosa	62.22	27.66	89.88	5.22	4.90
Minucciano	41.01	47.48	88.49	4.32	7.19
Molazzana	58.43	32.53	90.96	5.42	3.61
Monsummano Terme	38.51	48.38	86.89	9.43	3.67
Montaione	51.83	15.14	66.97	29.59	3.44
Montalcino	62.85	21.00	83.85	7.78	8.37
Montale	40.68	48.34	89.02	3.47	7.51
Monte Argentario	29.09	46.18	75.26	5.84	18.89
Monte San Savino	68.28	16.34	84.62	6.85	8.52
Montecarlo	46.99	21.49	68.49	24.95	6.56
Montecatini Val di Cecina	44.07	38.98	83.05	11.44	5.51
Montecatini-Terre	37.83	45.35	83.18	11.00	5.82
Montelupo Fiorentino	51.88	33.33	85.21	8.03	6.76
Montemignaio	53.92	4.90	58.82	37.25	3.92
Montemurlo	69.11	23.30	92.41	2.76	4.83
Montepulciano	50.79	34.77	85.57	5.90	8.53
Monterchi	64.44	9.62	74.06	2.09	23.85
Monteriggioni	71.44	15.22	86.66	7.54	5.80
Monteroni d'Arbia	81.99	6.73	88.71	6.25	5.04
Monterotondo Marittimo	56.20	7.30	63.50	21.90	14.60
Montescudaio	46.25	30.42	76.67	15.42	7.92
Montespertoli	40.36	46.62	86.98	7.22	5.80
Montevarchi	53.49	23.13	76.61	18.88	4.51
Monteverdi Marittimo	48.06	37.21	85.27	8.53	6.20
Monticiano	79.40	11.56	90.95	4.52	4.52
Montieri	60.13	16.99	77.12	16.99	5.88
Montignoso	54.47	29.88	84.35	5.29	10.36
Montopoli in Val d'Arno	41.02	13.70	54.72	39.76	5.52
Mulazzo	34.22	37.17	71.39	2.94	25.67
Murlo	82.03	4.93	86.96	4.64	8.41
Orbetello	28.22	48.23	76.46	8.41	15.13
Orciano Pisano	59.30	29.07	88.37	5.81	5.81
Ortignano Raggiolo	69.23	5.98	75.21	21.37	3.42
Palaia	50.09	34.09	84.18	10.90	4.92
Palazzuolo sul Senio	14.29	5.84	20.13	0.65	79.22
Peccioli	51.03	32.54	83.57	11.22	5.21
Pelago	47.93	43.80	91.73	3.15	5.12

Pescaglia	54.92	32.82	87.75	8.75	3.50
Pescia	46.11	33.06	79.17	16.14	4.69
Piancastagnaio	47.92	39.93	87.85	4.34	7.81
Piazza al Serchio	50.18	36.56	86.74	6.09	7.17
Pienza	43.79	36.93	80.72	7.19	12.09
Pietrasanta	63.56	23.73	87.29	5.50	7.21
Pieve a Nievole	37.81	47.76	85.57	10.28	4.15
Pieve Fosciana	45.48	41.10	86.58	5.75	7.67
Pieve Santo Stefano	65.44	4.82	70.26	7.65	22.10
Piombino	53.08	26.50	79.58	12.34	8.08
Pisa	80.72	8.83	89.55	4.89	5.55
Pistoia	57.67	30.87	88.54	5.58	5.88
Pitigliano	23.37	52.00	75.37	5.26	19.37
Podenzana	25.19	37.60	62.79	4.26	32.95
Poggibonsi	47.96	37.18	85.14	10.47	4.39
Poggio a Caiano	57.61	33.09	90.70	3.62	5.68
Pomarance	45.52	37.38	82.90	12.14	4.97
Ponsacco	50.99	36.34	87.33	7.06	5.61
Pontassieve	46.73	46.05	92.77	2.91	4.31
Ponte Buggianese	45.00	38.24	83.24	14.08	2.68
Pontedera	55.86	31.64	87.50	7.47	5.03
Pontremoli	36.75	36.23	72.98	3.38	23.64
Poppi	67.08	6.63	73.71	20.27	6.02
Porcari	60.24	26.66	86.90	9.19	3.91
Porto Azzurro	44.36	27.24	71.60	12.65	15.76
Portoferraio	45.70	32.07	77.77	11.45	10.78
Prato	69.16	22.31	91.47	2.83	5.70
Pratovecchio Stia	66.76	4.79	71.54	21.28	7.18
Quarrata	44.20	45.01	89.21	4.50	6.29
Radda in Chianti	60.65	12.50	73.15	21.76	5.09
Radicofani	40.85	43.66	84.51	7.75	7.75
Radicondoli	44.44	45.19	89.63	7.41	2.96
Rapolano Terme	77.42	11.29	88.71	6.80	4.49
Reggello	48.96	36.78	85.73	10.14	4.12
Rignano sull'Arno	50.84	39.57	90.41	5.03	4.56
Rio	33.27	38.42	71.68	16.24	12.08
Riparbella	44.02	39.23	83.25	10.05	6.70
Roccalbegna	70.00	20.00	90.00	4.62	5.38
Roccastrada	70.99	13.36	84.36	9.26	6.38
Rosignano Marittimo	41.25	42.64	83.89	9.29	6.81
Rufina	44.20	51.25	95.45	1.84	2.71
Sambuca Pistoiese	36.31	12.29	48.60	2.23	49.16
San Casciano dei Bagni	48.78	29.76	78.54	5.85	15.61
San Casciano in Val di Pesa	34.82	54.61	89.43	5.45	5.12
San Gimignano	46.63	34.23	80.85	14.68	4.46
San Giovanni Valdarno	54.90	19.16	74.06	21.17	4.77
San Giuliano Terme	81.53	10.17	91.70	4.00	4.31
San Godenzo	16.79	73.28	90.08	3.05	6.87
San Marcello Piteglio	65.84	25.54	91.39	4.04	4.57
San Miniato	51.29	17.38	68.68	25.80	5.52
San Quirico d'Orcia	25.98	60.89	86.87	6.70	6.42
San Romano in Garfagnana	44.09	38.17	82.26	8.06	9.68
San Vincenzo	47.65	30.40	78.05	14.67	7.28
Sansepolcro	65.72	5.67	71.39	7.46	21.14
Santa Croce sull'Arno	50.98	16.77	67.75	27.73	4.53
Santa Fiora	55.36	23.47	78.83	12.24	8.93
Santa Luce	28.50	58.00	86.50	8.00	5.50
Santa Maria a Monte	47.87	35.74	83.62	10.50	5.89
Sarteano	44.09	37.74	81.83	5.47	12.70
Sassetta	46.15	38.46	84.62	11.54	3.85
Scandicci	0.00	92.35	92.35	2.53	5.13
Scansano	67.88	19.17	87.05	4.49	8.46
Scarlino	64.84	8.84	73.68	18.32	8.00
Scarperia e San Piero	43.07	47.14	90.20	1.78	8.02
Seggiano	50.70	33.10	83.80	7.75	8.45
Semproniano	54.90	21.57	76.47	11.76	11.76
Seravezza	65.40	24.31	89.71	3.85	6.44
Serravalle Pistoiese	58.05	33.05	91.11	4.51	4.38

Sestino	32.75	4.09	36.84	1.75	61.40
Sesto Fiorentino	0.00	92.13	92.13	2.54	5.33
Siena	79.43	7.75	87.18	6.28	6.54
Signa	0.00	89.41	89.41	3.32	7.27
Sillano Giuncugnano	43.42	45.39	88.82	5.92	5.26
Sinalunga	42.23	43.50	85.73	6.56	7.71
Sorano	25.73	44.97	70.69	5.82	23.49
Sovicille	81.13	7.66	88.79	5.71	5.50
Stazzema	62.39	27.29	89.68	2.52	7.80
Subbiano	75.99	6.28	82.27	8.87	8.87
Suvereto	47.10	27.20	74.31	18.89	6.80
Talla	79.74	2.61	82.35	9.15	8.50
Terranuova Bracciolini	52.26	23.57	75.83	18.86	5.31
Terricciola	50.18	36.07	86.25	9.11	4.64
Torrita di Siena	45.89	39.81	85.70	5.60	8.70
Trequanda	43.53	45.88	89.41	3.53	7.06
Tresana	21.95	49.13	71.08	3.83	25.09
Uzzano	40.39	39.28	79.67	15.63	4.70
Vagli Sotto	56.41	40.38	96.79	3.21	0.00
Vaglia	0.00	89.37	89.37	3.85	6.78
Vaiano	70.70	20.05	90.75	2.70	6.55
Vecchiano	76.12	14.96	91.08	4.61	4.30
Vernio	67.59	19.88	87.48	1.19	11.33
Viareggio	63.26	24.61	87.87	6.18	5.96
Vicchio	45.96	45.57	91.53	1.56	6.91
Vicopisano	70.20	19.87	90.07	5.85	4.09
Villa Basilica	37.80	21.95	59.76	36.59	3.66
Villa Collemandina	54.01	35.29	89.30	5.88	4.81
Villafranca in Lunigiana	30.31	43.15	73.46	3.77	22.77
Vinci	60.18	27.46	87.65	7.80	4.55
Volterra	60.41	23.84	84.25	11.31	4.43
Zeri	37.58	29.70	67.27	3.64	29.09

Table A.6 – Distribution of total acute inpatient admissions of residents by municipality and hospital facility (≥1% of total admissions of the municipality).

The table reports the percentage of acute inpatient admissions by municipality occurring in each facility, the estimated travel time (in minutes) between each municipality and facility, calculated as a population-weighted average based on the resident population in 2021 census sections, and the type of facility according to the classification of the Tuscany Regional Health Agency (ARS Toscana, 2023).

Rank of facility for the municipality	Municipality of residence	Hospital facility	% Acute inpatient admissions of residents	Estimated travel time (minutes)	Facility type (ARS Toscana classification, 2023)
1	Abbadia San Salvatore	AOU Senese	31.97	72	DEA II level
2	Abbadia San Salvatore	Ospedale Abbadia San Salvatore	29.55	1	Disadvant. area
3	Abbadia San Salvatore	Ospedale Riuniti della Val di Chiana Senese	16.06	40	Non-DEA ED
4	Abbadia San Salvatore	Ospedale Misericordia Grosseto	5.61	69	DEA I level
5	Abbadia San Salvatore	Casa di Cura Frate Sole	2.12	83	Private
6	Abbadia San Salvatore	Ospedale dell'Alta Val d'Elsa	1.97	86	Non-DEA ED
7	Abbadia San Salvatore	AOU Careggi	1.67	110	DEA II level
7	Abbadia San Salvatore	Ospedale Area Aretina Nord	1.67	70	DEA I level
9	Abbadia San Salvatore	AOU Meyer	1.06	110	Paed. DEA II
1	Abetone Cutigliano	Ospedale San Jacopo Pistoia	33.85	43	DEA I level
2	Abetone Cutigliano	Ospedale Lorenzo Pacini San Marcello Pistoiese	33.33	14	Disadvant. area
3	Abetone Cutigliano	AOU Careggi	6.15	69	DEA II level
4	Abetone Cutigliano	AOU Pisana	3.08	72	DEA II level
5	Abetone Cutigliano	Ospedale della Valdinievole	2.05	39	Non-DEA ED
5	Abetone Cutigliano	Ospedale Torregalli	2.05	66	DEA I level
5	Abetone Cutigliano	Ospedale S.Stefano di Prato	2.05	54	DEA I level
8	Abetone Cutigliano	Ospedale Fucecchio	1.54	64	Other
8	Abetone Cutigliano	Casa di Cura Santa Rita	1.54	48	Private
8	Abetone Cutigliano	Casa di Cura Ulivella e Glicini	1.54	68	Private
11	Abetone Cutigliano	AOU Meyer	1.03	69	Paed. DEA II

11	Abetone Cutigliano	Ospedale S. Maria Nuova Firenze	1.03	72	Non-DEA ED
11	Abetone Cutigliano	Ospedale Bagno a Ripoli	1.03	70	DEA I level
1	Aglia	Ospedale San Jacopo Pistoia	48.65	7	DEA I level
2	Aglia	Ospedale S.Stefano di Prato	16.16	8	DEA I level
3	Aglia	AOU Careggi	11.22	23	DEA II level
4	Aglia	Casa di Cura Villa Fiorita	3	12	Private
5	Aglia	AOU Pisana	2.29	46	DEA II level
6	Aglia	AOU Meyer	2.23	23	Paed. DEA II
7	Aglia	Ospedale della Valdinievole	1.94	26	Non-DEA ED
8	Aglia	Casa di Cura Ulivella e Glicini	1.59	22	Private
9	Aglia	Ospedale Bagno a Ripoli	1	24	DEA I level
1	Altopascio	Ospedale San Luca Lucca	49.06	11	DEA I level
2	Altopascio	AOU Pisana	14.46	28	DEA II level
3	Altopascio	Ospedale della Valdinievole	6.18	13	Non-DEA ED
4	Altopascio	AOU Careggi	4.29	40	DEA II level
5	Altopascio	Ospedale San Jacopo Pistoia	1.82	15	DEA I level
6	Altopascio	Ospedale S. Croce Castelnuovo Garfagnana	1.74	52	Non-DEA ED
7	Altopascio	Casa di Cura M.D. Barbantini Santa Chiara	1.67	13	Private
8	Altopascio	Ospedale Pediatrico Apuano	1.38	36	FTGM
9	Altopascio	Ospedale S. Francesco Barga	1.31	45	Other
9	Altopascio	AOU Meyer	1.31	40	Paed. DEA II
11	Altopascio	Ospedale Unico Versilia	1.09	28	DEA I level
1	Anghiari	Ospedale Area Aretina Nord	35.41	31	DEA I level
2	Anghiari	Ospedale Val Tiberina	33.91	14	Disadvant. area
3	Anghiari	AOU Careggi	3	85	DEA II level
4	Anghiari	AOU Senese	2.36	87	DEA II level
5	Anghiari	Centro Chirurgico Toscano	1.93	29	Private
6	Anghiari	Ospedale Civile Bibbiena	1.29	43	Disadvant. area
6	Anghiari	Ospedale del Valdarno	1.29	51	Non-DEA ED
6	Anghiari	San Giuseppe	1.29	31	Private
9	Anghiari	AOU Meyer	1.07	85	Paed. DEA II
1	Arcidosso	Ospedale Misericordia Grosseto	41.61	48	DEA I level
2	Arcidosso	Ospedale Civile Castel del Piano	21.9	5	Disadvant. area
3	Arcidosso	AOU Senese	11.68	70	DEA II level
4	Arcidosso	Ospedale S. Andrea Massa Marittima	3.16	72	Non-DEA ED
5	Arcidosso	Ospedale Abbazia San Salvatore	2.19	23	Disadvant. area
6	Arcidosso	AOU Pisana	1.95	141	DEA II level
7	Arcidosso	Ospedale S. Giovanni di Dio Orbetello	1.7	72	Non-DEA ED
8	Arcidosso	Ospedale Riuniti della Val di Chiana Senese	1.46	52	Non-DEA ED
1	Arezzo	Ospedale Area Aretina Nord	67.82	7	DEA I level
2	Arezzo	Centro Chirurgico Toscano	6.72	9	Private
3	Arezzo	AOU Senese	4.78	63	DEA II level
4	Arezzo	AOU Careggi	3.2	61	DEA II level
5	Arezzo	San Giuseppe	2.65	8	Private
6	Arezzo	Ospedale Civile Bibbiena	1.34	47	Disadvant. area
1	Asciano	AOU Senese	76.56	25	DEA II level
2	Asciano	Ospedale Riuniti della Val di Chiana Senese	4.17	34	Non-DEA ED
3	Asciano	Rugani	3.13	27	Private
4	Asciano	Ospedale dell'Alta Val d'Elsa	2.78	41	Non-DEA ED
5	Asciano	AOU Careggi	1.22	79	DEA II level
6	Asciano	SPDC c/o AOU Senese	1.04	25	Other
6	Asciano	AOU Pisana	1.04	112	DEA II level
6	Asciano	Ospedale Area Aretina Nord	1.04	44	DEA I level
1	Aulla	Ospedale delle Apuane	25.38	21	DEA I level
2	Aulla	Ospedale Pontremoli	20.91	21	Non-DEA ED
3	Aulla	Ospedale Fivizzano	11.89	17	Non-DEA ED
4	Aulla	AOU Pisana	6.97	53	DEA II level
5	Aulla	Ospedale Pediatrico Apuano	2.86	26	FTGM
6	Aulla	Ospedale Unico Versilia	1.88	30	DEA I level
7	Aulla	Casa di Cura M.D. Barbantini Santa Chiara	1.43	47	Private
8	Aulla	Istituto di Fisiologia Clinica - CNR	1.07	49	FTGM
1	Badia Tedalda	Ospedale Val Tiberina	19.18	28	Disadvant. area
2	Badia Tedalda	Ospedale Area Aretina Nord	15.07	59	DEA I level

3	Badia Tedalda	AOU Careggi	4.11	115	DEA II level
4	Badia Tedalda	AOU Senese	2.74	117	DEA II level
4	Badia Tedalda	Centro Chirurgico Toscano	2.74	59	Private
4	Badia Tedalda	San Giuseppe	2.74	61	Private
7	Badia Tedalda	AOU Meyer	1.37	115	Paed. DEA II
1	Bagni di Lucca	Ospedale San Luca Lucca	40.04	30	DEA I level
2	Bagni di Lucca	Ospedale S. Croce Castelnuovo Garfagnana	20.29	26	Non-DEA ED
3	Bagni di Lucca	Ospedale S. Francesco Barga	15.54	19	Other
4	Bagni di Lucca	AOU Pisana	10.05	49	DEA II level
5	Bagni di Lucca	Casa di Cura M.D. Barbantini Santa Chiara	2.19	28	Private
6	Bagni di Lucca	Ospedale Unico Versilia	1.46	45	DEA I level
7	Bagni di Lucca	Casa di Cura Santa Rita	1.1	36	Private
1	Bagno A Ripoli	Ospedale Bagno a Ripoli	41.49	5	DEA I level
2	Bagno A Ripoli	AOU Careggi	20.56	20	DEA II level
3	Bagno a Ripoli	Casa di Cura Ulivella e Glicini	6.36	19	Private
4	Bagno a Ripoli	Ospedale Serristori	4.84	18	Disadvant. area
5	Bagno A Ripoli	Ospedale Torregalli	3.96	14	DEA I level
6	Bagno A Ripoli	Ospedale S. Maria Nuova Firenze	2.86	13	Non-DEA ED
7	Bagno A Ripoli	AOU Meyer	2.49	20	Paed. DEA II
8	Bagno a Ripoli	Casa di Cura Val Di Sieve	1.34	18	Private
9	Bagno A Ripoli	Ospedale S.Stefano di Prato	1.11	27	DEA I level
1	Bagnone	Ospedale Pontremoli	39.07	20	Non-DEA ED
2	Bagnone	Ospedale delle Apuane	21.85	32	DEA I level
3	Bagnone	AOU Pisana	9.93	65	DEA II level
4	Bagnone	Ospedale Fivizzano	6.62	25	Non-DEA ED
5	Bagnone	Ospedale Pediatrico Apuano	3.31	38	FTGM
6	Bagnone	AOU Careggi	1.32	101	DEA II level
6	Bagnone	Ospedale Unico Versilia	1.32	42	DEA I level
6	Bagnone	Casa di Cura San Camillo Forte dei Marmi	1.32	36	Private
1	Barberino di Mugello	Ospedale Borgo San Lorenzo	42.69	25	Non-DEA ED
2	Barberino di Mugello	AOU Careggi	22.86	30	DEA II level
3	Barberino di Mugello	Ospedale Bagno a Ripoli	8.46	32	DEA I level
4	Barberino di Mugello	AOU Meyer	3.97	31	Paed. DEA II
5	Barberino di Mugello	Casa di Cura Ulivella e Glicini	2.92	30	Private
6	Barberino di Mugello	Ospedale Torregalli	2.71	28	DEA I level
7	Barberino di Mugello	Ospedale S.Stefano di Prato	1.98	28	DEA I level
8	Barberino di Mugello	Ospedale S. Maria Nuova Firenze	1.36	33	Non-DEA ED
1	Barberino Tavarnelle	Ospedale Bagno a Ripoli	23.11	26	DEA I level
2	Barberino Tavarnelle	Ospedale dell'Alta Val d'Elsa	21.55	14	Non-DEA ED
3	Barberino Tavarnelle	AOU Careggi	13.58	39	DEA II level
4	Barberino Tavarnelle	AOU Senese	11.4	31	DEA II level
5	Barberino Tavarnelle	Ospedale Torregalli	7.77	28	DEA I level
6	Barberino Tavarnelle	Casa di Cura Ulivella e Glicini	4.15	38	Private
7	Barberino Tavarnelle	AOU Meyer	3.63	39	Paed. DEA II
8	Barberino Tavarnelle	Ospedale Serristori	3.21	41	Disadvant. area
9	Barberino Tavarnelle	Ospedale S. Maria Nuova Firenze	1.24	34	Non-DEA ED
9	Barberino Tavarnelle	Ospedale S. Giuseppe	1.24	35	DEA I level
1	Barga	Ospedale S. Croce Castelnuovo Garfagnana	26	12	Non-DEA ED
2	Barga	Ospedale S. Francesco Barga	22.88	4	Other
3	Barga	Ospedale San Luca Lucca	21.62	36	DEA I level
4	Barga	AOU Pisana	13.83	55	DEA II level
5	Barga	AOU Meyer	1.75	81	Paed. DEA II
6	Barga	Ospedale Unico Versilia	1.27	52	DEA I level
6	Barga	Ospedale delle Apuane	1.27	49	DEA I level
1	Bibbiena	Ospedale Civile Bibbiena	40.45	6	Disadvant. area
2	Bibbiena	Ospedale Area Aretina Nord	34.9	49	DEA I level
3	Bibbiena	AOU Careggi	4.54	71	DEA II level
4	Bibbiena	AOU Senese	4.38	103	DEA II level
5	Bibbiena	Centro Chirurgico Toscano	3.44	45	Private
6	Bibbiena	AOU Pisana	1.02	124	DEA II level
1	Bibbona	Ospedale Civile di Cecina	47.31	8	Non-DEA ED
2	Bibbona	AOU Pisana	19.23	41	DEA II level
3	Bibbona	Ospedale Riuniti Livorno	15.77	36	DEA I level
4	Bibbona	Ospedale Villa Marina Piombino	2.31	34	Non-DEA ED
5	Bibbona	AOU Careggi	1.15	91	DEA II level
1	Bientina	Ospedale Filippo Lotti Pontedera	47.01	12	DEA I level

2	Bientina	AOU Pisana	31.34	21	DEA II level
3	Bientina	Ospedale Riuniti Livorno	2.71	32	DEA I level
4	Bientina	AOU Careggi	1.99	51	DEA II level
5	Bientina	Istituto di Fisiologia Clinica - CNR	1.85	23	FTGM
6	Bientina	AOU Meyer	1.28	52	Paed. DEA II
7	Bientina	Ospedale San Luca Lucca	1.14	21	DEA I level
8	Bientina	Ospedale Volterra	1	49	Non-DEA ED
8	Bientina	Ospedale S. Giuseppe	1	28	DEA I level
1	Borgo A Mozzano	Ospedale San Luca Lucca	42.41	21	DEA I level
2	Borgo A Mozzano	AOU Pisana	13.46	40	DEA II level
3	Borgo a Mozzano	Ospedale S. Francesco Barga	12.36	19	Other
4	Borgo A Mozzano	Ospedale S. Croce Castelnuovo Garfagnana	12.05	25	Non-DEA ED
5	Borgo a Mozzano	Casa di Cura M.D. Barbantini Santa Chiara	2.19	20	Private
6	Borgo A Mozzano	AOU Meyer	2.03	67	Paed. DEA II
7	Borgo A Mozzano	Ospedale Unico Versilia	1.88	36	DEA I level
7	Borgo a Mozzano	Casa di Cura Ulivella e Glicini	1.88	66	Private
9	Borgo a Mozzano	Ospedale Pediatrico Apuano	1.72	45	FTGM
10	Borgo A Mozzano	AOU Careggi	1.56	66	DEA II level
11	Borgo A Mozzano	Ospedale delle Apuane	1.1	44	DEA I level
1	Borgo San Lorenzo	Ospedale Borgo San Lorenzo	49.11	5	Non-DEA ED
2	Borgo San Lorenzo	AOU Careggi	18.71	29	DEA II level
3	Borgo San Lorenzo	Ospedale Bagno a Ripoli	8.43	36	DEA I level
4	Borgo San Lorenzo	Ospedale Torregalli	2.91	37	DEA I level
5	Borgo San Lorenzo	AOU Meyer	2.67	29	Paed. DEA II
6	Borgo San Lorenzo	Casa di Cura Ulivella e Glicini	1.96	30	Private
7	Borgo San Lorenzo	Ospedale S.Stefano di Prato	1.37	49	DEA I level
8	Borgo San Lorenzo	Ospedale S. Maria Nuova Firenze	1.19	32	Non-DEA ED
1	Bucine	Ospedale del Valdarno	52.31	15	Non-DEA ED
2	Bucine	Ospedale Area Aretina Nord	16.96	26	DEA I level
3	Bucine	AOU Senese	9.14	37	DEA II level
4	Bucine	AOU Careggi	8.26	49	DEA II level
5	Bucine	Centro Chirurgico Toscano	1.87	28	Private
6	Bucine	AOU Meyer	1.65	50	Paed. DEA II
1	Buggiano	Ospedale della Valdinievole	47.03	9	Non-DEA ED
2	Buggiano	Ospedale San Jacopo Pistoia	17.7	13	DEA I level
3	Buggiano	AOU Pisana	8.17	34	DEA II level
4	Buggiano	AOU Careggi	5.45	38	DEA II level
5	Buggiano	Ospedale S.Stefano di Prato	3.22	23	DEA I level
6	Buggiano	AOU Meyer	2.48	38	Paed. DEA II
7	Buggiano	Casa di Cura Santa Rita	2.23	6	Private
8	Buggiano	Ospedale Bagno a Ripoli	1.24	39	DEA I level
9	Buggiano	Ospedale San Luca Lucca	1.11	18	DEA I level
1	Buonconvento	AOU Senese	73.17	33	DEA II level
2	Buonconvento	Ospedale dell'Alta Val d'Elsa	3.48	47	Non-DEA ED
2	Buonconvento	Ospedale Misericordia Grosseto	3.48	62	DEA I level
4	Buonconvento	Rugani	3.14	33	Private
5	Buonconvento	AOU Careggi	2.44	93	DEA II level
6	Buonconvento	AOU Pisana	1.39	117	DEA II level
7	Buonconvento	SPDC c/o AOU Senese	1.05	33	Other
7	Buonconvento	Ospedale Riuniti della Val di Chiana Senese	1.05	38	Non-DEA ED
7	Buonconvento	Ospedale S.Stefano di Prato	1.05	95	DEA I level
1	Buti	Ospedale Filippo Lotti Pontedera	45.93	15	DEA I level
2	Buti	AOU Pisana	33.82	21	DEA II level
3	Buti	Ospedale Riuniti Livorno	2.51	32	DEA I level
4	Buti	Ospedale Volterra	2.09	53	Non-DEA ED
5	Buti	AOU Careggi	1.88	50	DEA II level
6	Buti	Istituto di Fisiologia Clinica - CNR	1.67	20	FTGM
7	Buti	AOU Meyer	1.04	51	Paed. DEA II
1	Calci	AOU Pisana	77.8	13	DEA II level
2	Calci	Ospedale Filippo Lotti Pontedera	5.69	23	DEA I level
3	Calci	Istituto di Fisiologia Clinica - CNR	2.85	12	FTGM
4	Calci	Ospedale San Luca Lucca	1.14	24	DEA I level
1	Calcinaia	Ospedale Filippo Lotti Pontedera	45.27	8	DEA I level
2	Calcinaia	AOU Pisana	31.3	17	DEA II level

3	Calcinaia	Ospedale Riuniti Livorno	2.53	28	DEA I level
4	Calcinaia	Ospedale Volterra	2.34	47	Non-DEA ED
5	Calcinaia	Istituto di Fisiologia Clinica - CNR	2.16	20	FTGM
6	Calcinaia	AOU Careggi	1.97	54	DEA II level
7	Calcinaia	AOU Meyer	1.87	55	Paed. DEA II
1	Calenzano	AOU Careggi	61.64	16	DEA II level
2	Calenzano	Ospedale S.Stefano di Prato	8.08	13	DEA I level
3	Calenzano	AOU Meyer	5.16	16	Paed. DEA II
4	Calenzano	Casa di Cura Ulivella e Glicini	2.99	16	Private
5	Calenzano	Ospedale Torregalli	2.38	13	DEA I level
6	Calenzano	Casa di Cura Villa Fiorita	1.77	16	Private
7	Calenzano	SPDC OBLATE	1.56	16	Other
7	Calenzano	Ospedale S. Maria Nuova Firenze	1.56	19	Non-DEA ED
9	Calenzano	Ospedale Bagno a Ripoli	1.29	17	DEA I level
1	Camaione	Ospedale Unico Versilia	62.61	8	DEA I level
2	Camaione	AOU Pisana	10.13	28	DEA II level
3	Camaione	Ospedale delle Apuane	4.5	16	DEA I level
4	Camaione	Ospedale Pediatrico Apuano	2.4	17	FTGM
5	Camaione	Casa di Cura San Camillo Forte dei Marmi	2.37	12	Private
6	Camaione	Ospedale San Luca Lucca	2	23	DEA I level
7	Camaione	AOU Careggi	1.66	64	DEA II level
8	Camaione	Ospedale Riuniti Livorno	1.42	33	DEA I level
1	Campagnatico	Ospedale Misericordia Grosseto	71.48	20	DEA I level
2	Campagnatico	AOU Senese	8.89	69	DEA II level
3	Campagnatico	AOU Careggi	2.22	128	DEA II level
3	Campagnatico	Ospedale S. Giovanni di Dio Orbetello	2.22	48	Non-DEA ED
5	Campagnatico	AOU Meyer	1.85	129	Paed. DEA II
6	Campagnatico	AOU Pisana	1.48	118	DEA II level
7	Campagnatico	Ospedale S. Andrea Massa Marittima	1.11	51	Non-DEA ED
7	Campagnatico	Centro Chirurgico Toscano	1.11	98	Private
1	Campi Bisenzio	AOU Careggi	59.8	15	DEA II level
2	Campi Bisenzio	Ospedale S.Stefano di Prato	10.35	12	DEA I level
3	Campi Bisenzio	Ospedale Torregalli	4.45	11	DEA I level
4	Campi Bisenzio	AOU Meyer	3.95	16	Paed. DEA II
5	Campi Bisenzio	Casa di Cura Ulivella e Glicini	2	15	Private
6	Campi Bisenzio	Ospedale Bagno a Ripoli	1.95	14	DEA I level
7	Campi Bisenzio	Casa di Cura Villa Fiorita	1.62	16	Private
8	Campi Bisenzio	Ospedale S. Maria Nuova Firenze	1.59	17	Non-DEA ED
9	Campi Bisenzio	SPDC OBLATE	1.32	15	Other
1	Campiglia Marittima	Ospedale Villa Marina Piombino	44.73	17	Non-DEA ED
2	Campiglia Marittima	AOU Pisana	13.39	60	DEA II level
3	Campiglia Marittima	Ospedale Riuniti Livorno	11.09	55	DEA I level
4	Campiglia Marittima	Ospedale Civile di Cecina	9.85	27	Non-DEA ED
5	Campiglia Marittima	Ospedale Misericordia Grosseto	3.93	49	DEA I level
6	Campiglia Marittima	AOU Careggi	1.54	111	DEA II level
7	Campiglia Marittima	Ospedale S. Andrea Massa Marittima	1.15	31	Non-DEA ED
8	Campiglia Marittima	AOU Senese	1.08	85	DEA II level
1	Campo Nell'Elba	Ospedale Civile Elbano Portoferraio	46.08	18	Non-DEA ED
1	Camporgiano	Ospedale S. Croce Castelnuovo Garfagnana	39.26	10	Non-DEA ED
2	Camporgiano	Ospedale S. Francesco Barga	16.12	23	Other
3	Camporgiano	AOU Pisana	13.64	71	DEA II level
4	Camporgiano	Ospedale San Luca Lucca	12.4	52	DEA I level
5	Camporgiano	Istituto di Fisiologia Clinica - CNR	2.48	67	FTGM
5	Camporgiano	Ospedale Pediatrico Apuano	2.48	42	FTGM
7	Camporgiano	Ospedale delle Apuane	2.07	45	DEA I level
8	Camporgiano	AOU Careggi	1.24	96	DEA II level
8	Camporgiano	Casa di Cura M.D. Barbantini Santa Chiara	1.24	50	Private
1	Cantagallo	Ospedale S.Stefano di Prato	63.69	21	DEA I level
2	Cantagallo	AOU Careggi	8.31	40	DEA II level
3	Cantagallo	Casa di Cura Villa Fiorita	7.69	18	Private
4	Cantagallo	AOU Pisana	1.54	70	DEA II level
5	Cantagallo	Casa di Cura Ulivella e Glicini	1.23	39	Private

1	Capalbio	Ospedale Misericordia Grosseto	38.58	48	DEA I level
2	Capalbio	Ospedale S. Giovanni di Dio Orbetello	32.55	18	Non-DEA ED
3	Capalbio	AOU Senese	4.72	121	DEA II level
4	Capalbio	AOU Pisana	1.05	148	DEA II level
1	Capannoli	Ospedale Filippo Lotti Pontedera	50.62	12	DEA I level
2	Capannoli	AOU Pisana	21.16	24	DEA II level
3	Capannoli	AOU Meyer	5.47	59	Paed. DEA II
4	Capannoli	Ospedale Volterra	3.88	32	Non-DEA ED
5	Capannoli	Ospedale Riuniti Livorno	3.53	31	DEA I level
6	Capannoli	Istituto di Fisiologia Clinica - CNR	2.12	27	FTGM
7	Capannoli	AOU Careggi	1.76	59	DEA II level
8	Capannoli	Ospedale Pediatrico Apuano	1.23	54	FTGM
1	Capannori	Ospedale San Luca Lucca	59.53	10	DEA I level
2	Capannori	AOU Pisana	14.95	28	DEA II level
3	Capannori	Casa di Cura M.D. Barbantini Santa Chiara	2.3	11	Private
4	Capannori	AOU Careggi	1.94	50	DEA II level
5	Capannori	Ospedale S. Croce Castelnuovo Garfagnana	1.89	44	Non-DEA ED
6	Capannori	AOU Meyer	1.82	50	Paed. DEA II
7	Capannori	Ospedale della Valdinievole	1.67	20	Non-DEA ED
8	Capannori	Ospedale S. Francesco Barga	1.36	37	Other
9	Capannori	Ospedale Unico Versilia	1.29	28	DEA I level
10	Capannori	Ospedale Pediatrico Apuano	1.1	36	FTGM
1	Capoliveri	Ospedale Civile Elbano Portoferraio	43.96	11	Non-DEA ED
1	Capolona	Ospedale Area Aretina Nord	60.46	21	DEA I level
2	Capolona	AOU Senese	7.66	76	DEA II level
3	Capolona	Centro Chirurgico Toscano	7.04	18	Private
4	Capolona	Ospedale Civile Bibbiena	6.63	27	Disadvant. area
5	Capolona	San Giuseppe	2.9	20	Private
6	Capolona	Ospedale del Valdarno	2.69	39	Non-DEA ED
7	Capolona	AOU Careggi	2.28	73	DEA II level
8	Capolona	AOU Pisana	1.45	122	DEA II level
1	Capraia e Limite	Ospedale S. Giuseppe	54.62	9	DEA I level
2	Capraia e Limite	AOU Careggi	14.19	32	DEA II level
3	Capraia e Limite	AOU Pisana	4.46	47	DEA II level
4	Capraia e Limite	AOU Meyer	3.47	32	Paed. DEA II
5	Capraia e Limite	Ospedale Torregalli	2.64	24	DEA I level
6	Capraia e Limite	Ospedale Bagno a Ripoli	1.32	27	DEA I level
7	Capraia e Limite	Casa di Cura Leonardo	1.16	8	Private
1	Caprese Michelangelo	Ospedale Area Aretina Nord	41.43	41	DEA I level
2	Caprese Michelangelo	Ospedale Val Tiberina	27.86	24	Disadvant. area
3	Caprese Michelangelo	AOU Careggi	7.14	94	DEA II level
4	Caprese Michelangelo	Ospedale Civile Bibbiena	2.86	45	Disadvant. area
4	Caprese Michelangelo	Centro Chirurgico Toscano	2.86	37	Private
6	Caprese Michelangelo	AOU Meyer	2.14	95	Paed. DEA II
6	Caprese Michelangelo	AOU Senese	2.14	97	DEA II level
8	Caprese Michelangelo	AOU Pisana	1.43	143	DEA II level
1	Careggine	Ospedale S. Croce Castelnuovo Garfagnana	36.51	13	Non-DEA ED
2	Careggine	Ospedale S. Francesco Barga	19.05	26	Other
3	Careggine	Ospedale San Luca Lucca	17.46	55	DEA I level
4	Careggine	AOU Pisana	12.7	64	DEA II level
5	Careggine	Ospedale Unico Versilia	3.17	41	DEA I level
6	Careggine	Istituto di Fisiologia Clinica - CNR	1.59	60	FTGM
6	Careggine	Ospedale Filippo Lotti Pontedera	1.59	77	DEA I level
1	Carmignano	Ospedale S. Stefano di Prato	59.82	13	DEA I level
2	Carmignano	AOU Careggi	14	24	DEA II level
3	Carmignano	Casa di Cura Villa Fiorita	4.99	17	Private
4	Carmignano	AOU Meyer	2.05	25	Paed. DEA II
5	Carmignano	Ospedale Bagno a Ripoli	1.69	24	DEA I level
6	Carmignano	Ospedale San Jacopo Pistoia	1.61	17	DEA I level
7	Carmignano	Ospedale Torregalli	1.39	20	DEA I level
8	Carmignano	Ospedale S. Maria Nuova Firenze	1.1	26	Non-DEA ED
1	Carrara	Ospedale delle Apuane	62.7	8	DEA I level
2	Carrara	AOU Pisana	8.16	41	DEA II level

3	Carrara	Casa di Cura San Camillo Forte dei Marmi	3.2	12	Private
4	Carrara	Ospedale Unico Versilia	3.15	18	DEA I level
5	Carrara	Ospedale Pediatrico Apuano	2.93	12	FTGM
6	Carrara	Ospedale Pontremoli	2.23	35	Non-DEA ED
7	Carrara	Ospedale Fivizzano	2.14	32	Non-DEA ED
8	Carrara	AOU Meyer	1.22	78	Paed. DEA II
1	Casale Marittimo	Ospedale Civile di Cecina	48.65	9	Non-DEA ED
2	Casale Marittimo	AOU Pisana	10.81	42	DEA II level
3	Casale Marittimo	Ospedale Riuniti Livorno	9.46	37	DEA I level
4	Casale Marittimo	Ospedale Villa Marina Piombino	4.05	39	Non-DEA ED
4	Casale Marittimo	Ospedale delle Apuane	4.05	63	DEA I level
6	Casale Marittimo	Ospedale Pediatrico Apuano	2.7	64	FTGM
6	Casale Marittimo	Casa di Cura M.D. Barbantini Santa Chiara	2.7	56	Private
6	Casale Marittimo	Casa di Cura Ville di Nozzano	2.7	52	Private
9	Casale Marittimo	AOU Careggi	1.35	92	DEA II level
9	Casale Marittimo	AOU Meyer	1.35	93	Paed. DEA II
9	Casale Marittimo	Casa di Cura San Camillo Forte dei Marmi	1.35	59	Private
1	Casciana Terme Lari	Ospedale Filippo Lotti Pontedera	47.4	13	DEA I level
2	Casciana Terme Lari	AOU Pisana	24.52	23	DEA II level
3	Casciana Terme Lari	Ospedale Volterra	3.81	38	Non-DEA ED
4	Casciana Terme Lari	Ospedale Riuniti Livorno	3.73	27	DEA I level
5	Casciana Terme Lari	Istituto di Fisiologia Clinica - CNR	1.99	26	FTGM
6	Casciana Terme Lari	AOU Careggi	1.91	62	DEA II level
7	Casciana Terme Lari	AOU Meyer	1.56	62	Paed. DEA II
8	Casciana Terme Lari	SPDC Aziendale USL 5	1.21	28	Other
1	Cascina	AOU Pisana	76.16	10	DEA II level
2	Cascina	Ospedale Filippo Lotti Pontedera	6.82	15	DEA I level
3	Cascina	Istituto di Fisiologia Clinica - CNR	2.85	13	FTGM
4	Cascina	AOU Meyer	1.34	61	Paed. DEA II
5	Cascina	SPDC Aziendale USL 5	1.15	15	Other
6	Cascina	Ospedale Riuniti Livorno	1.02	23	DEA I level
1	Casola in Lunigiana	Ospedale Fivizzano	33.71	13	Non-DEA ED
2	Casola in Lunigiana	Ospedale delle Apuane	25.84	38	DEA I level
3	Casola in Lunigiana	Ospedale Pontremoli	12.36	38	Non-DEA ED
4	Casola in Lunigiana	AOU Pisana	6.74	71	DEA II level
5	Casola in Lunigiana	AOU Careggi	2.25	108	DEA II level
5	Casola in Lunigiana	Ospedale Pediatrico Apuano	2.25	39	FTGM
5	Casola in Lunigiana	Ospedale Unico Versilia	2.25	48	DEA I level
5	Casola in Lunigiana	Casa di Cura San Camillo Forte dei Marmi	2.25	42	Private
9	Casola in Lunigiana	AOU Meyer	1.12	108	Paed. DEA II
9	Casola in Lunigiana	Ospedale S. Croce Castelnuovo Garfagnana	1.12	33	Non-DEA ED
9	Casola in Lunigiana	Casa di Cura M.D. Barbantini Santa Chiara	1.12	65	Private
9	Casola in Lunigiana	Casa di Cura Ulivella e Glicini	1.12	107	Private
1	Casole d'Elsa	AOU Senese	42.51	29	DEA II level
2	Casole d'Elsa	Ospedale dell'Alta Val d'Elsa	38.53	18	Non-DEA ED
3	Casole d'Elsa	AOU Meyer	3.67	66	Paed. DEA II
4	Casole d'Elsa	AOU Careggi	2.75	65	DEA II level
5	Casole d'Elsa	Casa di Cura Frate Sole	1.22	68	Private
1	Castagneto Carducci	Ospedale Civile di Cecina	44.12	15	Non-DEA ED
2	Castagneto Carducci	Ospedale Riuniti Livorno	15.69	42	DEA I level
3	Castagneto Carducci	AOU Pisana	14.85	47	DEA II level
4	Castagneto Carducci	Ospedale Villa Marina Piombino	4.62	27	Non-DEA ED
5	Castagneto Carducci	AOU Careggi	1.82	98	DEA II level
6	Castagneto Carducci	Ospedale delle Apuane	1.12	69	DEA I level
6	Castagneto Carducci	Casa di Cura San Camillo Forte dei Marmi	1.12	65	Private
1	Castel del Piano	Ospedale Misericordia Grosseto	41.63	50	DEA I level
2	Castel del Piano	Ospedale Civile Castel del Piano	28.16	3	Disadvant. area
3	Castel del Piano	AOU Senese	8.57	66	DEA II level
4	Castel del Piano	Ospedale S. Giovanni di Dio Orbetello	3.27	74	Non-DEA ED
5	Castel del Piano	Ospedale S. Andrea Massa Marittima	2.45	71	Non-DEA ED

6	Castel del Piano	AOU Careggi	1.63	116	DEA II level
6	Castel del Piano	Ospedale Riuniti della Val di Chiana Senese	1.63	48	Non-DEA ED
8	Castel del Piano	AOU Pisana	1.43	140	DEA II level
1	Castel Focognano	Ospedale Civile Bibbiena	41.87	14	Disadvant. area
2	Castel Focognano	Ospedale Area Aretina Nord	32.83	38	DEA I level
3	Castel Focognano	AOU Careggi	5.72	82	DEA II level
4	Castel Focognano	AOU Senese	4.82	93	DEA II level
5	Castel Focognano	Centro Chirurgico Toscano	3.92	34	Private
6	Castel Focognano	Ospedale del Valdarno	1.51	56	Non-DEA ED
7	Castel Focognano	AOU Pisana	1.2	135	DEA II level
1	Castel San Niccolo'	Ospedale Civile Bibbiena	42.18	24	Disadvant. area
2	Castel San Niccolo'	Ospedale Area Aretina Nord	35.03	65	DEA I level
3	Castel San Niccolo'	AOU Careggi	7.48	58	DEA II level
4	Castel San Niccolo'	Centro Chirurgico Toscano	5.44	62	Private
5	Castel San Niccolo'	AOU Senese	1.7	90	DEA II level
6	Castel San Niccolo'	AOU Meyer	1.02	58	Paed. DEA II
1	Castelfiorentino	Ospedale S. Giuseppe	55.47	19	DEA I level
2	Castelfiorentino	AOU Careggi	8.08	44	DEA II level
3	Castelfiorentino	AOU Senese	4.8	48	DEA II level
4	Castelfiorentino	Ospedale dell'Alta Val d'Elsa	4.62	28	Non-DEA ED
5	Castelfiorentino	AOU Pisana	4.56	51	DEA II level
6	Castelfiorentino	AOU Meyer	3.89	45	Paed. DEA II
7	Castelfiorentino	Ospedale Torregalli	1.52	35	DEA I level
8	Castelfiorentino	Ospedale Bagno a Ripoli	1.15	35	DEA I level
9	Castelfiorentino	Casa di Cura Leonardo	1.03	22	Private
1	Castelfranco di Sotto	Ospedale S. Giuseppe	42.12	20	DEA I level
2	Castelfranco di Sotto	AOU Pisana	14.62	29	DEA II level
3	Castelfranco di Sotto	Ospedale della Valdinievole	6.89	24	Non-DEA ED
4	Castelfranco di Sotto	Ospedale Filippo Lotti Pontedera	6.21	15	DEA I level
5	Castelfranco di Sotto	AOU Careggi	5.08	46	DEA II level
6	Castelfranco di Sotto	Ospedale San Luca Lucca	4.17	22	DEA I level
7	Castelfranco di Sotto	AOU Meyer	2.12	46	Paed. DEA II
8	Castelfranco di Sotto	Istituto di Fisiologia Clinica - CNR	1.29	30	FTGM
9	Castelfranco di Sotto	Ospedale Fucecchio	1.21	12	Other
9	Castelfranco di Sotto	Ospedale San Jacopo Pistoia	1.21	26	DEA I level
1	Castelfranco Piandisco	Ospedale del Valdarno	50.06	13	Non-DEA ED
2	Castelfranco Piandisco	Ospedale Area Aretina Nord	11.53	33	DEA I level
3	Castelfranco Piandisco	AOU Careggi	8.47	36	DEA II level
4	Castelfranco Piandisco	Ospedale Bagno a Ripoli	6.99	19	DEA I level
5	Castelfranco Piandisco	AOU Senese	5.15	52	DEA II level
6	Castelfranco Piandisco	Casa di Cura Frate Sole	2.45	10	Private
7	Castelfranco Piandisco	Ospedale Serristori	2.33	9	Disadvant. area
8	Castelfranco Piandisco	AOU Meyer	1.84	37	Paed. DEA II
8	Castelfranco Piandisco	Casa di Cura Val Di Sieve	1.84	27	Private
1	Castell'Azzara	Ospedale Misericordia Grosseto	26.19	67	DEA I level
2	Castell'Azzara	Ospedale Civile Castel del Piano	18.45	30	Disadvant. area
3	Castell'Azzara	AOU Senese	16.67	90	DEA II level
4	Castell'Azzara	Ospedale Abbadia San Salvatore	10.71	19	Disadvant. area
5	Castell'Azzara	Ospedale Petruccioli Pitigliano	5.95	23	Disadvant. area
6	Castell'Azzara	Ospedale S. Giovanni di Dio Orbetello	2.38	66	Non-DEA ED
7	Castell'Azzara	Ospedale Riuniti della Val di Chiana Senese	1.79	55	Non-DEA ED
8	Castell'Azzara	Ospedale Borgo San Lorenzo	1.19	137	Non-DEA ED
1	Castellina in Chianti	AOU Senese	57.66	17	DEA II level
2	Castellina in Chianti	Ospedale dell'Alta Val d'Elsa	19.82	16	Non-DEA ED
3	Castellina in Chianti	AOU Careggi	4.5	49	DEA II level
4	Castellina in Chianti	Rugani	3.6	13	Private
1	Castellina Marittima	Ospedale Civile di Cecina	48.6	13	Non-DEA ED
2	Castellina Marittima	AOU Pisana	18.44	33	DEA II level
2	Castellina Marittima	Ospedale Riuniti Livorno	18.44	28	DEA I level
4	Castellina Marittima	Ospedale Pediatrico Apuano	1.68	56	FTGM
4	Castellina Marittima	Ospedale Unico Versilia	1.68	47	DEA I level
6	Castellina Marittima	AOU Careggi	1.12	83	DEA II level
6	Castellina Marittima	Ospedale Volterra	1.12	39	Non-DEA ED
6	Castellina Marittima	Ospedale Villa Marina Piombino	1.12	49	Non-DEA ED
1	Castelnuovo Berardenga	AOU Senese	75.45	14	DEA II level
2	Castelnuovo Berardenga	Ospedale dell'Alta Val d'Elsa	4.14	31	Non-DEA ED

2	Castelnuovo Berardenga	Rugani	4.14	15	Private
4	Castelnuovo Berardenga	SPDC c/o AOU Senese	1.66	14	Other
5	Castelnuovo Berardenga	AOU Careggi	1.24	65	DEA II level
1	Castelnuovo di Garfagnana	Ospedale S. Croce Castelnuovo Garfagnana	36.51	2	Non-DEA ED
2	Castelnuovo di Garfagnana	Ospedale S. Francesco Barga	17.45	14	Other
3	Castelnuovo di Garfagnana	Ospedale San Luca Lucca	14.66	44	DEA I level
4	Castelnuovo di Garfagnana	AOU Pisana	13.34	63	DEA II level
5	Castelnuovo di Garfagnana	Ospedale Unico Versilia	2.64	45	DEA I level
6	Castelnuovo di Garfagnana	AOU Meyer	2.05	88	Paed. DEA II
7	Castelnuovo di Garfagnana	Istituto di Fisiologia Clinica - CNR	1.32	59	FTGM
8	Castelnuovo di Garfagnana	AOU Careggi	1.03	87	DEA II level
8	Castelnuovo di Garfagnana	Casa di Cura Ulivella e Glicini	1.03	87	Private
1	Castelnuovo Di Val Di cecina	Ospedale Volterra	27.01	33	Non-DEA ED
2	Castelnuovo di Val di cecina	AOU Senese	12.8	54	DEA II level
3	Castelnuovo di Val di cecina	AOU Pisana	12.32	75	DEA II level
4	Castelnuovo di Val di cecina	Ospedale S. Andrea Massa Marittima	10.9	24	Non-DEA ED
5	Castelnuovo di Val di cecina	Ospedale Filippo Lotti Pontedera	8.06	65	DEA I level
6	Castelnuovo di Val di cecina	Ospedale Civile di Cecina	6.16	44	Non-DEA ED
7	Castelnuovo di Val di cecina	Ospedale Riuniti Livorno	3.79	70	DEA I level
8	Castelnuovo di Val di cecina	AOU Careggi	2.37	90	DEA II level
8	Castelnuovo di Val di cecina	Ospedale Misericordia Grosseto	2.37	60	DEA I level
8	Castelnuovo di Val di Cecina	Rugani	2.37	50	Private
11	Castelnuovo di Val di Cecina	Istituto di Fisiologia Clinica - CNR	1.9	78	FTGM
1	Castiglion Fibocchi	Ospedale Area Aretina Nord	66.83	20	DEA I level
2	Castiglion Fibocchi	Ospedale del Valdarno	6.03	23	Non-DEA ED
3	Castiglion Fibocchi	AOU Senese	5.53	62	DEA II level
4	Castiglion Fibocchi	Centro Chirurgico Toscano	5.03	19	Private
5	Castiglion Fibocchi	AOU Careggi	4.02	58	DEA II level
6	Castiglion Fibocchi	San Giuseppe	3.52	18	Private
7	Castiglion Fibocchi	Ospedale Civile Bibbiena	1.51	45	Disadvant. area
8	Castiglion Fibocchi	AOU Pisana	1.01	106	DEA II level
1	Castiglion Fiorentino	Ospedale Area Aretina Nord	47.33	29	DEA I level
2	Castiglion Fiorentino	Nuovo Ospedale Valdichiana (La Fratta-Cortona)	18.18	18	Non-DEA ED
3	Castiglion Fiorentino	AOU Senese	7.31	71	DEA II level
4	Castiglion Fiorentino	San Giuseppe	6.24	30	Private
5	Castiglion Fiorentino	Centro Chirurgico Toscano	4.9	33	Private
6	Castiglion Fiorentino	AOU Careggi	2.41	78	DEA II level
7	Castiglion Fiorentino	AOU Meyer	1.6	79	Paed. DEA II
8	Castiglion Fiorentino	Ospedale Riuniti della Val di Chiana Senese	1.52	40	Non-DEA ED
9	Castiglion Fiorentino	Ospedale Civile Bibbiena	1.43	73	Disadvant. area
1	Castiglione d'Orcia	AOU Senese	37.77	61	DEA II level
2	Castiglione d'Orcia	Ospedale Abbazia San Salvatore	21.46	14	Disadvant. area
3	Castiglione d'Orcia	Ospedale Riuniti della Val di Chiana Senese	18.88	32	Non-DEA ED
4	Castiglione d'Orcia	Ospedale Misericordia Grosseto	3.86	68	DEA I level
5	Castiglione d'Orcia	Ospedale Area Aretina Nord	3.43	63	DEA I level
6	Castiglione d'Orcia	AOU Pisana	1.72	144	DEA II level
7	Castiglione d'Orcia	Ospedale dell'Alta Val d'Elsa	1.29	74	Non-DEA ED
7	Castiglione d'Orcia	Centro Chirurgico Toscano	1.29	65	Private

7	Castiglione d'Orcia	San Giuseppe	1.29	60	Private
7	Castiglione d'Orcia	Casa di Cura Frate Sole	1.29	76	Private
1	Castiglione della Pescaia	Ospedale Misericordia Grosseto	62.38	26	DEA I level
2	Castiglione della Pescaia	AOU Senese	7.93	88	DEA II level
3	Castiglione della Pescaia	Ospedale S. Andrea Massa Marittima	5.34	37	Non-DEA ED
4	Castiglione della Pescaia	AOU Pisana	3.28	95	DEA II level
5	Castiglione della Pescaia	Ospedale S. Giovanni di Dio Orbetello	1.78	55	Non-DEA ED
1	Castiglione di Garfagnana	Ospedale S. Croce Castelnuovo Garfagnana	35.91	7	Non-DEA ED
2	Castiglione di Garfagnana	Ospedale S. Francesco Barga	22.27	20	Other
3	Castiglione di Garfagnana	Ospedale San Luca Lucca	18.64	49	DEA I level
4	Castiglione di Garfagnana	AOU Pisana	10.45	68	DEA II level
5	Castiglione di Garfagnana	AOU Meyer	1.82	94	Paed. DEA II
6	Castiglione di Garfagnana	Istituto di Fisiologia Clinica - CNR	1.36	65	FTGM
6	Castiglione di Garfagnana	Ospedale Riuniti Livorno	1.36	78	DEA I level
1	Cavriglia	Ospedale del Valdarno	54.97	11	Non-DEA ED
2	Cavriglia	Ospedale Area Aretina Nord	14.72	33	DEA I level
3	Cavriglia	AOU Careggi	9.31	44	DEA II level
4	Cavriglia	AOU Senese	6.79	39	DEA II level
5	Cavriglia	Ospedale Bagno a Ripoli	1.76	27	DEA I level
6	Cavriglia	Casa di Cura Frate Sole	1.64	16	Private
7	Cavriglia	AOU Meyer	1.13	44	Paed. DEA II
7	Cavriglia	AOU Pisana	1.13	92	DEA II level
1	Cecina	Ospedale Civile di Cecina	48.51	4	Non-DEA ED
2	Cecina	AOU Pisana	14.58	36	DEA II level
3	Cecina	Ospedale Riuniti Livorno	14.54	31	DEA I level
4	Cecina	Ospedale Villa Marina Piombino	1.92	39	Non-DEA ED
5	Cecina	Ospedale delle Apuane	1.41	58	DEA I level
6	Cecina	AOU Meyer	1.37	87	Paed. DEA II
6	Cecina	Istituto di Fisiologia Clinica - CNR	1.37	39	FTGM
8	Cecina	Ospedale Unico Versilia	1.09	50	DEA I level
1	Cerreto Guidi	Ospedale S. Giuseppe	63.23	12	DEA I level
2	Cerreto Guidi	AOU Careggi	8.38	43	DEA II level
3	Cerreto Guidi	AOU Pisana	5.56	41	DEA II level
4	Cerreto Guidi	AOU Meyer	2.02	43	Paed. DEA II
4	Cerreto Guidi	Ospedale San Jacopo Pistoia	2.02	25	DEA I level
6	Cerreto Guidi	Casa di Cura Leonardo	1.72	12	Private
7	Cerreto Guidi	Ospedale Fucecchio	1.01	9	Other
7	Cerreto Guidi	Ospedale Torregalli	1.01	36	DEA I level
1	Certaldo	Ospedale S. Giuseppe	34.06	30	DEA I level
2	Certaldo	Ospedale dell'Alta Val d'Elsa	24.26	17	Non-DEA ED
3	Certaldo	AOU Senese	15.56	38	DEA II level
4	Certaldo	AOU Careggi	6.47	46	DEA II level
5	Certaldo	AOU Pisana	2.43	60	DEA II level
6	Certaldo	AOU Meyer	2.37	46	Paed. DEA II
7	Certaldo	Ospedale Volterra	1.54	35	Non-DEA ED
1	Cetona	Ospedale Riuniti della Val di Chiana Senese	46.15	19	Non-DEA ED
2	Cetona	AOU Senese	24.91	66	DEA II level
3	Cetona	Ospedale Area Aretina Nord	2.93	45	DEA I level
4	Cetona	Ospedale Abbadia San Salvatore	2.56	33	Disadvant. area
5	Cetona	AOU Pisana	1.83	133	DEA II level
5	Cetona	Centro Chirurgico Toscano	1.83	47	Private
7	Cetona	AOU Careggi	1.1	84	DEA II level
7	Cetona	AOU Meyer	1.1	85	Paed. DEA II
7	Cetona	Casa di Cura Frate Sole	1.1	57	Private
7	Cetona	Rugani	1.1	69	Private
1	Chianciano Terme	Ospedale Riuniti della Val di Chiana Senese	49.55	15	Non-DEA ED

2	Chianciano Terme	AOU Senese	21.04	63	DEA II level
3	Chianciano Terme	Ospedale Area Aretina Nord	5.07	41	DEA I level
4	Chianciano Terme	AOU Careggi	3.28	81	DEA II level
5	Chianciano Terme	Centro Chirurgico Toscano	2.24	43	Private
6	Chianciano Terme	AOU Meyer	1.49	81	Paed. DEA II
7	Chianciano Terme	San Giuseppe	1.19	38	Private
1	Chianni	Ospedale Filippo Lotti Pontedera	45.53	25	DEA I level
2	Chianni	AOU Pisana	25.2	35	DEA II level
3	Chianni	Ospedale Volterra	8.13	31	Non-DEA ED
4	Chianni	Istituto di Fisiologia Clinica - CNR	3.25	38	FTGM
4	Chianni	Ospedale Riuniti Livorno	3.25	36	DEA I level
6	Chianni	Ospedale Pediatrico Apuano	1.63	62	FTGM
6	Chianni	Ospedale San Luca Lucca	1.63	50	DEA I level
1	Chiesina Uzzanese	Ospedale della Valdinievole	49.13	10	Non-DEA ED
2	Chiesina Uzzanese	Ospedale San Jacopo Pistoia	17.1	12	DEA I level
3	Chiesina Uzzanese	AOU Pisana	8.01	30	DEA II level
4	Chiesina Uzzanese	AOU Careggi	7.36	37	DEA II level
5	Chiesina Uzzanese	Ospedale San Luca Lucca	2.6	13	DEA I level
6	Chiesina Uzzanese	Ospedale S.Stefano di Prato	2.16	23	DEA I level
7	Chiesina Uzzanese	Ospedale S. Giuseppe	1.52	30	DEA I level
8	Chiesina Uzzanese	Ospedale Fucecchio	1.08	18	Other
8	Chiesina Uzzanese	Casa di Cura Santa Rita	1.08	7	Private
1	Chitignano	Ospedale Civile Bibbiena	44.44	19	Disadvant. area
2	Chitignano	Ospedale Area Aretina Nord	30.77	40	DEA I level
3	Chitignano	AOU Senese	7.69	95	DEA II level
4	Chitignano	Centro Chirurgico Toscano	5.13	36	Private
5	Chitignano	AOU Careggi	4.27	88	DEA II level
1	Chiusdino	AOU Senese	74.65	35	DEA II level
2	Chiusdino	Ospedale dell'Alta Val d'Elsa	7.04	37	Non-DEA ED
3	Chiusdino	AOU Pisana	2.11	96	DEA II level
3	Chiusdino	Ospedale S. Andrea Massa Marittima	2.11	27	Non-DEA ED
5	Chiusdino	Ospedale Riuniti della Val di Chiana Senese	1.41	78	Non-DEA ED
5	Chiusdino	Istituto di Fisiologia Clinica - CNR	1.41	99	FTGM
5	Chiusdino	Ospedale Misericordia Grosseto	1.41	51	DEA I level
5	Chiusdino	Casa di Cura M.D. Barbantini Santa Chiara	1.41	110	Private
1	Chiusi	Ospedale Riuniti della Val di Chiana Senese	49.76	17	Non-DEA ED
2	Chiusi	AOU Senese	19.66	64	DEA II level
3	Chiusi	Ospedale Area Aretina Nord	4.73	42	DEA I level
4	Chiusi	AOU Careggi	1.33	81	DEA II level
5	Chiusi	Casa di Cura Frate Sole	1.21	55	Private
1	Chiusi della Verna	Ospedale Civile Bibbiena	31.4	19	Disadvant. area
2	Chiusi della Verna	Ospedale Area Aretina Nord	29.47	51	DEA I level
3	Chiusi della Verna	Centro Chirurgico Toscano	5.8	47	Private
4	Chiusi della Verna	AOU Careggi	5.31	88	DEA II level
5	Chiusi della Verna	AOU Senese	3.86	106	DEA II level
6	Chiusi della Verna	Ospedale Val Tiberina	3.38	45	Disadvant. area
7	Chiusi della Verna	AOU Meyer	1.93	88	Paed. DEA II
7	Chiusi della Verna	Ospedale S.Stefano di Prato	1.93	98	DEA I level
9	Chiusi della Verna	San Giuseppe	1.45	49	Private
9	Chiusi della Verna	Casa di Cura Frate Sole	1.45	73	Private
1	Cinigiano	Ospedale Misericordia Grosseto	52.59	35	DEA I level
2	Cinigiano	Ospedale Civile Castel del Piano	14.34	20	Disadvant. area
3	Cinigiano	AOU Senese	11.95	61	DEA II level
4	Cinigiano	Ospedale S. Andrea Massa Marittima	3.59	60	Non-DEA ED
5	Cinigiano	Ospedale S. Giovanni di Dio Orbetello	2.39	63	Non-DEA ED
6	Cinigiano	AOU Pisana	1.99	129	DEA II level
7	Cinigiano	AOU Careggi	1.59	119	DEA II level
7	Cinigiano	Ospedale Abbazia San Salvatore	1.59	38	Disadvant. area
9	Cinigiano	Ospedale Pediatrico Apuano	1.2	151	FTGM
9	Cinigiano	Rugani	1.2	61	Private
1	Civitella In Val di Chiana	Ospedale Area Aretina Nord	64.33	15	DEA I level

2	Civitella In Val di Chiana	AOU Senese	7.68	52	DEA II level
3	Civitella in Val Di Chiana	Centro Chirurgico Toscano	5.05	18	Private
4	Civitella in Val Di Chiana	San Giuseppe	3.56	13	Private
5	Civitella In Val di Chiana	AOU Careggi	2.87	55	DEA II level
6	Civitella In Val di Chiana	AOU Pisana	1.49	103	DEA II level
7	Civitella In Val di Chiana	Ospedale Civile Bibbiena	1.26	57	Disadvant. area
7	Civitella In Val di Chiana	Nuovo Ospedale Valdichiana (La Fratta-Cortona)	1.26	36	Non-DEA ED
9	Civitella In Val di Chiana	AOU Meyer	1.03	55	Paed. DEA II
9	Civitella In Val di Chiana	Ospedale del Valdarno	1.03	20	Non-DEA ED
1	Civitella Paganico	Ospedale Misericordia Grosseto	65.03	30	DEA I level
2	Civitella Paganico	AOU Senese	12.59	49	DEA II level
3	Civitella Paganico	Ospedale S. Andrea Massa Marittima	2.1	46	Non-DEA ED
3	Civitella Paganico	Rugani	2.1	49	Private
5	Civitella Paganico	AOU Careggi	1.75	109	DEA II level
5	Civitella Paganico	Ospedale Civile Castel del Piano	1.75	29	Disadvant. area
5	Civitella Paganico	Ospedale dell'Alta Val d'Elsa	1.75	61	Non-DEA ED
8	Civitella Paganico	AOU Pisana	1.4	115	DEA II level
9	Civitella Paganico	Ospedale S. Giovanni di Dio Orbetello	1.05	63	Non-DEA ED
1	Colle di Val d'Elsa	Ospedale dell'Alta Val d'Elsa	50.35	7	Non-DEA ED
2	Colle di Val d'Elsa	AOU Senese	32.93	22	DEA II level
3	Colle di Val d'Elsa	AOU Careggi	2.15	54	DEA II level
4	Colle di Val d'Elsa	Rugani	1.78	18	Private
5	Colle di Val d'Elsa	AOU Meyer	1.41	55	Paed. DEA II
1	Collesalveti	Ospedale Riuniti Livorno	46.09	13	DEA I level
2	Collesalveti	AOU Pisana	36.59	16	DEA II level
3	Collesalveti	Istituto di Fisiologia Clinica - CNR	2.21	19	FTGM
4	Collesalveti	Ospedale Filippo Lotti Pontedera	1.4	19	DEA I level
1	Comano	Ospedale Pontremoli	28.89	34	Non-DEA ED
2	Comano	Ospedale delle Apuane	26.67	37	DEA I level
3	Comano	Ospedale Fivizzano	17.78	18	Non-DEA ED
4	Comano	Ospedale Pediatrico Apuano	2.22	43	FTGM
5	Comano	AOU Pisana	1.11	70	DEA II level
5	Comano	Istituto di Fisiologia Clinica - CNR	1.11	66	FTGM
5	Comano	Casa di Cura San Camillo Forte dei Marmi	1.11	41	Private
1	Coreglia Antelminelli	Ospedale S. Croce Castelnuovo Garfagnana	23.4	20	Non-DEA ED
2	Coreglia Antelminelli	Ospedale San Luca Lucca	22.57	34	DEA I level
3	Coreglia Antelminelli	Ospedale S. Francesco Barga	22.15	12	Other
4	Coreglia Antelminelli	AOU Pisana	14.91	53	DEA II level
5	Coreglia Antelminelli	Casa di Cura M.D. Barbantini Santa Chiara	2.69	32	Private
6	Coreglia Antelminelli	Ospedale Pediatrico Apuano	1.66	54	FTGM
7	Coreglia Antelminelli	AOU Careggi	1.45	77	DEA II level
8	Coreglia Antelminelli	Ospedale delle Apuane	1.24	56	DEA I level
9	Coreglia Antelminelli	Casa di Cura Santa Zita	1.04	31	Private
1	Cortona	Ospedale Area Aretina Nord	36.7	44	DEA I level
2	Cortona	Nuovo Ospedale Valdichiana (La Fratta-Cortona)	23.44	16	Non-DEA ED
3	Cortona	AOU Senese	7.12	66	DEA II level
4	Cortona	San Giuseppe	4.88	41	Private
5	Cortona	Ospedale Riuniti della Val di Chiana Senese	3.67	30	Non-DEA ED
6	Cortona	Centro Chirurgico Toscano	2.6	46	Private
7	Cortona	AOU Meyer	1.16	84	Paed. DEA II
8	Cortona	AOU Careggi	1.12	84	DEA II level
9	Cortona	AOU Pisana	1.02	132	DEA II level
1	Crespina Lorenzana	AOU Pisana	58.19	19	DEA II level

2	Crespina Lorenzana	Ospedale Filippo Lotti Pontedera	17.55	14	DEA I level
3	Crespina Lorenzana	Istituto di Fisiologia Clinica - CNR	3.55	22	FTGM
4	Crespina Lorenzana	Ospedale Riuniti Livorno	2.96	21	DEA I level
5	Crespina Lorenzana	AOU Meyer	1.58	63	Paed. DEA II
6	Crespina Lorenzana	Ospedale Volterra	1.38	43	Non-DEA ED
7	Crespina Lorenzana	SPDC Aziendale USL 5	1.18	24	Other
1	Dicomano	Ospedale Borgo San Lorenzo	39.88	18	Non-DEA ED
2	Dicomano	AOU Careggi	19.02	42	DEA II level
3	Dicomano	Ospedale Bagno a Ripoli	12.47	35	DEA I level
4	Dicomano	Casa di Cura Ulivella e Glicini	2.86	43	Private
5	Dicomano	Ospedale Torregalli	2.66	44	DEA I level
5	Dicomano	Casa di Cura Val Di Sieve	2.66	18	Private
7	Dicomano	AOU Meyer	2.25	42	Paed. DEA II
8	Dicomano	Ospedale S. Maria Nuova Firenze	1.84	40	Non-DEA ED
9	Dicomano	Ospedale S. Stefano di Prato	1.43	57	DEA I level
10	Dicomano	Ospedale della Valdinievole	1.23	81	Non-DEA ED
1	Empoli	Ospedale S. Giuseppe	64.56	4	DEA I level
2	Empoli	AOU Careggi	10.28	33	DEA II level
3	Empoli	AOU Pisana	3.47	40	DEA II level
4	Empoli	AOU Meyer	1.86	34	Paed. DEA II
5	Empoli	Ospedale Torregalli	1.78	25	DEA I level
6	Empoli	Casa di Cura Leonardo	1.59	6	Private
7	Empoli	Ospedale Bagno a Ripoli	1.28	29	DEA I level
8	Empoli	Ospedale Fucecchio	1	15	Other
1	Fabbri di Vergemoli	Ospedale S. Croce Castelnuovo Garfagnana	27.84	22	Non-DEA ED
2	Fabbri di Vergemoli	Ospedale S. Francesco Barga	24.74	18	Other
3	Fabbri di Vergemoli	Ospedale San Luca Lucca	18.56	39	DEA I level
4	Fabbri di Vergemoli	AOU Pisana	7.22	58	DEA II level
5	Fabbri di Vergemoli	AOU Careggi	2.06	84	DEA II level
5	Fabbri di Vergemoli	AOU Meyer	2.06	85	Paed. DEA II
5	Fabbri di Vergemoli	Ospedale Filippo Lotti Pontedera	2.06	68	DEA I level
8	Fabbri di Vergemoli	AOU Senese	1.03	128	DEA II level
8	Fabbri di Vergemoli	Istituto di Fisiologia Clinica - CNR	1.03	54	FTGM
8	Fabbri di Vergemoli	Ospedale Pediatrico Apuano	1.03	48	FTGM
8	Fabbri di Vergemoli	Ospedale Riuniti Livorno	1.03	64	DEA I level
8	Fabbri di Vergemoli	Casa di Cura M.D. Barbantini Santa Chiara	1.03	37	Private
8	Fabbri di Vergemoli	Casa di Cura Santa Rita	1.03	54	Private
1	Fauglia	AOU Pisana	64.72	19	DEA II level
2	Fauglia	Ospedale Riuniti Livorno	10.12	19	DEA I level
3	Fauglia	Ospedale Filippo Lotti Pontedera	7.36	17	DEA I level
4	Fauglia	Istituto di Fisiologia Clinica - CNR	3.07	22	FTGM
5	Fauglia	SPDC Aziendale USL 5	1.53	23	Other
5	Fauglia	AOU Meyer	1.53	66	Paed. DEA II
5	Fauglia	Ospedale Pediatrico Apuano	1.53	43	FTGM
1	Fiesole	AOU Careggi	50.63	13	DEA II level
2	Fiesole	Ospedale Bagno a Ripoli	14.49	15	DEA I level
3	Fiesole	AOU Meyer	4.04	12	Paed. DEA II
4	Fiesole	Ospedale S. Maria Nuova Firenze	3.79	12	Non-DEA ED
5	Fiesole	Ospedale Torregalli	3.62	18	DEA I level
6	Fiesole	Casa di Cura Ulivella e Glicini	3.2	13	Private
7	Fiesole	Ospedale Serristori	1.85	30	Disadvant. area
8	Fiesole	Ospedale Borgo San Lorenzo	1.68	24	Non-DEA ED
9	Fiesole	SPDC OBLATE	1.18	12	Other
9	Fiesole	Ospedale S. Stefano di Prato	1.18	30	DEA I level
11	Fiesole	Casa di Cura Val Di Sieve	1.01	20	Private
1	Figline e Incisa in Valdarno	Ospedale Bagno a Ripoli	33.7	15	DEA I level
2	Figline e Incisa in Valdarno	AOU Careggi	17.03	32	DEA II level
3	Figline e Incisa in Valdarno	Ospedale Serristori	11.3	5	Disadvant. area
4	Figline e Incisa in Valdarno	Ospedale del Valdarno	9.19	12	Non-DEA ED
5	Figline e Incisa in Valdarno	AOU Meyer	3.42	32	Paed. DEA II

6	Figline e Incisa in Valdarno	Ospedale Torregalli	3.11	25	DEA I level
6	Figline e Incisa in Valdarno	Casa di Cura Frate Sole	3.11	6	Private
8	Figline e Incisa in Valdarno	Casa di Cura Ulivella e Glicini	3.01	32	Private
9	Figline e Incisa in Valdarno	Ospedale S. Maria Nuova Firenze	2.01	26	Non-DEA ED
10	Figline e Incisa in Valdarno	Ospedale Area Aretina Nord	1.71	32	DEA I level
11	Figline e Incisa in Valdarno	AOU Senese	1.36	51	DEA II level
12	Figline e Incisa in Valdarno	Casa di Cura Val Di Sieve	1.1	22	Private
1	Filattiera	Ospedale Pontremoli	35.56	11	Non-DEA ED
2	Filattiera	Ospedale delle Apuane	25.56	32	DEA I level
3	Filattiera	AOU Pisana	5.19	64	DEA II level
4	Filattiera	Ospedale Fivizzano	4.07	30	Non-DEA ED
4	Filattiera	Ospedale Pediatrico Apuano	4.07	37	FTGM
6	Filattiera	Ospedale Unico Versilia	1.85	42	DEA I level
7	Filattiera	AOU Meyer	1.48	102	Paed. DEA II
1	Firenze	AOU Careggi	42.08	9	DEA II level
2	Firenze	Ospedale Torregalli	12.97	10	DEA I level
3	Firenze	Ospedale S. Maria Nuova Firenze	10.03	7	Non-DEA ED
4	Firenze	Ospedale Bagno a Ripoli	8.11	12	DEA I level
5	Firenze	AOU Meyer	3.91	9	Paed. DEA II
6	Firenze	Casa di Cura Ulivella e Glicini	3.59	9	Private
7	Firenze	Ospedale S. Stefano di Prato	1.37	21	DEA I level
8	Firenze	Casa di Cura Villa Maria Teresa	1.15	6	Private
1	Firenze	Ospedale Borgo San Lorenzo	36.38	28	Non-DEA ED
2	Firenze	AOU Careggi	18.3	48	DEA II level
3	Firenze	Ospedale Bagno a Ripoli	5.32	51	DEA I level
4	Firenze	Ospedale Torregalli	3.62	47	DEA I level
5	Firenze	AOU Meyer	1.91	49	Paed. DEA II
5	Firenze	Casa di Cura Ulivella e Glicini	1.91	49	Private
7	Firenze	Ospedale S. Maria Nuova Firenze	1.06	51	Non-DEA ED
1	Fivizzano	Ospedale Fivizzano	35.59	8	Non-DEA ED
2	Fivizzano	Ospedale delle Apuane	21.54	32	DEA I level
3	Fivizzano	Ospedale Pontremoli	12.78	32	Non-DEA ED
4	Fivizzano	AOU Pisana	5.49	64	DEA II level
5	Fivizzano	Ospedale Pediatrico Apuano	2.22	36	FTGM
6	Fivizzano	Casa di Cura M.D. Barbantini Santa Chiara	1.9	59	Private
7	Fivizzano	Ospedale Unico Versilia	1.16	42	DEA I level
1	Foiano della Chiana	Ospedale Area Aretina Nord	38.34	27	DEA I level
2	Foiano della Chiana	Nuovo Ospedale Valdichiana (La Fratta-Cortona)	17.32	23	Non-DEA ED
3	Foiano della Chiana	AOU Senese	11.2	51	DEA II level
4	Foiano della Chiana	Ospedale Riuniti della Val di Chiana Senese	7.16	17	Non-DEA ED
5	Foiano della Chiana	San Giuseppe	4.85	24	Private
6	Foiano della Chiana	Centro Chirurgico Toscano	2.89	29	Private
7	Foiano della Chiana	AOU Careggi	2.42	66	DEA II level
8	Foiano della Chiana	AOU Pisana	1.15	115	DEA II level
9	Foiano della Chiana	Ospedale Civile Bibbiena	1.04	68	Disadvant. area
1	Follonica	Ospedale S. Andrea Massa Marittima	35.66	20	Non-DEA ED
2	Follonica	Ospedale Misericordia Grosseto	32.49	37	DEA I level
3	Follonica	AOU Senese	8.48	76	DEA II level
4	Follonica	AOU Pisana	4.4	74	DEA II level
5	Follonica	AOU Careggi	2.11	122	DEA II level
6	Follonica	Ospedale Civile di Cecina	1.83	41	Non-DEA ED
7	Follonica	Rugani	1.42	75	Private
8	Follonica	AOU Meyer	1.1	122	Paed. DEA II
1	Forte dei Marmi	Ospedale Unico Versilia	49.86	8	DEA I level
2	Forte dei Marmi	AOU Pisana	10.86	31	DEA II level
3	Forte dei Marmi	Ospedale delle Apuane	6.69	8	DEA I level
4	Forte dei Marmi	Ospedale Pediatrico Apuano	3.62	9	FTGM
5	Forte dei Marmi	Casa di Cura San Camillo Forte dei Marmi	2.65	3	Private
6	Forte dei Marmi	AOU Careggi	1.25	68	DEA II level

6	Forte dei Marmi	Istituto di Fisiologia Clinica - CNR	1.25	27	FTGM
1	Fosciandora	Ospedale S. Croce Castelnuovo Garfagnana	42.62	6	Non-DEA ED
2	Fosciandora	Ospedale San Luca Lucca	22.95	45	DEA I level
3	Fosciandora	Ospedale S. Francesco Barga	19.67	13	Other
4	Fosciandora	AOU Pisana	4.92	64	DEA II level
5	Fosciandora	Ospedale Riuniti Livorno	3.28	74	DEA I level
5	Fosciandora	Casa di Cura M.D. Barbantini Santa Chiara	3.28	43	Private
7	Fosciandora	Casa di Cura Villa Fiorita	1.64	80	Private
1	Fosdinovo	Ospedale delle Apuane	39.88	17	DEA I level
2	Fosdinovo	Ospedale Fivizzano	7.21	21	Non-DEA ED
3	Fosdinovo	AOU Pisana	6.01	50	DEA II level
4	Fosdinovo	Ospedale Pontremoli	3.61	35	Non-DEA ED
5	Fosdinovo	Ospedale Pediatrico Apuano	3.01	23	FTGM
6	Fosdinovo	Ospedale Unico Versilia	2	27	DEA I level
6	Fosdinovo	Casa di Cura San Camillo Forte dei Marmi	2	21	Private
8	Fosdinovo	Istituto di Fisiologia Clinica - CNR	1	46	FTGM
8	Fosdinovo	Casa di Cura M.D. Barbantini Santa Chiara	1	44	Private
1	Fucecchio	Ospedale S. Giuseppe	55.26	15	DEA I level
2	Fucecchio	AOU Pisana	9.89	35	DEA II level
3	Fucecchio	AOU Careggi	6.55	45	DEA II level
4	Fucecchio	Ospedale della Valdinievole	2.87	26	Non-DEA ED
5	Fucecchio	Ospedale Fucecchio	2.49	4	Other
6	Fucecchio	AOU Meyer	2.44	45	Paed. DEA II
7	Fucecchio	Ospedale Torregalli	1.91	37	DEA I level
8	Fucecchio	Istituto di Fisiologia Clinica - CNR	1.48	37	FTGM
8	Fucecchio	Casa di Cura Leonardo	1.48	16	Private
10	Fucecchio	Ospedale Filippo Lotti Pontedera	1.34	20	DEA I level
11	Fucecchio	Ospedale San Jacopo Pistoia	1.2	27	DEA I level
1	Gaiole in Chianti	AOU Senese	69.06	23	DEA II level
2	Gaiole in Chianti	Ospedale del Valdarno	4.48	21	Non-DEA ED
3	Gaiole in Chianti	AOU Careggi	3.59	57	DEA II level
3	Gaiole in Chianti	Rugani	3.59	23	Private
5	Gaiole in Chianti	Ospedale Area Aretina Nord	3.14	42	DEA I level
6	Gaiole in Chianti	Ospedale dell'Alta Val d'Elsa	2.69	34	Non-DEA ED
7	Gaiole in Chianti	AOU Meyer	2.24	57	Paed. DEA II
8	Gaiole in Chianti	SPDC c/o AOU Senese	1.35	23	Other
1	Galliciano	Ospedale S. Francesco Barga	27.98	8	Other
2	Galliciano	Ospedale S. Croce Castelnuovo Garfagnana	23.06	9	Non-DEA ED
3	Galliciano	Ospedale San Luca Lucca	18.39	35	DEA I level
4	Galliciano	AOU Pisana	10.88	54	DEA II level
5	Galliciano	Istituto di Fisiologia Clinica - CNR	1.81	51	FTGM
6	Galliciano	AOU Careggi	1.55	79	DEA II level
6	Galliciano	Ospedale Unico Versilia	1.55	50	DEA I level
6	Galliciano	Casa di Cura M.D. Barbantini Santa Chiara	1.55	34	Private
6	Galliciano	Casa di Cura Ulivella e Glicini	1.55	79	Private
10	Galliciano	Ospedale delle Apuane	1.3	46	DEA I level
11	Galliciano	AOU Meyer	1.04	80	Paed. DEA II
1	Gambassi Terme	Ospedale S. Giuseppe	37.92	28	DEA I level
2	Gambassi Terme	Ospedale dell'Alta Val d'Elsa	14.98	22	Non-DEA ED
3	Gambassi Terme	AOU Senese	12.8	42	DEA II level
4	Gambassi Terme	AOU Careggi	10.39	50	DEA II level
5	Gambassi Terme	AOU Pisana	2.66	54	DEA II level
6	Gambassi Terme	AOU Meyer	2.42	51	Paed. DEA II
7	Gambassi Terme	Ospedale Volterra	1.93	28	Non-DEA ED
7	Gambassi Terme	Ospedale Bagno a Ripoli	1.93	39	DEA I level
1	Gavorrano	Ospedale Misericordia Grosseto	43.27	26	DEA I level
2	Gavorrano	Ospedale S. Andrea Massa Marittima	30.27	20	Non-DEA ED
3	Gavorrano	AOU Senese	9.3	72	DEA II level
4	Gavorrano	AOU Pisana	4.05	84	DEA II level
1	Greve in Chianti	Ospedale Bagno a Ripoli	42.42	25	DEA I level

2	Greve in Chianti	AOU Careggi	15.7	39	DEA II level
3	Greve in Chianti	Ospedale Serristori	7.44	28	Disadvant. area
4	Greve in Chianti	Ospedale Torregalli	6.73	30	DEA I level
5	Greve in Chianti	Casa di Cura Ulivella e Glicini	5.02	39	Private
6	Greve in Chianti	AOU Meyer	2.69	39	Paed. DEA II
7	Greve in Chianti	Ospedale S. Maria Nuova Firenze	2.42	33	Non-DEA ED
8	Greve in Chianti	AOU Senese	1.52	44	DEA II level
9	Greve in Chianti	Casa di Cura Frate Sole	1.43	28	Private
10	Greve in Chianti	Ospedale S.Stefano di Prato	1.26	43	DEA I level
1	Grosseto	Ospedale Misericordia Grosseto	68.56	6	DEA I level
2	Grosseto	AOU Senese	7.87	81	DEA II level
3	Grosseto	AOU Pisana	2.52	106	DEA II level
4	Grosseto	Ospedale S. Giovanni di Dio Orbetello	2.43	37	Non-DEA ED
5	Grosseto	Ospedale S. Andrea Massa Marittima	2.26	40	Non-DEA ED
6	Grosseto	AOU Careggi	1.42	132	DEA II level
1	Guardistallo	Ospedale Civile di Cecina	42.05	10	Non-DEA ED
2	Guardistallo	AOU Pisana	15.91	42	DEA II level
2	Guardistallo	Ospedale Riuniti Livorno	15.91	37	DEA I level
4	Guardistallo	Ospedale Volterra	4.55	26	Non-DEA ED
5	Guardistallo	Ospedale Unico Versilia	3.41	57	DEA I level
5	Guardistallo	Ospedale delle Apuane	3.41	64	DEA I level
7	Guardistallo	AOU Careggi	2.27	93	DEA II level
7	Guardistallo	Istituto di Fisiologia Clinica - CNR	2.27	45	FTGM
7	Guardistallo	Ospedale Misericordia Grosseto	2.27	76	DEA I level
10	Guardistallo	AOU Meyer	1.14	93	Paed. DEA II
10	Guardistallo	AOU Senese	1.14	70	DEA II level
10	Guardistallo	Ospedale Pediatrico Apuano	1.14	65	FTGM
10	Guardistallo	Ospedale Torregalli	1.14	85	DEA I level
10	Guardistallo	Ospedale Filippo Lotti Pontedera	1.14	44	DEA I level
10	Guardistallo	Casa di Cura Val Di Sieve	1.14	101	Private
1	Impruneta	Ospedale Bagno a Ripoli	29.87	8	DEA I level
2	Impruneta	AOU Careggi	20.85	21	DEA II level
3	Impruneta	Ospedale Torregalli	16.18	11	DEA I level
4	Impruneta	Casa di Cura Ulivella e Glicini	5.88	21	Private
5	Impruneta	AOU Meyer	4.35	21	Paed. DEA II
6	Impruneta	Ospedale Serristori	3.46	23	Disadvant. area
7	Impruneta	Ospedale S. Maria Nuova Firenze	2.9	16	Non-DEA ED
8	Impruneta	Casa di Cura Villa Maria Teresa	1.29	17	Private
1	Lajatico	Ospedale Filippo Lotti Pontedera	41.96	29	DEA I level
2	Lajatico	AOU Pisana	21.43	41	DEA II level
3	Lajatico	Istituto di Fisiologia Clinica - CNR	8.93	43	FTGM
4	Lajatico	Ospedale Volterra	6.25	20	Non-DEA ED
5	Lajatico	AOU Careggi	1.79	74	DEA II level
5	Lajatico	Ospedale Civile di Cecina	1.79	36	Non-DEA ED
5	Lajatico	Ospedale Pediatrico Apuano	1.79	70	FTGM
5	Lajatico	Ospedale Riuniti Livorno	1.79	47	DEA I level
5	Lajatico	Casa di Cura Villa Fiorita	1.79	76	Private
1	Lamporecchio	Ospedale S. Giuseppe	33.13	16	DEA I level
2	Lamporecchio	Ospedale San Jacopo Pistoia	19.64	18	DEA I level
3	Lamporecchio	Ospedale della Valdinievole	12.59	28	Non-DEA ED
4	Lamporecchio	AOU Careggi	9.15	38	DEA II level
5	Lamporecchio	AOU Pisana	3.3	47	DEA II level
6	Lamporecchio	AOU Meyer	3	39	Paed. DEA II
7	Lamporecchio	Casa di Cura Santa Rita	1.95	19	Private
8	Lamporecchio	Ospedale S.Stefano di Prato	1.35	25	DEA I level
9	Lamporecchio	Ospedale Fucecchio	1.2	15	Other
9	Lamporecchio	Ospedale Torregalli	1.2	36	DEA I level
1	Larciano	Ospedale della Valdinievole	26.2	24	Non-DEA ED
2	Larciano	Ospedale San Jacopo Pistoia	25.04	16	DEA I level
3	Larciano	Ospedale S. Giuseppe	14.93	20	DEA I level
4	Larciano	AOU Careggi	8.96	40	DEA II level
5	Larciano	AOU Pisana	3.81	44	DEA II level
6	Larciano	Casa di Cura Leonardo	1.99	16	Private
7	Larciano	AOU Meyer	1.66	41	Paed. DEA II
7	Larciano	Ospedale S.Stefano di Prato	1.66	26	DEA I level
9	Larciano	Ospedale Fucecchio	1.16	14	Other

9	Larciano	Ospedale Bagno a Ripoli	1.16	41	DEA I level
9	Larciano	Casa di Cura Santa Rita	1.16	16	Private
12	Larciano	Ospedale Torregalli	1	38	DEA I level
12	Larciano	Ospedale Unico Versilia	1	44	DEA I level
1	Lastra a Signa	Ospedale Torregalli	40.68	13	DEA I level
2	Lastra a Signa	AOU Careggi	24.73	21	DEA II level
3	Lastra a Signa	Ospedale Bagno a Ripoli	4.27	17	DEA I level
4	Lastra a Signa	Casa di Cura Ulivella e Glicini	4.22	21	Private
5	Lastra a Signa	AOU Meyer	3.65	22	Paed. DEA II
6	Lastra a Signa	Ospedale S. Giuseppe	3.3	18	DEA I level
7	Lastra a Signa	Ospedale S. Maria Nuova Firenze	2.85	20	Non-DEA ED
8	Lastra a Signa	Ospedale S. Stefano di Prato	2.11	22	DEA I level
1	Laterina Pergine Valdarno	Ospedale Area Aretina Nord	36.35	18	DEA I level
2	Laterina Pergine Valdarno	Ospedale del Valdarno	31.57	12	Non-DEA ED
3	Laterina Pergine Valdarno	AOU Senese	7.34	48	DEA II level
4	Laterina Pergine Valdarno	AOU Careggi	4.27	46	DEA II level
5	Laterina Pergine Valdarno	Centro Chirurgico Toscano	3.24	20	Private
6	Laterina Pergine Valdarno	AOU Meyer	1.71	47	Paed. DEA II
7	Laterina Pergine Valdarno	Ospedale Civile Bibbiena	1.54	57	Disadvant. area
8	Laterina Pergine Valdarno	San Giuseppe	1.37	15	Private
1	Licciana Nardi	Ospedale Pontremoli	25.9	21	Non-DEA ED
2	Licciana Nardi	Ospedale delle Apuane	24.1	25	DEA I level
3	Licciana Nardi	Ospedale Fivizzano	10.56	17	Non-DEA ED
4	Licciana Nardi	AOU Pisana	10.16	57	DEA II level
5	Licciana Nardi	Ospedale Pediatrico Apuano	2.79	30	FTGM
6	Licciana Nardi	AOU Meyer	1.99	94	Paed. DEA II
7	Licciana Nardi	Casa di Cura M.D. Barbantini Santa Chiara	1.79	51	Private
8	Licciana Nardi	Ospedale Unico Versilia	1.59	34	DEA I level
9	Licciana Nardi	Istituto di Fisiologia Clinica - CNR	1.2	53	FTGM
9	Licciana Nardi	Casa di Cura San Camillo Forte dei Marmi	1.2	28	Private
11	Licciana Nardi	Casa di Cura Ulivella e Glicini	1	93	Private
1	Livorno	Ospedale Riuniti Livorno	67.32	4	DEA I level
2	Livorno	AOU Pisana	14.41	23	DEA II level
3	Livorno	Istituto di Fisiologia Clinica - CNR	1.15	25	FTGM
4	Livorno	AOU Meyer	1.11	77	Paed. DEA II
1	Londa	Ospedale Borgo San Lorenzo	40.34	25	Non-DEA ED
2	Londa	AOU Careggi	23.86	47	DEA II level
3	Londa	Ospedale Bagno a Ripoli	9.09	36	DEA I level
4	Londa	Ospedale Torregalli	4.55	45	DEA I level
5	Londa	Casa di Cura Val Di Sieve	3.98	19	Private
6	Londa	Ospedale Serristori	2.84	41	Disadvant. area
6	Londa	Ospedale S. Maria Nuova Firenze	2.84	41	Non-DEA ED
8	Londa	AOU Meyer	2.27	47	Paed. DEA II
9	Londa	Ospedale S. Stefano di Prato	1.14	58	DEA I level
9	Londa	Casa di Cura Ulivella e Glicini	1.14	47	Private
1	Loro Ciuffenna	Ospedale del Valdarno	47.17	15	Non-DEA ED
2	Loro Ciuffenna	Ospedale Area Aretina Nord	15.99	31	DEA I level
3	Loro Ciuffenna	AOU Careggi	10.12	49	DEA II level
4	Loro Ciuffenna	AOU Senese	6.48	54	DEA II level
5	Loro Ciuffenna	Centro Chirurgico Toscano	3.24	33	Private
6	Loro Ciuffenna	AOU Meyer	1.82	49	Paed. DEA II
7	Loro Ciuffenna	AOU Pisana	1.62	98	DEA II level
7	Loro Ciuffenna	Casa di Cura Frate Sole	1.62	22	Private
9	Loro Ciuffenna	Ospedale Bagno a Ripoli	1.42	32	DEA I level
10	Loro Ciuffenna	San Giuseppe	1.01	28	Private
1	Lucca	Ospedale San Luca Lucca	55.65	7	DEA I level
2	Lucca	AOU Pisana	17.53	23	DEA II level
3	Lucca	Casa di Cura M.D. Barbantini Santa Chiara	2.66	6	Private

4	Lucca	Ospedale Unico Versilia	2.09	22	DEA I level
5	Lucca	AOU Careggi	1.66	51	DEA II level
6	Lucca	Ospedale S. Croce Castelnuovo Garfagnana	1.61	42	Non-DEA ED
7	Lucca	Ospedale S. Francesco Barga	1.49	35	Other
8	Lucca	AOU Meyer	1.42	52	Paed. DEA II
9	Lucca	Istituto di Fisiologia Clinica - CNR	1.3	20	FTGM
10	Lucca	Casa di Cura Santa Zita	1.12	6	Private
11	Lucca	Ospedale Pediatrico Apuano	1.07	30	FTGM
1	Lucignano	Ospedale Area Aretina Nord	43.2	24	DEA I level
2	Lucignano	AOU Senese	14.79	45	DEA II level
3	Lucignano	Nuovo Ospedale Valdichiana (La Fratta-Cortona)	12.72	28	Non-DEA ED
4	Lucignano	Ospedale Riuniti della Val di Chiana Senese	7.69	18	Non-DEA ED
5	Lucignano	Centro Chirurgico Toscano	3.85	26	Private
6	Lucignano	San Giuseppe	2.96	21	Private
7	Lucignano	AOU Careggi	1.48	63	DEA II level
1	Magliano in Toscana	Ospedale Misericordia Grosseto	51.28	29	DEA I level
2	Magliano in Toscana	Ospedale S. Giovanni di Dio Orbetello	16.24	23	Non-DEA ED
3	Magliano in Toscana	AOU Senese	7.41	101	DEA II level
4	Magliano in Toscana	AOU Careggi	1.71	155	DEA II level
4	Magliano in Toscana	AOU Pisana	1.71	129	DEA II level
1	Manciano	Ospedale Misericordia Grosseto	39.02	47	DEA I level
2	Manciano	Ospedale S. Giovanni di Dio Orbetello	23.85	32	Non-DEA ED
3	Manciano	Ospedale Petruccioli Pitigliano	5.69	20	Disadvant. area
4	Manciano	AOU Senese	5.56	109	DEA II level
5	Manciano	AOU Pisana	2.98	147	DEA II level
6	Manciano	AOU Careggi	1.22	152	DEA II level
6	Manciano	Rugani	1.22	109	Private
8	Manciano	Ospedale Civile Castel del Piano	1.08	45	Disadvant. area
1	Marciana	Ospedale Civile Elbano Portoferraio	38.12	20	Non-DEA ED
1	Marciana Marina	Ospedale Civile Elbano Portoferraio	43.64	18	Non-DEA ED
1	Marciano della Chiana	Ospedale Area Aretina Nord	55.82	21	DEA I level
2	Marciano della Chiana	Nuovo Ospedale Valdichiana (La Fratta-Cortona)	13.13	26	Non-DEA ED
3	Marciano della Chiana	AOU Senese	6.87	53	DEA II level
4	Marciano della Chiana	Centro Chirurgico Toscano	5.97	23	Private
5	Marciano della Chiana	AOU Careggi	2.69	61	DEA II level
6	Marciano della Chiana	San Giuseppe	2.09	18	Private
7	Marciano della Chiana	Ospedale Riuniti della Val di Chiana Senese	1.19	21	Non-DEA ED
1	Marliana	Ospedale San Jacopo Pistoia	52.42	13	DEA I level
2	Marliana	Ospedale della Valdinievole	20	20	Non-DEA ED
3	Marliana	AOU Careggi	6.36	38	DEA II level
4	Marliana	Ospedale S. Stefano di Prato	3.03	24	DEA I level
5	Marliana	AOU Pisana	1.82	46	DEA II level
5	Marliana	Casa di Cura Santa Rita	1.82	15	Private
7	Marliana	Ospedale Bagno a Ripoli	1.52	39	DEA I level
8	Marliana	Ospedale Riuniti Livorno	1.21	56	DEA I level
8	Marliana	Casa di Cura Olivella e Glicini	1.21	38	Private
1	Marradi	Ospedale Borgo San Lorenzo	17.2	40	Non-DEA ED
2	Marradi	AOU Careggi	5.83	66	DEA II level
3	Marradi	Ospedale Bagno a Ripoli	2.92	72	DEA I level
1	Massa	Ospedale delle Apuane	61.14	6	DEA I level
2	Massa	AOU Pisana	9.11	37	DEA II level
3	Massa	Ospedale Pediatrico Apuano	3.73	7	FTGM
3	Massa	Casa di Cura San Camillo Forte dei Marmi	3.73	8	Private
5	Massa	Ospedale Unico Versilia	3.39	14	DEA I level
6	Massa	Ospedale Fivizzano	1.64	37	Non-DEA ED
7	Massa	Ospedale Pontremoli	1.49	38	Non-DEA ED
8	Massa	AOU Meyer	1.27	74	Paed. DEA II
9	Massa	Istituto di Fisiologia Clinica - CNR	1.18	33	FTGM
1	Massa e Cozzile	Ospedale della Valdinievole	43.91	12	Non-DEA ED

2	Massa e Cozzile	Ospedale San Jacopo Pistoia	18.01	12	DEA I level
3	Massa e Cozzile	AOU Careggi	8.94	36	DEA II level
4	Massa e Cozzile	AOU Pisana	5.57	35	DEA II level
5	Massa e Cozzile	Ospedale S.Stefano di Prato	3.11	22	DEA I level
6	Massa e Cozzile	AOU Meyer	2.59	37	Paed. DEA II
7	Massa e Cozzile	Casa di Cura Santa Rita	1.94	4	Private
8	Massa e Cozzile	Ospedale San Luca Lucca	1.81	18	DEA I level
9	Massa e Cozzile	Ospedale Bagno a Ripoli	1.3	37	DEA I level
9	Massa e Cozzile	Casa di Cura Leonardo	1.3	30	Private
1	Massa Marittima	Ospedale S. Andrea Massa Marittima	45.62	5	Non-DEA ED
2	Massa Marittima	Ospedale Misericordia Grosseto	31.12	39	DEA I level
3	Massa Marittima	AOU Senese	6.4	58	DEA II level
4	Massa Marittima	AOU Pisana	2.58	87	DEA II level
5	Massa Marittima	AOU Careggi	1.24	104	DEA II level
6	Massa Marittima	Rugani	1.01	57	Private
1	Massarosa	Ospedale Unico Versilia	63.97	10	DEA I level
2	Massarosa	AOU Pisana	11.88	26	DEA II level
3	Massarosa	Ospedale delle Apuane	3.55	18	DEA I level
4	Massarosa	Ospedale San Luca Lucca	2.81	17	DEA I level
5	Massarosa	Ospedale Pediatrico Apuano	2.46	19	FTGM
6	Massarosa	Casa di Cura San Camillo Forte dei Marmi	1.72	14	Private
7	Massarosa	Ospedale Riuniti Livorno	1.68	31	DEA I level
8	Massarosa	AOU Meyer	1.28	58	Paed. DEA II
9	Massarosa	Istituto di Fisiologia Clinica - CNR	1.13	22	FTGM
1	Minucciano	Ospedale S. Croce Castelnuovo Garfagnana	30.09	26	Non-DEA ED
2	Minucciano	Ospedale San Luca Lucca	16.37	67	DEA I level
3	Minucciano	Ospedale S. Francesco Barga	13.72	39	Other
4	Minucciano	AOU Pisana	13.27	78	DEA II level
5	Minucciano	Ospedale Fivizzano	7.08	23	Non-DEA ED
6	Minucciano	Ospedale delle Apuane	5.31	46	DEA I level
7	Minucciano	Ospedale Pontremoli	1.77	46	Non-DEA ED
8	Minucciano	Istituto di Fisiologia Clinica - CNR	1.33	74	FTGM
1	Molazzana	Ospedale S. Croce Castelnuovo Garfagnana	34.4	7	Non-DEA ED
2	Molazzana	Ospedale S. Francesco Barga	26.4	12	Other
3	Molazzana	AOU Pisana	13.6	59	DEA II level
4	Molazzana	Ospedale San Luca Lucca	9.6	40	DEA I level
5	Molazzana	Ospedale Pediatrico Apuano	3.2	41	FTGM
5	Molazzana	Ospedale Unico Versilia	3.2	49	DEA I level
1	Monsummano Terme	Ospedale della Valdinievole	41.72	18	Non-DEA ED
2	Monsummano Terme	Ospedale San Jacopo Pistoia	26.38	10	DEA I level
3	Monsummano Terme	AOU Careggi	8.55	35	DEA II level
4	Monsummano Terme	AOU Pisana	4.25	37	DEA II level
5	Monsummano Terme	AOU Meyer	2.17	35	Paed. DEA II
6	Monsummano Terme	Casa di Cura Santa Rita	2.13	8	Private
7	Monsummano Terme	Ospedale S.Stefano di Prato	1.95	20	DEA I level
8	Monsummano Terme	Casa di Cura Leonardo	1.13	23	Private
1	Montaione	Ospedale S. Giuseppe	56.31	27	DEA I level
2	Montaione	Ospedale dell'Alta Val d'Elsa	9.71	29	Non-DEA ED
3	Montaione	AOU Careggi	5.83	52	DEA II level
4	Montaione	AOU Pisana	4.53	47	DEA II level
5	Montaione	AOU Senese	3.56	49	DEA II level
6	Montaione	Ospedale Torregalli	1.94	43	DEA I level
7	Montaione	AOU Meyer	1.62	53	Paed. DEA II
7	Montaione	Casa di Cura Leonardo	1.62	30	Private
1	Montalcino -San Giovanni D'Asso	AOU Senese	57.58	43	DEA II level
2	Montalcino -San Giovanni D'Asso	Ospedale Riuniti della Val di Chiana Senese	10.49	34	Non-DEA ED
3	Montalcino -San Giovanni D'Asso	Ospedale Misericordia Grosseto	3.96	55	DEA I level
4	Montalcino -San Giovanni D'Asso	Rugani	3.26	44	Private
5	Montalcino -San Giovanni D'Asso	Ospedale Abbazia San Salvatore	3.03	33	Disadvant. area

6	Montalcino -San Giovanni D'Asso	AOU Careggi	1.86	96	DEA II level
7	Montalcino -San Giovanni D'Asso	Ospedale dell'Alta Val d'Elsa	1.63	58	Non-DEA ED
8	Montalcino -San Giovanni D'Asso	San Giuseppe	1.4	54	Private
9	Montalcino -San Giovanni D'Asso	Ospedale Area Aretina Nord	1.17	57	DEA I level
9	Montalcino -San Giovanni D'Asso	Centro Chirurgico Toscano	1.17	59	Private
1	Montale	Ospedale San Jacopo Pistoia	46.44	13	DEA I level
2	Montale	Ospedale S.Stefano di Prato	18.32	11	DEA I level
3	Montale	AOU Careggi	11.09	28	DEA II level
4	Montale	Casa di Cura Villa Fiorita	3.86	12	Private
5	Montale	AOU Meyer	2.57	28	Paed. DEA II
6	Montale	AOU Pisana	1.29	51	DEA II level
6	Montale	Ospedale della Valdinievole	1.29	32	Non-DEA ED
1	Monte Argentario	Ospedale Misericordia Grosseto	36.11	46	DEA I level
2	Monte Argentario	Ospedale S. Giovanni di Dio Orbetello	31.27	14	Non-DEA ED
3	Monte Argentario	AOU Senese	8.33	119	DEA II level
4	Monte Argentario	AOU Pisana	2.29	146	DEA II level
5	Monte Argentario	Ospedale Petruccioli Pitigliano	1.27	59	Disadvant. area
1	Monte San Savino	Ospedale Area Aretina Nord	62.18	21	DEA I level
2	Monte San Savino	AOU Senese	7.44	48	DEA II level
3	Monte San Savino	Nuovo Ospedale Valdichiana (La Fratta-Cortona)	5.04	34	Non-DEA ED
4	Monte San Savino	Centro Chirurgico Toscano	4.08	24	Private
5	Monte San Savino	San Giuseppe	3.84	19	Private
6	Monte San Savino	AOU Careggi	2.64	61	DEA II level
7	Monte San Savino	Ospedale del Valdarno	1.8	27	Non-DEA ED
1	Montecarlo	Ospedale San Luca Lucca	48.46	13	DEA I level
2	Montecarlo	AOU Pisana	11.2	29	DEA II level
3	Montecarlo	Ospedale della Valdinievole	7.28	10	Non-DEA ED
4	Montecarlo	AOU Meyer	4.2	42	Paed. DEA II
5	Montecarlo	Ospedale Unico Versilia	3.36	29	DEA I level
6	Montecarlo	Ospedale San Jacopo Pistoia	2.8	17	DEA I level
6	Montecarlo	Casa di Cura M.D. Barbantini Santa Chiara	2.8	14	Private
8	Montecarlo	Ospedale S. Francesco Barga	1.12	43	Other
8	Montecarlo	AOU Careggi	1.12	41	DEA II level
8	Montecarlo	Ospedale S. Croce Castelnuovo Garfagnana	1.12	50	Non-DEA ED
8	Montecarlo	Ospedale Pediatrico Apuano	1.12	37	FTGM
8	Montecarlo	Ospedale S.Stefano di Prato	1.12	27	DEA I level
1	Montecatini Terme	Ospedale della Valdinievole	42.05	14	Non-DEA ED
2	Montecatini Terme	Ospedale San Jacopo Pistoia	22.08	10	DEA I level
3	Montecatini Terme	AOU Careggi	8.47	35	DEA II level
4	Montecatini Terme	AOU Pisana	5.24	35	DEA II level
5	Montecatini Terme	Ospedale S.Stefano di Prato	2.53	20	DEA I level
6	Montecatini Terme	AOU Meyer	1.92	35	Paed. DEA II
7	Montecatini Terme	Ospedale San Luca Lucca	1.22	18	DEA I level
7	Montecatini Terme	Casa di Cura Santa Rita	1.22	3	Private
1	Montecatini Val Di Cecina	Ospedale Volterra	34.13	18	Non-DEA ED
2	Montecatini Val di Cecina	Ospedale Civile di Cecina	20.36	23	Non-DEA ED
3	Montecatini Val di Cecina	AOU Pisana	11.98	51	DEA II level
4	Montecatini Val di Cecina	Ospedale Filippo Lotti Pontedera	10.18	44	DEA I level
5	Montecatini Val di Cecina	Ospedale Riuniti Livorno	5.99	49	DEA I level
6	Montecatini Val di Cecina	AOU Careggi	1.8	86	DEA II level
6	Montecatini Val di Cecina	AOU Senese	1.8	62	DEA II level
8	Montecatini Val di Cecina	Istituto di Fisiologia Clinica - CNR	1.2	54	FTGM
8	Montecatini Val di Cecina	Ospedale Pediatrico Apuano	1.2	76	FTGM

1	Montelupo Fiorentino	Ospedale S. Giuseppe	55.5	10	DEA I level
2	Montelupo Fiorentino	AOU Careggi	15.92	28	DEA II level
3	Montelupo Fiorentino	Ospedale Torregalli	4.33	20	DEA I level
4	Montelupo Fiorentino	AOU Pisana	2.58	44	DEA II level
5	Montelupo Fiorentino	AOU Meyer	1.83	28	Paed. DEA II
6	Montelupo Fiorentino	Ospedale S.Stefano di Prato	1.33	25	DEA I level
7	Montelupo Fiorentino	Ospedale Bagno a Ripoli	1.25	23	DEA I level
8	Montelupo Fiorentino	Ospedale Fucecchio	1.17	19	Other
1	Montemignaio	Ospedale Civile Bibbiena	32.89	33	Disadvant. area
2	Montemignaio	Ospedale Area Aretina Nord	17.11	61	DEA I level
3	Montemignaio	AOU Careggi	11.84	48	DEA II level
4	Montemignaio	Centro Chirurgico Toscano	6.58	63	Private
5	Montemignaio	AOU Senese	3.95	80	DEA II level
5	Montemignaio	Ospedale Bagno a Ripoli	3.95	37	DEA I level
5	Montemignaio	Ospedale S.Stefano di Prato	3.95	59	DEA I level
8	Montemignaio	AOU Meyer	2.63	49	Paed. DEA II
8	Montemignaio	Casa di Cura Frate Sole	2.63	36	Private
8	Montemignaio	Casa di Cura Ulivella e Glicini	2.63	48	Private
8	Montemignaio	Casa di Cura Val Di Sieve	2.63	23	Private
12	Montemignaio	AOU Pisana	1.32	102	DEA II level
12	Montemignaio	Ospedale S. Maria Nuova Firenze	1.32	42	Non-DEA ED
12	Montemignaio	Ospedale del Valdarno	1.32	41	Non-DEA ED
12	Montemignaio	Ospedale Torregalli	1.32	46	DEA I level
12	Montemignaio	Ospedale San Jacopo Pistoia	1.32	64	DEA I level
12	Montemignaio	San Giuseppe	1.32	58	Private
1	Montemurlo	Ospedale S.Stefano di Prato	64.69	8	DEA I level
2	Montemurlo	AOU Careggi	8.91	26	DEA II level
3	Montemurlo	Casa di Cura Villa Fiorita	7.51	9	Private
4	Montemurlo	Ospedale San Jacopo Pistoia	3.13	12	DEA I level
5	Montemurlo	AOU Meyer	2.41	26	Paed. DEA II
6	Montemurlo	Casa di Cura Ulivella e Glicini	1.54	26	Private
1	Montepulciano	Ospedale Riuniti della Val di Chiana Senese	52.74	6	Non-DEA ED
2	Montepulciano	AOU Senese	20.75	56	DEA II level
3	Montepulciano	Ospedale Area Aretina Nord	7.33	35	DEA I level
4	Montepulciano	AOU Meyer	2.53	75	Paed. DEA II
5	Montepulciano	Centro Chirurgico Toscano	2.05	38	Private
6	Montepulciano	San Giuseppe	1.16	32	Private
1	Monterchi	Ospedale Area Aretina Nord	39.78	27	DEA I level
2	Monterchi	Ospedale Val Tiberina	22.04	19	Disadvant. area
3	Monterchi	AOU Senese	6.99	85	DEA II level
4	Monterchi	Centro Chirurgico Toscano	3.23	31	Private
5	Monterchi	Ospedale del Valdarno	2.69	49	Non-DEA ED
6	Monterchi	AOU Careggi	1.08	83	DEA II level
1	Monteriggioni	AOU Senese	67.81	10	DEA II level
2	Monteriggioni	Ospedale dell'Alta Val d'Elsa	15.56	14	Non-DEA ED
3	Monteriggioni	Rugani	2.97	7	Private
4	Monteriggioni	AOU Careggi	1.9	60	DEA II level
1	Monteroni d'Arbia	AOU Senese	77.91	21	DEA II level
2	Monteroni d'Arbia	Ospedale dell'Alta Val d'Elsa	2.88	34	Non-DEA ED
3	Monteroni d'Arbia	Rugani	2.35	21	Private
4	Monteroni d'Arbia	SPDC c/o AOU Senese	2.09	21	Other
5	Monteroni d'Arbia	Ospedale Misericordia Grosseto	1.31	70	DEA I level
6	Monteroni d'Arbia	AOU Meyer	1.18	81	Paed. DEA II
7	Monteroni d'Arbia	Ospedale Area Aretina Nord	1.05	60	DEA I level
1	Monterotondo Marittimo	Ospedale Misericordia Grosseto	29.47	54	DEA I level
2	Monterotondo Marittimo	Ospedale S. Andrea Massa Marittima	28.42	20	Non-DEA ED
3	Monterotondo Marittimo	AOU Pisana	5.26	73	DEA II level
3	Monterotondo Marittimo	AOU Senese	5.26	60	DEA II level
5	Monterotondo Marittimo	AOU Careggi	3.16	102	DEA II level
5	Monterotondo Marittimo	Ospedale Riuniti Livorno	3.16	68	DEA I level
7	Monterotondo Marittimo	Ospedale Fucecchio	1.05	88	Other
7	Monterotondo Marittimo	AOU Meyer	1.05	102	Paed. DEA II

7	Monterotondo Marittimo	Ospedale Civile di Cecina	1.05	42	Non-DEA ED
7	Monterotondo Marittimo	Ospedale del Valdarno	1.05	97	Non-DEA ED
7	Monterotondo Marittimo	Ospedale Pediatrico Apuano	1.05	96	FTGM
7	Monterotondo Marittimo	Ospedale Bagno a Ripoli	1.05	89	DEA I level
7	Monterotondo Marittimo	Ospedale Area Aretina Nord	1.05	110	DEA I level
7	Monterotondo Marittimo	Casa di Cura Villa Fiorita	1.05	107	Private
7	Monterotondo Marittimo	Casa di Cura Frate Sole	1.05	104	Private
1	Montescudaio	Ospedale Civile di Cecina	43.51	6	Non-DEA ED
2	Montescudaio	AOU Pisana	11.04	38	DEA II level
2	Montescudaio	Ospedale Riuniti Livorno	11.04	33	DEA I level
4	Montescudaio	Ospedale Villa Marina Piombino	3.9	41	Non-DEA ED
5	Montescudaio	Istituto di Fisiologia Clinica - CNR	3.25	40	FTGM
6	Montescudaio	AOU Careggi	2.6	88	DEA II level
6	Montescudaio	AOU Meyer	2.6	89	Paed. DEA II
8	Montescudaio	AOU Senese	1.3	74	DEA II level
8	Montescudaio	Ospedale S. Maria Nuova Firenze	1.3	87	Non-DEA ED
8	Montescudaio	Casa di Cura M.D. Barbantini Santa Chiara	1.3	52	Private
1	Montespertoli	Ospedale S. Giuseppe	46.35	19	DEA I level
2	Montespertoli	AOU Careggi	19.29	33	DEA II level
3	Montespertoli	Ospedale Torregalli	7.49	23	DEA I level
4	Montespertoli	AOU Meyer	4.12	34	Paed. DEA II
5	Montespertoli	Ospedale Bagno a Ripoli	2.15	24	DEA I level
6	Montespertoli	Ospedale dell'Alta Val d'Elsa	1.97	29	Non-DEA ED
7	Montespertoli	AOU Pisana	1.59	53	DEA II level
8	Montespertoli	Casa di Cura Ulivella e Glicini	1.5	33	Private
9	Montespertoli	Ospedale S. Maria Nuova Firenze	1.31	31	Non-DEA ED
10	Montespertoli	AOU Senese	1.12	48	DEA II level
1	Montevarchi	Ospedale del Valdarno	56.19	5	Non-DEA ED
2	Montevarchi	Ospedale Area Aretina Nord	15.83	24	DEA I level
3	Montevarchi	AOU Careggi	7.66	41	DEA II level
4	Montevarchi	AOU Senese	5.96	40	DEA II level
5	Montevarchi	AOU Meyer	2.11	42	Paed. DEA II
1	Monteverdi Marittimo	Ospedale Civile di Cecina	32.32	29	Non-DEA ED
2	Monteverdi Marittimo	AOU Pisana	18.18	60	DEA II level
3	Monteverdi Marittimo	Ospedale Villa Marina Piombino	17.17	41	Non-DEA ED
4	Monteverdi Marittimo	Ospedale Riuniti Livorno	14.14	55	DEA I level
5	Monteverdi Marittimo	Ospedale Misericordia Grosseto	3.03	62	DEA I level
6	Monteverdi Marittimo	AOU Careggi	1.01	107	DEA II level
6	Monteverdi Marittimo	Ospedale S. Andrea Massa Marittima	1.01	35	Non-DEA ED
6	Monteverdi Marittimo	Ospedale Fivizzano	1.01	114	Non-DEA ED
6	Monteverdi Marittimo	Ospedale Volterra	1.01	38	Non-DEA ED
6	Monteverdi Marittimo	Ospedale S. Giuseppe	1.01	78	DEA I level
6	Monteverdi Marittimo	Ospedale Unico Versilia	1.01	75	DEA I level
6	Monteverdi Marittimo	Casa di Cura Frate Sole	1.01	112	Private
1	Monticiano	AOU Senese	76.64	34	DEA II level
2	Monticiano	Ospedale Misericordia Grosseto	5.84	49	DEA I level
3	Monticiano	SPDC c/o AOU Senese	4.38	34	Other
3	Monticiano	Rugani	4.38	34	Private
5	Monticiano	Ospedale dell'Alta Val d'Elsa	3.65	39	Non-DEA ED
6	Monticiano	AOU Careggi	1.46	86	DEA II level
1	Montieri	Ospedale S. Andrea Massa Marittima	32.26	19	Non-DEA ED
2	Montieri	Ospedale Misericordia Grosseto	31.45	45	DEA I level
3	Montieri	AOU Senese	11.29	44	DEA II level
4	Montieri	AOU Pisana	4.03	92	DEA II level
5	Montieri	AOU Careggi	2.42	90	DEA II level
5	Montieri	Ospedale dell'Alta Val d'Elsa	2.42	43	Non-DEA ED
5	Montieri	Ospedale Villa Marina Piombino	2.42	53	Non-DEA ED
5	Montieri	Rugani	2.42	44	Private
9	Montieri	Ospedale Civile di Cecina	1.61	61	Non-DEA ED
1	Montignoso	Ospedale delle Apuane	57.49	8	DEA I level

2	Montignoso	AOU Pisana	7.54	35	DEA II level
3	Montignoso	Ospedale Unico Versilia	5.97	12	DEA I level
4	Montignoso	Casa di Cura San Camillo Forte dei Marmi	4.4	7	Private
5	Montignoso	Ospedale Pediatrico Apuano	2.83	5	FTGM
6	Montignoso	Istituto di Fisiologia Clinica - CNR	1.99	31	FTGM
7	Montignoso	Ospedale Fivizzano	1.57	40	Non-DEA ED
8	Montignoso	Ospedale Pontremoli	1.36	40	Non-DEA ED
1	Montopoli In Val d'Arno	Ospedale S. Giuseppe	42.42	16	DEA I level
2	Montopoli In Val d'Arno	AOU Pisana	16.02	27	DEA II level
3	Montopoli In Val d'Arno	Ospedale Filippo Lotti Pontedera	12.58	11	DEA I level
4	Montopoli In Val d'Arno	AOU Careggi	4.96	45	DEA II level
5	Montopoli In Val d'Arno	AOU Meyer	2.67	46	Paed. DEA II
6	Montopoli in Val d'Arno	Istituto di Fisiologia Clinica - CNR	1.91	29	FTGM
7	Montopoli in Val d'Arno	Ospedale Fucecchio	1.72	13	Other
8	Montopoli in Val d'Arno	Casa di Cura Leonardo	1.53	19	Private
9	Montopoli in Val d'Arno	Ospedale Pediatrico Apuano	1.05	55	FTGM
9	Montopoli In Val d'Arno	Ospedale Riuniti Livorno	1.05	33	DEA I level
1	Mulazzo	Ospedale Pontremoli	37.2	11	Non-DEA ED
2	Mulazzo	Ospedale delle Apuane	25.6	27	DEA I level
3	Mulazzo	AOU Pisana	4.78	60	DEA II level
4	Mulazzo	Ospedale Pediatrico Apuano	3.41	33	FTGM
5	Mulazzo	Ospedale Fivizzano	3.07	25	Non-DEA ED
6	Mulazzo	Ospedale Unico Versilia	1.37	37	DEA I level
1	Murlo	AOU Senese	79.53	26	DEA II level
2	Murlo	SPDC c/o AOU Senese	2.79	26	Other
2	Murlo	Rugani	2.79	26	Private
4	Murlo	Ospedale dell'Alta Val d'Elsa	2.33	40	Non-DEA ED
5	Murlo	Ospedale Misericordia Grosseto	1.86	59	DEA I level
1	Orbetello	Ospedale Misericordia Grosseto	39.69	34	DEA I level
2	Orbetello	Ospedale S. Giovanni di Dio Orbetello	30.99	7	Non-DEA ED
3	Orbetello	AOU Senese	7.23	107	DEA II level
4	Orbetello	AOU Pisana	1.67	134	DEA II level
5	Orbetello	Casa di Cura Santa Rita	1.07	158	Private
1	Orciano Pisano	AOU Pisana	55.38	23	DEA II level
2	Orciano Pisano	Ospedale Riuniti Livorno	10.77	18	DEA I level
3	Orciano Pisano	Ospedale Civile di Cecina	6.15	16	Non-DEA ED
3	Orciano Pisano	Ospedale Filippo Lotti Pontedera	6.15	25	DEA I level
5	Orciano Pisano	AOU Careggi	3.08	74	DEA II level
6	Orciano Pisano	Ospedale Fucecchio	1.54	41	Other
6	Orciano Pisano	Ospedale S. Croce Castelnuovo Garfagnana	1.54	77	Non-DEA ED
6	Orciano Pisano	Ospedale Volterra	1.54	46	Non-DEA ED
6	Orciano Pisano	Ospedale Pediatrico Apuano	1.54	46	FTGM
6	Orciano Pisano	Casa di Cura Santa Zita	1.54	38	Private
6	Orciano Pisano	Casa di Cura San Camillo Forte dei Marmi	1.54	41	Private
1	Ortignano Raggiolo	Ospedale Area Aretina Nord	36.56	55	DEA I level
2	Ortignano Raggiolo	Ospedale Civile Bibbiena	30.11	14	Disadvant. area
3	Ortignano Raggiolo	AOU Careggi	10.75	73	DEA II level
4	Ortignano Raggiolo	AOU Senese	4.3	108	DEA II level
5	Ortignano Raggiolo	Ospedale S. Maria Nuova Firenze	2.15	67	Non-DEA ED
5	Ortignano Raggiolo	Centro Chirurgico Toscano	2.15	51	Private
5	Ortignano Raggiolo	San Giuseppe	2.15	54	Private
5	Ortignano Raggiolo	Casa di Cura Ulivella e Glicini	2.15	73	Private
9	Ortignano Raggiolo	AOU Pisana	1.08	127	DEA II level
9	Ortignano Raggiolo	Ospedale del Valdarno	1.08	69	Non-DEA ED
9	Ortignano Raggiolo	Ospedale Torregalli	1.08	71	DEA I level
9	Ortignano Raggiolo	Ospedale Bagno a Ripoli	1.08	62	DEA I level

1	Palaia	Ospedale Filippo Lotti Pontedera	52.21	14	DEA I level
2	Palaia	AOU Pisana	18.7	29	DEA II level
3	Palaia	Ospedale Riuniti Livorno	5.19	36	DEA I level
4	Palaia	AOU Meyer	2.6	56	Paed. DEA II
5	Palaia	Ospedale Volterra	2.34	34	Non-DEA ED
6	Palaia	AOU Careggi	1.82	56	DEA II level
6	Palaia	Istituto di Fisiologia Clinica - CNR	1.82	32	FTGM
8	Palaia	Ospedale S. Giuseppe	1.3	26	DEA I level
9	Palaia	Ospedale Fucecchio	1.04	23	Other
1	Palazzuolo Sul Senio	Ospedale Borgo San Lorenzo	16.24	39	Non-DEA ED
2	Palazzuolo Sul Senio	AOU Careggi	2.56	65	DEA II level
3	Palazzuolo Sul Senio	Ospedale S. Maria Nuova Firenze	1.71	67	Non-DEA ED
1	Peccioli	Ospedale Filippo Lotti Pontedera	47.63	21	DEA I level
2	Peccioli	AOU Pisana	23.02	33	DEA II level
3	Peccioli	AOU Meyer	4.06	66	Paed. DEA II
3	Peccioli	Ospedale Volterra	4.06	27	Non-DEA ED
5	Peccioli	Istituto di Fisiologia Clinica - CNR	2.71	36	FTGM
6	Peccioli	Ospedale Fucecchio	2.48	33	Other
6	Peccioli	Ospedale Riuniti Livorno	2.48	40	DEA I level
8	Peccioli	AOU Careggi	2.26	65	DEA II level
9	Peccioli	SPDC Aziendale USL 5	1.35	38	Other
1	Pelago	Ospedale Bagno a Ripoli	37.46	20	DEA I level
2	Pelago	AOU Careggi	23.98	32	DEA II level
3	Pelago	Ospedale Serristori	5.17	23	Disadvant. area
3	Pelago	Casa di Cura Val Di Sieve	5.17	5	Private
5	Pelago	Ospedale Torregalli	3.76	29	DEA I level
6	Pelago	Casa di Cura Ulivella e Glicini	2.98	31	Private
7	Pelago	AOU Meyer	2.82	32	Paed. DEA II
8	Pelago	Ospedale S. Maria Nuova Firenze	2.66	25	Non-DEA ED
9	Pelago	Ospedale Borgo San Lorenzo	2.04	36	Non-DEA ED
10	Pelago	San Giuseppe	1.1	46	Private
1	Pescaglia	Ospedale San Luca Lucca	53.92	19	DEA I level
2	Pescaglia	AOU Pisana	12.05	38	DEA II level
3	Pescaglia	Ospedale S. Francesco Barga	5.72	32	Other
4	Pescaglia	Casa di Cura M.D. Barbantini Santa Chiara	4.82	17	Private
5	Pescaglia	Ospedale S. Croce Castelnuovo Garfagnana	3.92	38	Non-DEA ED
5	Pescaglia	Ospedale Unico Versilia	3.92	24	DEA I level
7	Pescaglia	Ospedale Pediatrico Apuano	1.51	32	FTGM
7	Pescaglia	Casa di Cura Santa Zita	1.51	17	Private
9	Pescaglia	AOU Meyer	1.2	66	Paed. DEA II
9	Pescaglia	Istituto di Fisiologia Clinica - CNR	1.2	34	FTGM
9	Pescaglia	Ospedale delle Apuane	1.2	32	DEA I level
9	Pescaglia	Casa di Cura Ulivella e Glicini	1.2	66	Private
1	Pescia	Ospedale della Valdinievole	50.82	4	Non-DEA ED
2	Pescia	Ospedale San Jacopo Pistoia	15.26	19	DEA I level
3	Pescia	AOU Pisana	5.79	37	DEA II level
4	Pescia	AOU Careggi	5.39	44	DEA II level
5	Pescia	Ospedale San Luca Lucca	4.39	20	DEA I level
6	Pescia	AOU Meyer	2.64	45	Paed. DEA II
7	Pescia	Ospedale S. Stefano di Prato	1.2	30	DEA I level
8	Pescia	Casa di Cura Santa Rita	1.05	14	Private
1	Piancastagnaio	Ospedale Abbazia San Salvatore	27.82	7	Disadvant. area
2	Piancastagnaio	AOU Senese	26.32	78	DEA II level
3	Piancastagnaio	Ospedale Riuniti della Val di Chiana Senese	21.55	45	Non-DEA ED
4	Piancastagnaio	Ospedale Misericordia Grosseto	4.76	68	DEA I level
5	Piancastagnaio	Centro Chirurgico Toscano	1.75	75	Private
6	Piancastagnaio	Ospedale Civile Castel del Piano	1.25	23	Disadvant. area
6	Piancastagnaio	Ospedale dell'Alta Val d'Elsa	1.25	91	Non-DEA ED
6	Piancastagnaio	Ospedale del Valdarno	1.25	78	Non-DEA ED
9	Piancastagnaio	AOU Pisana	1	160	DEA II level
9	Piancastagnaio	Ospedale S. Andrea Massa Marittima	1	93	Non-DEA ED
1	Piazza Al Serchio	Ospedale S. Croce Castelnuovo Garfagnana	32.2	17	Non-DEA ED
2	Piazza al Serchio	Ospedale S. Francesco Barga	20.98	30	Other

3	Piazza Al Serchio	Ospedale San Luca Lucca	16.1	59	DEA I level
4	Piazza Al Serchio	AOU Pisana	12.2	78	DEA II level
5	Piazza Al Serchio	Ospedale Unico Versilia	2.93	57	DEA I level
6	Piazza Al Serchio	Ospedale Fivizzano	1.46	29	Non-DEA ED
6	Piazza al Serchio	Ospedale Pediatrico Apuano	1.46	49	FTGM
6	Piazza Al Serchio	Ospedale Torregalli	1.46	101	DEA I level
6	Piazza Al Serchio	Ospedale delle Apuane	1.46	51	DEA I level
1	Pienza	Ospedale Riuniti della Val di Chiana Senese	45.07	18	Non-DEA ED
2	Pienza	AOU Senese	26.29	55	DEA II level
3	Pienza	Ospedale Area Aretina Nord	3.76	47	DEA I level
4	Pienza	Centro Chirurgico Toscano	2.35	50	Private
4	Pienza	San Giuseppe	2.35	44	Private
6	Pienza	AOU Careggi	1.88	87	DEA II level
7	Pienza	Ospedale Abbazia San Salvatore	1.41	30	Disadvant. area
7	Pienza	Rugani	1.41	55	Private
1	Pietrasanta	Ospedale Unico Versilia	62.42	7	DEA I level
2	Pietrasanta	AOU Pisana	9.03	30	DEA II level
3	Pietrasanta	Ospedale delle Apuane	4.62	11	DEA I level
4	Pietrasanta	Casa di Cura San Camillo Forte dei Marmi	3.87	6	Private
5	Pietrasanta	Ospedale Pediatrico Apuano	3.33	11	FTGM
6	Pietrasanta	Ospedale Riuniti Livorno	1.37	34	DEA I level
1	Pieve A Nievole	Ospedale della Valdinievole	40.38	15	Non-DEA ED
2	Pieve A Nievole	Ospedale San Jacopo Pistoia	24.72	9	DEA I level
3	Pieve A Nievole	AOU Careggi	8.05	33	DEA II level
4	Pieve A Nievole	AOU Pisana	5.59	34	DEA II level
5	Pieve A Nievole	Ospedale S.Stefano di Prato	2.91	19	DEA I level
6	Pieve A Nievole	AOU Meyer	2.13	34	Paed. DEA II
6	Pieve a Nievole	Casa di Cura Santa Rita	2.13	5	Private
8	Pieve a Nievole	Casa di Cura Leonardo	1.34	27	Private
9	Pieve A Nievole	Ospedale San Luca Lucca	1.01	18	DEA I level
1	Pieve Fosciana	Ospedale S. Croce Castelnuovo Garfagnana	33.81	3	Non-DEA ED
2	Pieve Fosciana	Ospedale S. Francesco Barga	17.63	17	Other
3	Pieve Fosciana	Ospedale San Luca Lucca	16.91	46	DEA I level
4	Pieve Fosciana	AOU Pisana	12.23	65	DEA II level
5	Pieve Fosciana	Ospedale Pediatrico Apuano	2.16	40	FTGM
6	Pieve Fosciana	Casa di Cura M.D. Barbantini Santa Chiara	1.8	44	Private
7	Pieve Fosciana	AOU Meyer	1.44	90	Paed. DEA II
8	Pieve Fosciana	Istituto di Fisiologia Clinica - CNR	1.08	62	FTGM
8	Pieve Fosciana	Ospedale Unico Versilia	1.08	48	DEA I level
1	Pieve Santo Stefano	Ospedale Area Aretina Nord	35.97	45	DEA I level
2	Pieve Santo Stefano	Ospedale Val Tiberina	25.69	15	Disadvant. area
3	Pieve Santo Stefano	AOU Senese	6.32	103	DEA II level
4	Pieve Santo Stefano	AOU Careggi	3.95	101	DEA II level
5	Pieve Santo Stefano	Centro Chirurgico Toscano	3.56	44	Private
6	Pieve Santo Stefano	AOU Meyer	1.58	101	Paed. DEA II
7	Pieve Santo Stefano	AOU Pisana	1.19	149	DEA II level
1	Piombino	Ospedale Villa Marina Piombino	49.6	4	Non-DEA ED
2	Piombino	Ospedale Riuniti Livorno	11.52	66	DEA I level
3	Piombino	AOU Pisana	9.67	71	DEA II level
4	Piombino	Ospedale Civile di Cecina	6.13	38	Non-DEA ED
5	Piombino	Ospedale Misericordia Grosseto	3.64	54	DEA I level
6	Piombino	AOU Careggi	1.7	122	DEA II level
7	Piombino	AOU Senese	1.2	93	DEA II level
8	Piombino	AOU Meyer	1.08	122	Paed. DEA II
9	Piombino	Istituto di Fisiologia Clinica - CNR	1.03	74	FTGM
1	Pisa	AOU Pisana	77.44	8	DEA II level
2	Pisa	Istituto di Fisiologia Clinica - CNR	2.74	7	FTGM
3	Pisa	Ospedale Filippo Lotti Pontedera	2.11	23	DEA I level
4	Pisa	Ospedale Riuniti Livorno	1.34	20	DEA I level
5	Pisa	SPDC Aziendale USL 5	1.23	6	Other
6	Pisa	AOU Meyer	1.16	65	Paed. DEA II
1	Pistoia	Ospedale San Jacopo Pistoia	63.56	5	DEA I level
2	Pistoia	AOU Careggi	9.03	29	DEA II level
3	Pistoia	Ospedale S.Stefano di Prato	3.96	15	DEA I level

4	Pistoia	AOU Pisana	2.94	44	DEA II level
5	Pistoia	AOU Meyer	2.17	30	Paed. DEA II
6	Pistoia	Casa di Cura Santa Rita	1.56	14	Private
7	Pistoia	Ospedale della Valdinievole	1.5	24	Non-DEA ED
8	Pistoia	Ospedale Lorenzo Pacini San Marcello Pistoiese	1.31	34	Disadvant. area
9	Pistoia	Ospedale Bagno a Ripoli	1.09	30	DEA I level
1	Pitigliano	Ospedale Misericordia Grosseto	34.63	63	DEA I level
2	Pitigliano	Ospedale S. Giovanni di Dio Orbetello	13.3	48	Non-DEA ED
3	Pitigliano	Ospedale Petruccioli Pitigliano	13.02	2	Disadvant. area
4	Pitigliano	AOU Senese	8.03	112	DEA II level
5	Pitigliano	AOU Pisana	1.94	162	DEA II level
5	Pitigliano	San Giuseppe	1.94	93	Private
7	Pitigliano	Ospedale Civile Castel del Piano	1.66	45	Disadvant. area
8	Pitigliano	Centro Chirurgico Toscano	1.39	98	Private
8	Pitigliano	Casa di Cura Frate Sole	1.39	109	Private
10	Pitigliano	Ospedale Riuniti della Val di Chiana Senese	1.11	71	Non-DEA ED
1	Podenzana	Ospedale delle Apuane	22.46	19	DEA I level
2	Podenzana	Ospedale Pontremoli	21.93	22	Non-DEA ED
3	Podenzana	Ospedale Fivizzano	6.95	22	Non-DEA ED
4	Podenzana	AOU Pisana	5.35	52	DEA II level
5	Podenzana	Ospedale Pediatrico Apuano	2.67	25	FTGM
5	Podenzana	Ospedale Unico Versilia	2.67	29	DEA I level
7	Podenzana	Casa di Cura San Camillo Forte dei Marmi	1.6	23	Private
8	Podenzana	AOU Careggi	1.07	88	DEA II level
8	Podenzana	AOU Meyer	1.07	89	Paed. DEA II
8	Podenzana	Istituto di Fisiologia Clinica - CNR	1.07	48	FTGM
8	Podenzana	Ospedale Riuniti Livorno	1.07	56	DEA I level
1	Poggibonsi	Ospedale dell'Alta Val d'Elsa	52.27	4	Non-DEA ED
2	Poggibonsi	AOU Senese	31.72	23	DEA II level
3	Poggibonsi	AOU Careggi	3.22	48	DEA II level
4	Poggibonsi	Rugani	1.49	19	Private
5	Poggibonsi	AOU Meyer	1.46	48	Paed. DEA II
1	Poggio A Caiano	Ospedale S.Stefano di Prato	57.26	12	DEA I level
2	Poggio A Caiano	AOU Careggi	15.07	22	DEA II level
3	Poggio a Caiano	Casa di Cura Villa Fiorita	5.4	16	Private
4	Poggio A Caiano	AOU Meyer	1.91	23	Paed. DEA II
5	Poggio A Caiano	Ospedale S. Maria Nuova Firenze	1.69	24	Non-DEA ED
6	Poggio A Caiano	Ospedale Torregalli	1.57	17	DEA I level
7	Poggio a Caiano	Casa di Cura Ulivella e Glicini	1.35	22	Private
8	Poggio A Caiano	Ospedale della Valdinievole	1.24	36	Non-DEA ED
9	Poggio A Caiano	AOU Pisana	1.01	55	DEA II level
9	Poggio A Caiano	Ospedale Bagno a Ripoli	1.01	21	DEA I level
1	Pomarance	Ospedale Volterra	42.12	23	Non-DEA ED
2	Pomarance	AOU Pisana	13.54	65	DEA II level
3	Pomarance	Ospedale Civile di Cecina	12.62	35	Non-DEA ED
4	Pomarance	Ospedale Filippo Lotti Pontedera	7.98	54	DEA I level
5	Pomarance	Ospedale Riuniti Livorno	5.19	62	DEA I level
6	Pomarance	AOU Senese	3.53	55	DEA II level
7	Pomarance	Istituto di Fisiologia Clinica - CNR	1.48	68	FTGM
8	Pomarance	AOU Careggi	1.11	89	DEA II level
1	Ponsacco	Ospedale Filippo Lotti Pontedera	51.97	7	DEA I level
2	Ponsacco	AOU Pisana	25.71	19	DEA II level
3	Ponsacco	Istituto di Fisiologia Clinica - CNR	2.24	22	FTGM
4	Ponsacco	Ospedale Volterra	2.08	38	Non-DEA ED
5	Ponsacco	Ospedale Riuniti Livorno	2.01	25	DEA I level
6	Ponsacco	AOU Meyer	1.78	56	Paed. DEA II
7	Ponsacco	AOU Careggi	1.31	55	DEA II level
1	Pontassieve	Ospedale Bagno a Ripoli	37.18	19	DEA I level
2	Pontassieve	AOU Careggi	25	27	DEA II level
3	Pontassieve	Ospedale Serristori	4.6	27	Disadvant. area
4	Pontassieve	Casa di Cura Val Di Sieve	4.37	7	Private
5	Pontassieve	Casa di Cura Ulivella e Glicini	4.31	27	Private
6	Pontassieve	Ospedale Torregalli	4.14	27	DEA I level
7	Pontassieve	AOU Meyer	3.22	27	Paed. DEA II

8	Pontassieve	Ospedale Borgo San Lorenzo	2.24	29	Non-DEA ED
9	Pontassieve	Ospedale S. Maria Nuova Firenze	2.18	22	Non-DEA ED
1	Ponte Buggianese	Ospedale della Valdinievole	50.75	13	Non-DEA ED
2	Ponte Buggianese	Ospedale San Jacopo Pistoia	19.4	13	DEA I level
3	Ponte Buggianese	AOU Careggi	5.93	38	DEA II level
4	Ponte Buggianese	AOU Pisana	5.06	33	DEA II level
5	Ponte Buggianese	Ospedale San Luca Lucca	2.26	16	DEA I level
6	Ponte Buggianese	Ospedale S.Stefano di Prato	1.83	24	DEA I level
7	Ponte Buggianese	AOU Meyer	1.51	39	Paed. DEA II
7	Ponte Buggianese	Casa di Cura Santa Rita	1.51	8	Private
1	Pontedera	Ospedale Filippo Lotti Pontedera	57.07	4	DEA I level
2	Pontedera	AOU Pisana	20.54	21	DEA II level
3	Pontedera	Ospedale Riuniti Livorno	2.38	28	DEA I level
4	Pontedera	Istituto di Fisiologia Clinica - CNR	2.16	24	FTGM
5	Pontedera	AOU Careggi	1.82	53	DEA II level
6	Pontedera	SPDC Aziendale USL 5	1.36	26	Other
7	Pontedera	AOU Meyer	1.06	54	Paed. DEA II
7	Pontedera	Ospedale Volterra	1.06	42	Non-DEA ED
1	Pontremoli	Ospedale Pontremoli	40.38	5	Non-DEA ED
2	Pontremoli	Ospedale delle Apuane	22.78	32	DEA I level
3	Pontremoli	AOU Pisana	4.64	65	DEA II level
4	Pontremoli	Ospedale Pediatrico Apuano	3	38	FTGM
5	Pontremoli	Ospedale Fivizzano	2.46	31	Non-DEA ED
6	Pontremoli	Ospedale Unico Versilia	2.18	42	DEA I level
1	Poppi	Ospedale Area Aretina Nord	33.55	56	DEA I level
2	Poppi	Ospedale Civile Bibbiena	32.91	13	Disadvant. area
3	Poppi	AOU Careggi	8.59	65	DEA II level
4	Poppi	AOU Senese	4.93	100	DEA II level
5	Poppi	Centro Chirurgico Toscano	3.82	52	Private
6	Poppi	AOU Meyer	3.02	65	Paed. DEA II
1	Porcari	Ospedale San Luca Lucca	58.67	10	DEA I level
2	Porcari	AOU Pisana	16.45	27	DEA II level
3	Porcari	AOU Meyer	2.55	45	Paed. DEA II
4	Porcari	Ospedale S. Francesco Barga	2.3	40	Other
4	Porcari	Casa di Cura M.D. Barbantini Santa Chiara	2.3	12	Private
6	Porcari	Ospedale della Valdinievole	2.17	15	Non-DEA ED
7	Porcari	Ospedale Unico Versilia	1.91	27	DEA I level
8	Porcari	Ospedale S. Croce Castelnuovo Garfagnana	1.79	46	Non-DEA ED
9	Porcari	AOU Careggi	1.53	45	DEA II level
1	Porto Azzurro	Ospedale Civile Elbano Portoferraio	46.46	13	Non-DEA ED
1	Portoferraio	Ospedale Civile Elbano Portoferraio	47.8	3	Non-DEA ED
1	Prato	Ospedale S.Stefano di Prato	66.69	6	DEA I level
2	Prato	AOU Careggi	9.6	20	DEA II level
3	Prato	Casa di Cura Villa Fiorita	6.4	8	Private
4	Prato	AOU Meyer	2.39	21	Paed. DEA II
5	Prato	Ospedale San Jacopo Pistoia	1.38	14	DEA I level
6	Prato	Casa di Cura Ulivella e Glicini	1.02	20	Private
1	Pratovecchio Stia	Ospedale Civile Bibbiena	38.05	29	Disadvant. area
2	Pratovecchio Stia	Ospedale Area Aretina Nord	28.5	71	DEA I level
3	Pratovecchio Stia	AOU Careggi	8.02	59	DEA II level
4	Pratovecchio Stia	Centro Chirurgico Toscano	3.41	67	Private
5	Pratovecchio Stia	AOU Senese	2.73	94	DEA II level
6	Pratovecchio Stia	Ospedale Bagno a Ripoli	2.22	49	DEA I level
7	Pratovecchio Stia	San Giuseppe	1.88	69	Private
8	Pratovecchio Stia	AOU Meyer	1.71	60	Paed. DEA II
1	Quarrata	Ospedale San Jacopo Pistoia	52.25	12	DEA I level
2	Quarrata	Ospedale S.Stefano di Prato	12.73	12	DEA I level
3	Quarrata	AOU Careggi	10.16	26	DEA II level
4	Quarrata	AOU Meyer	2.78	27	Paed. DEA II
5	Quarrata	AOU Pisana	2.32	50	DEA II level
5	Quarrata	Casa di Cura Villa Fiorita	2.32	17	Private
7	Quarrata	Ospedale della Valdinievole	1.73	30	Non-DEA ED
1	Radda in Chianti	AOU Senese	61.29	25	DEA II level
2	Radda in Chianti	Ospedale dell'Alta Val d'Elsa	6.45	26	Non-DEA ED
3	Radda in Chianti	Ospedale Bagno a Ripoli	5.16	41	DEA I level

4	Radda in Chianti	AOU Meyer	3.87	56	Paed. DEA II
5	Radda in Chianti	AOU Careggi	3.23	56	DEA II level
5	Radda in Chianti	Ospedale del Valdarno	3.23	22	Non-DEA ED
7	Radda in Chianti	Ospedale Riuniti della Val di Chiana Senese	1.94	60	Non-DEA ED
8	Radda in Chianti	SPDC c/o AOU Senese	1.29	25	Other
8	Radda in Chianti	Ospedale Serristori	1.29	31	Disadvant. area
8	Radda in Chianti	Ospedale Area Aretina Nord	1.29	45	DEA I level
1	Radicondoli	AOU Senese	32.73	74	DEA II level
2	Radicondoli	Ospedale Riuniti della Val di Chiana Senese	24.55	30	Non-DEA ED
3	Radicondoli	Ospedale Abbazia San Salvatore	18.18	18	Disadvant. area
4	Radicondoli	AOU Pisana	5.45	145	DEA II level
5	Radicondoli	San Giuseppe	4.55	54	Private
6	Radicondoli	AOU Careggi	1.82	96	DEA II level
6	Radicondoli	Ospedale dell'Alta Val d'Elsa	1.82	88	Non-DEA ED
6	Radicondoli	Ospedale S. Giovanni di Dio Orbetello	1.82	89	Non-DEA ED
6	Radicondoli	Centro Chirurgico Toscano	1.82	59	Private
1	Radicondoli	Ospedale dell'Alta Val d'Elsa	50	28	Non-DEA ED
2	Radicondoli	AOU Senese	38	39	DEA II level
3	Radicondoli	AOU Careggi	2	76	DEA II level
3	Radicondoli	Ospedale Misericordia Grosseto	2	62	DEA I level
5	Radicondoli	SPDC c/o AOU Senese	1	39	Other
5	Radicondoli	AOU Meyer	1	76	Paed. DEA II
5	Radicondoli	Ospedale S. Maria Nuova Firenze	1	71	Non-DEA ED
5	Radicondoli	Casa di Cura Frate Sole	1	78	Private
1	Rapolano Terme	AOU Senese	75.39	31	DEA II level
2	Rapolano Terme	Ospedale Riuniti della Val di Chiana Senese	6.65	28	Non-DEA ED
3	Rapolano Terme	AOU Careggi	2	73	DEA II level
4	Rapolano Terme	Rugani	1.77	33	Private
5	Rapolano Terme	Ospedale Area Aretina Nord	1.33	39	DEA I level
6	Rapolano Terme	AOU Meyer	1.11	73	Paed. DEA II
6	Rapolano Terme	AOU Pisana	1.11	118	DEA II level
1	Reggello	Ospedale Bagno a Ripoli	35.9	18	DEA I level
2	Reggello	AOU Careggi	19.99	35	DEA II level
3	Reggello	Ospedale Serristori	10.52	12	Disadvant. area
4	Reggello	Ospedale del Valdarno	6.38	19	Non-DEA ED
5	Reggello	Casa di Cura Ulivella e Glicini	3.3	34	Private
6	Reggello	Ospedale Torregalli	2.88	28	DEA I level
7	Reggello	Ospedale S. Maria Nuova Firenze	2.31	28	Non-DEA ED
8	Reggello	AOU Meyer	2.17	35	Paed. DEA II
9	Reggello	Casa di Cura Val Di Sieve	2.1	19	Private
10	Reggello	Casa di Cura Frate Sole	2.03	13	Private
11	Reggello	Ospedale Area Aretina Nord	1.19	38	DEA I level
12	Reggello	AOU Senese	1.05	57	DEA II level
12	Reggello	Ospedale S. Stefano di Prato	1.05	41	DEA I level
1	Rignano sull'Arno	Ospedale Bagno a Ripoli	41.26	10	DEA I level
2	Rignano sull'Arno	AOU Careggi	19.53	27	DEA II level
3	Rignano sull'Arno	Ospedale Serristori	9.25	14	Disadvant. area
4	Rignano sull'Arno	Ospedale Torregalli	3.38	20	DEA I level
5	Rignano sull'Arno	Casa di Cura Val Di Sieve	3.23	12	Private
6	Rignano sull'Arno	AOU Meyer	3.08	27	Paed. DEA II
6	Rignano sull'Arno	Casa di Cura Ulivella e Glicini	3.08	27	Private
8	Rignano sull'Arno	Ospedale S. Maria Nuova Firenze	2.06	21	Non-DEA ED
8	Rignano sull'Arno	Ospedale S. Stefano di Prato	2.06	33	DEA I level
10	Rignano sull'Arno	Ospedale Borgo San Lorenzo	1.17	39	Non-DEA ED
11	Rignano sull'Arno	Casa di Cura Frate Sole	1.03	15	Private
1	Rio	Ospedale Civile Elbano Portoferraio	35.79	19	Non-DEA ED
1	Riparbella	Ospedale Civile di Cecina	46.48	9	Non-DEA ED
2	Riparbella	AOU Pisana	22.54	40	DEA II level
3	Riparbella	Ospedale Riuniti Livorno	11.27	35	DEA I level
4	Riparbella	AOU Careggi	2.82	91	DEA II level
5	Riparbella	Ospedale Villa Marina Piombino	1.41	45	Non-DEA ED
5	Riparbella	Ospedale Pediatrico Apuano	1.41	63	FTGM
1	Roccalbegna	Ospedale Misericordia Grosseto	55.1	41	DEA I level
2	Roccalbegna	Ospedale Civile Castel del Piano	19.39	23	Disadvant. area
3	Roccalbegna	AOU Senese	8.16	84	DEA II level

4	Roccalbegna	Ospedale Abbazia San Salvatore	3.06	36	Disadvant. area
5	Roccalbegna	AOU Pisana	2.04	140	DEA II level
5	Roccalbegna	Ospedale S. Giovanni di Dio Orbetello	2.04	56	Non-DEA ED
7	Roccalbegna	Ospedale Petruccioli Pitigliano	1.02	39	Disadvant. area
7	Roccalbegna	Ospedale dell'Alta Val d'Elsa	1.02	97	Non-DEA ED
7	Roccalbegna	Ospedale S. Andrea Massa Marittima	1.02	74	Non-DEA ED
7	Roccalbegna	Casa di Cura Frate Sole	1.02	111	Private
7	Roccalbegna	Rugani	1.02	84	Private
1	Roccastrada	Ospedale Misericordia Grosseto	57.02	27	DEA I level
2	Roccastrada	Ospedale S. Andrea Massa Marittima	17.76	27	Non-DEA ED
3	Roccastrada	AOU Senese	8.93	58	DEA II level
4	Roccastrada	AOU Careggi	1.47	107	DEA II level
4	Roccastrada	AOU Pisana	1.47	99	DEA II level
6	Roccastrada	Ospedale S. Giovanni di Dio Orbetello	1.28	59	Non-DEA ED
7	Roccastrada	Rugani	1.08	58	Private
1	Rosignano Marittimo	Ospedale Civile di Cecina	42.82	12	Non-DEA ED
2	Rosignano Marittimo	Ospedale Riuniti Livorno	19.57	24	DEA I level
3	Rosignano Marittimo	AOU Pisana	14.43	32	DEA II level
4	Rosignano Marittimo	AOU Careggi	1.66	82	DEA II level
5	Rosignano Marittimo	Ospedale delle Apuane	1.48	53	DEA I level
6	Rosignano Marittimo	AOU Meyer	1.27	83	Paed. DEA II
7	Rosignano Marittimo	Ospedale Villa Marina Piombino	1.19	48	Non-DEA ED
8	Rosignano Marittimo	Istituto di Fisiologia Clinica - CNR	1.01	34	FTGM
1	Rufina	Ospedale Bagno a Ripoli	28.59	25	DEA I level
2	Rufina	AOU Careggi	23.91	36	DEA II level
3	Rufina	Ospedale Borgo San Lorenzo	12.92	29	Non-DEA ED
4	Rufina	Casa di Cura Ulivella e Glicini	6.46	36	Private
5	Rufina	Casa di Cura Val Di Sieve	5.17	8	Private
6	Rufina	Ospedale Serristori	3.88	30	Disadvant. area
7	Rufina	Ospedale Torregalli	3.55	34	DEA I level
8	Rufina	Ospedale S. Maria Nuova Firenze	3.23	30	Non-DEA ED
9	Rufina	AOU Meyer	2.26	36	Paed. DEA II
1	Sambuca Pistoiese	Ospedale San Jacopo Pistoia	34.29	31	DEA I level
2	Sambuca Pistoiese	Ospedale Lorenzo Pacini San Marcello Pistoiese	2.86	38	Disadvant. area
3	Sambuca Pistoiese	AOU Careggi	2.14	55	DEA II level
3	Sambuca Pistoiese	Ospedale della Valdinievole	2.14	49	Non-DEA ED
3	Sambuca Pistoiese	Ospedale S.Stefano di Prato	2.14	40	DEA I level
6	Sambuca Pistoiese	Ospedale Riuniti Livorno	1.43	79	DEA I level
6	Sambuca Pistoiese	Casa di Cura Villa Fiorita	1.43	42	Private
1	San Casciano dei Bagni	Ospedale Riuniti della Val di Chiana Senese	42.11	29	Non-DEA ED
2	San Casciano dei Bagni	AOU Senese	23.03	76	DEA II level
3	San Casciano dei Bagni	Ospedale Abbazia San Salvatore	8.55	29	Disadvant. area
4	San Casciano dei Bagni	Ospedale Misericordia Grosseto	3.29	93	DEA I level
5	San Casciano dei Bagni	Ospedale Area Aretina Nord	2.63	54	DEA I level
6	San Casciano dei Bagni	Centro Chirurgico Toscano	1.97	57	Private
7	San Casciano dei Bagni	AOU Pisana	1.32	142	DEA II level
1	San Casciano In Val di pesa	Ospedale Bagno a Ripoli	27.88	15	DEA I level
2	San Casciano In Val di pesa	AOU Careggi	20.16	28	DEA II level
3	San Casciano In Val di pesa	Ospedale Torregalli	16.98	16	DEA I level
4	San Casciano in Val di pesa	Casa di Cura Ulivella e Glicini	6.77	27	Private
5	San Casciano in Val di pesa	Ospedale Serristori	3.59	30	Disadvant. area
6	San Casciano In Val di pesa	AOU Meyer	2.91	28	Paed. DEA II
7	San Casciano In Val di pesa	Ospedale S. Maria Nuova Firenze	2.3	23	Non-DEA ED
8	San Casciano in Val di pesa	Casa di Cura Villa Fiorita	1.56	34	Private
9	San Casciano In Val di pesa	AOU Pisana	1.22	59	DEA II level

9	San Casciano In Val di pesa	Ospedale S. Giuseppe	1.22	25	DEA I level
11	San Casciano In Val di pesa	AOU Senese	1.15	41	DEA II level
11	San Casciano In Val di pesa	Ospedale S.Stefano di Prato	1.15	29	DEA I level
11	San Casciano in Val di pesa	Casa di Cura Villa Maria Teresa	1.15	24	Private
1	San Gimignano	Ospedale dell'Alta Val d'Elsa	51.59	14	Non-DEA ED
2	San Gimignano	AOU Senese	28.24	33	DEA II level
3	San Gimignano	AOU Careggi	2.59	54	DEA II level
4	San Gimignano	AOU Pisana	1.3	61	DEA II level
4	San Gimignano	Ospedale S. Giuseppe	1.3	39	DEA I level
4	San Gimignano	Rugani	1.3	29	Private
7	San Gimignano	Ospedale Volterra	1.15	29	Non-DEA ED
1	San Giovanni Valdarno	Ospedale del Valdarno	57.65	5	Non-DEA ED
2	San Giovanni Valdarno	Ospedale Area Aretina Nord	12.91	26	DEA I level
3	San Giovanni Valdarno	AOU Careggi	7.1	36	DEA II level
4	San Giovanni Valdarno	AOU Senese	6.43	42	DEA II level
5	San Giovanni Valdarno	Casa di Cura Frate Sole	1.84	10	Private
6	San Giovanni Valdarno	AOU Meyer	1.71	37	Paed. DEA II
7	San Giovanni Valdarno	AOU Pisana	1.29	85	DEA II level
8	San Giovanni Valdarno	Ospedale Bagno a Ripoli	1.16	19	DEA I level
1	San Giuliano Terme	AOU Pisana	76.62	11	DEA II level
2	San Giuliano Terme	Istituto di Fisiologia Clinica - CNR	4.47	8	FTGM
3	San Giuliano Terme	Ospedale Filippo Lotti Pontedera	2.5	27	DEA I level
4	San Giuliano Terme	Ospedale Unico Versilia	1.59	21	DEA I level
5	San Giuliano Terme	SPDC Aziendale USL 5	1.29	9	Other
1	San Godenzo	Ospedale Borgo San Lorenzo	44.57	29	Non-DEA ED
2	San Godenzo	AOU Careggi	20.65	53	DEA II level
3	San Godenzo	Ospedale Bagno a Ripoli	9.78	47	DEA I level
4	San Godenzo	Ospedale S.Stefano di Prato	5.43	69	DEA I level
5	San Godenzo	Ospedale Serristori	2.17	52	Disadvant. area
5	San Godenzo	Ospedale Torregalli	2.17	56	DEA I level
5	San Godenzo	Ospedale San Jacopo Pistoia	2.17	74	DEA I level
8	San Godenzo	Ospedale S. Maria Nuova Firenze	1.09	52	Non-DEA ED
8	San Godenzo	Ospedale delle Apuane	1.09	120	DEA I level
8	San Godenzo	Casa di Cura Villa Fiorita	1.09	73	Private
8	San Godenzo	Casa di Cura Ulivella e Glicini	1.09	54	Private
1	San Marcello Piteglio	Ospedale San Jacopo Pistoia	38.25	27	DEA I level
2	San Marcello Piteglio	Ospedale Lorenzo Pacini San Marcello Pistoiese	32.63	10	Disadvant. area
3	San Marcello Piteglio	AOU Careggi	8.85	52	DEA II level
4	San Marcello Piteglio	Ospedale S.Stefano di Prato	2.95	38	DEA I level
5	San Marcello Piteglio	Ospedale della Valdinievole	1.94	35	Non-DEA ED
6	San Marcello Piteglio	Ospedale Bagno a Ripoli	1.38	53	DEA I level
7	San Marcello Piteglio	AOU Pisana	1.2	63	DEA II level
8	San Marcello Piteglio	AOU Meyer	1.01	53	Paed. DEA II
8	San Marcello Piteglio	Casa di Cura Ulivella e Glicini	1.01	52	Private
1	San Miniato	Ospedale S. Giuseppe	54.2	11	DEA I level
2	San Miniato	AOU Pisana	11.75	33	DEA II level
3	San Miniato	AOU Careggi	6.29	41	DEA II level
4	San Miniato	Ospedale Filippo Lotti Pontedera	3.54	17	DEA I level
5	San Miniato	AOU Meyer	1.95	41	Paed. DEA II
6	San Miniato	Casa di Cura Leonardo	1.63	14	Private
7	San Miniato	Ospedale dell'Alta Val d'Elsa	1.47	46	Non-DEA ED
8	San Miniato	Istituto di Fisiologia Clinica - CNR	1.31	36	FTGM
8	San Miniato	Ospedale Torregalli	1.31	33	DEA I level
10	San Miniato	Ospedale Fucecchio	1.15	10	Other
1	San Quirico d'Orcia	AOU Senese	47.21	46	DEA II level
2	San Quirico d'Orcia	Ospedale Riuniti della Val di Chiana Senese	22.32	25	Non-DEA ED
3	San Quirico d'Orcia	Ospedale Area Aretina Nord	4.29	54	DEA I level
4	San Quirico d'Orcia	Ospedale Misericordia Grosseto	3	61	DEA I level
4	San Quirico d'Orcia	San Giuseppe	3	51	Private
6	San Quirico d'Orcia	Ospedale Abbazia San Salvatore	2.58	27	Disadvant. area
7	San Quirico d'Orcia	AOU Pisana	1.72	130	DEA II level
7	San Quirico d'Orcia	Centro Chirurgico Toscano	1.72	56	Private
9	San Quirico d'Orcia	AOU Careggi	1.29	94	DEA II level

9	San Quirico d'Orcia	Ospedale dell'Alta Val d'Elsa	1.29	59	Non-DEA ED
1	San Romano in Garfagnana	Ospedale S. Croce Castelnuovo Garfagnana	25	10	Non-DEA ED
2	San Romano in Garfagnana	Ospedale S. Francesco Barga	19.59	23	Other
3	San Romano in Garfagnana	AOU Pisana	14.86	71	DEA II level
4	San Romano in Garfagnana	Ospedale San Luca Lucca	12.16	52	DEA I level
5	San Romano in Garfagnana	Ospedale Unico Versilia	4.73	53	DEA I level
6	San Romano in Garfagnana	Istituto di Fisiologia Clinica - CNR	2.7	68	FTGM
6	San Romano in Garfagnana	Ospedale San Jacopo Pistoia	2.7	72	DEA I level
8	San Romano in Garfagnana	AOU Meyer	2.03	97	Paed. DEA II
8	San Romano in Garfagnana	Casa di Cura Santa Rita	2.03	66	Private
1	San Vincenzo	Ospedale Villa Marina Piombino	35.91	19	Non-DEA ED
2	San Vincenzo	Ospedale Civile di Cecina	14.98	21	Non-DEA ED
3	San Vincenzo	AOU Pisana	12.72	53	DEA II level
4	San Vincenzo	Ospedale Riuniti Livorno	11.59	48	DEA I level
5	San Vincenzo	Ospedale Misericordia Grosseto	3.06	54	DEA I level
6	San Vincenzo	AOU Meyer	2.09	104	Paed. DEA II
6	San Vincenzo	AOU Senese	2.09	92	DEA II level
8	San Vincenzo	AOU Careggi	1.93	104	DEA II level
9	San Vincenzo	Ospedale Unico Versilia	1.61	68	DEA I level
10	San Vincenzo	Ospedale Filippo Lotti Pontedera	1.13	55	DEA I level
1	Sansepolcro	Ospedale Area Aretina Nord	33.24	37	DEA I level
2	Sansepolcro	Ospedale Val Tiberina	31.36	4	Disadvant. area
3	Sansepolcro	AOU Senese	4.59	95	DEA II level
4	Sansepolcro	AOU Careggi	3.2	93	DEA II level
5	Sansepolcro	Centro Chirurgico Toscano	1.74	37	Private
6	Sansepolcro	AOU Pisana	1.04	141	DEA II level
1	Santa Croce sull'Arno	Ospedale S. Giuseppe	53.19	16	DEA I level
2	Santa Croce sull'Arno	AOU Pisana	14.24	31	DEA II level
3	Santa Croce sull'Arno	Ospedale Filippo Lotti Pontedera	5.03	16	DEA I level
4	Santa Croce sull'Arno	AOU Careggi	4.75	45	DEA II level
5	Santa Croce sull'Arno	AOU Meyer	2.9	45	Paed. DEA II
6	Santa Croce sull'Arno	Ospedale Fucecchio	1.63	7	Other
7	Santa Croce sull'Arno	Ospedale Torregalli	1.35	37	DEA I level
8	Santa Croce sull'Arno	Istituto di Fisiologia Clinica - CNR	1.27	34	FTGM
9	Santa Croce sull'Arno	Ospedale della Valdinievole	1.06	27	Non-DEA ED
1	Santa Fiora	Ospedale Misericordia Grosseto	39.76	57	DEA I level
2	Santa Fiora	Ospedale Civile Castel del Piano	22.02	12	Disadvant. area
3	Santa Fiora	AOU Senese	9.48	79	DEA II level
4	Santa Fiora	Ospedale Abbazia San Salvatore	3.67	18	Disadvant. area
5	Santa Fiora	Ospedale Riuniti della Val di Chiana Senese	3.06	56	Non-DEA ED
6	Santa Fiora	AOU Careggi	2.45	123	DEA II level
6	Santa Fiora	AOU Meyer	2.45	124	Paed. DEA II
8	Santa Fiora	Ospedale S. Giovanni di Dio Orbetello	1.22	72	Non-DEA ED
1	Santa Luce	AOU Pisana	34.56	31	DEA II level
2	Santa Luce	Ospedale Civile di Cecina	27.94	17	Non-DEA ED
3	Santa Luce	Ospedale Riuniti Livorno	15.44	26	DEA I level
4	Santa Luce	AOU Careggi	2.94	78	DEA II level
5	Santa Luce	Ospedale Filippo Lotti Pontedera	2.21	30	DEA I level
5	Santa Luce	Casa di Cura M.D. Barbantini Santa Chiara	2.21	45	Private
7	Santa Luce	AOU Meyer	1.47	79	Paed. DEA II
7	Santa Luce	Ospedale Volterra	1.47	42	Non-DEA ED
7	Santa Luce	Istituto di Fisiologia Clinica - CNR	1.47	33	FTGM
1	Santa Maria A Monte	Ospedale Filippo Lotti Pontedera	48.78	11	DEA I level
2	Santa Maria A Monte	AOU Pisana	23.72	25	DEA II level
3	Santa Maria a Monte	Istituto di Fisiologia Clinica - CNR	2.85	28	FTGM
4	Santa Maria A Monte	Ospedale Volterra	1.84	48	Non-DEA ED

5	Santa Maria A Monte	AOU Careggi	1.59	51	DEA II level
5	Santa Maria A Monte	Ospedale Riuniti Livorno	1.59	35	DEA I level
7	Santa Maria A Monte	Ospedale S. Giuseppe	1.51	22	DEA I level
8	Santa Maria a Monte	SPDC Aziendale USL 5	1.26	30	Other
1	Sarteano	Ospedale Riuniti della Val di Chiana Senese	46.25	18	Non-DEA ED
2	Sarteano	AOU Senese	26.15	65	DEA II level
3	Sarteano	Ospedale Area Aretina Nord	4.36	43	DEA I level
4	Sarteano	San Giuseppe	2.42	40	Private
5	Sarteano	AOU Careggi	1.45	83	DEA II level
6	Sarteano	Centro Chirurgico Toscano	1.21	45	Private
1	Sassetta	Ospedale Civile di Cecina	37.84	24	Non-DEA ED
2	Sassetta	Ospedale Riuniti Livorno	18.92	52	DEA I level
3	Sassetta	AOU Pisana	16.22	57	DEA II level
4	Sassetta	Ospedale Villa Marina Piombino	10.81	35	Non-DEA ED
5	Sassetta	AOU Careggi	5.41	108	DEA II level
6	Sassetta	AOU Meyer	2.7	108	Paed. DEA II
6	Sassetta	Ospedale Volterra	2.7	49	Non-DEA ED
6	Sassetta	Ospedale San Luca Lucca	2.7	73	DEA I level
1	Scandicci	Ospedale Torregalli	45.88	5	DEA I level
2	Scandicci	AOU Careggi	22.05	15	DEA II level
3	Scandicci	Casa di Cura Ulivella e Glicini	6.43	15	Private
4	Scandicci	Ospedale Bagno a Ripoli	5.15	10	DEA I level
5	Scandicci	AOU Meyer	2.74	16	Paed. DEA II
6	Scandicci	Ospedale S. Maria Nuova Firenze	2.41	14	Non-DEA ED
7	Scandicci	Ospedale S.Stefano di Prato	1.28	18	DEA I level
8	Scandicci	Casa di Cura Villa Maria Teresa	1.04	12	Private
1	Scansano	Ospedale Misericordia Grosseto	69.49	26	DEA I level
2	Scansano	AOU Senese	7.35	90	DEA II level
3	Scansano	Ospedale S. Giovanni di Dio Orbetello	6.46	37	Non-DEA ED
4	Scansano	Centro Chirurgico Toscano	2	113	Private
5	Scansano	Ospedale S. Andrea Massa Marittima	1.78	60	Non-DEA ED
1	Scarlino	Ospedale Misericordia Grosseto	37.25	33	DEA I level
2	Scarlino	Ospedale S. Andrea Massa Marittima	31.37	20	Non-DEA ED
3	Scarlino	AOU Senese	4.76	75	DEA II level
4	Scarlino	AOU Pisana	3.92	80	DEA II level
5	Scarlino	AOU Careggi	2.52	122	DEA II level
6	Scarlino	Ospedale Civile di Cecina	1.96	47	Non-DEA ED
1	Scarperia e San Piero	Ospedale Borgo San Lorenzo	50.52	8	Non-DEA ED
2	Scarperia e San Piero	AOU Careggi	17.66	32	DEA II level
3	Scarperia e San Piero	Ospedale Bagno a Ripoli	8.12	39	DEA I level
4	Scarperia e San Piero	AOU Meyer	3.12	32	Paed. DEA II
5	Scarperia e San Piero	Ospedale Torregalli	2.83	40	DEA I level
6	Scarperia e San Piero	Casa di Cura Ulivella e Glicini	2.64	33	Private
7	Scarperia e San Piero	Ospedale S. Maria Nuova Firenze	2.17	35	Non-DEA ED
8	Scarperia e San Piero	Ospedale S.Stefano di Prato	1.89	45	DEA I level
1	Seggiano	Ospedale Civile Castel del Piano	28.97	9	Disadvant. area
2	Seggiano	Ospedale Misericordia Grosseto	23.36	59	DEA I level
3	Seggiano	AOU Senese	22.43	62	DEA II level
4	Seggiano	Ospedale Abbazia San Salvatore	3.74	18	Disadvant. area
5	Seggiano	Ospedale S. Andrea Massa Marittima	2.8	80	Non-DEA ED
6	Seggiano	AOU Pisana	1.87	146	DEA II level
6	Seggiano	Ospedale Riuniti della Val di Chiana Senese	1.87	43	Non-DEA ED
6	Seggiano	Ospedale S.Stefano di Prato	1.87	117	DEA I level
6	Seggiano	Casa di Cura Frate Sole	1.87	84	Private
1	Semproniano	Ospedale Misericordia Grosseto	39.83	55	DEA I level
2	Semproniano	Ospedale Civile Castel del Piano	19.49	22	Disadvant. area
3	Semproniano	AOU Senese	5.93	89	DEA II level
4	Semproniano	Ospedale Petruccioli Pitigliano	5.08	23	Disadvant. area
5	Semproniano	AOU Pisana	3.39	155	DEA II level
5	Semproniano	Ospedale S. Giovanni di Dio Orbetello	3.39	55	Non-DEA ED
5	Semproniano	Rugani	3.39	89	Private
8	Semproniano	AOU Careggi	2.54	138	DEA II level
9	Semproniano	Ospedale S. Andrea Massa Marittima	1.69	88	Non-DEA ED

1	Seravezza	Ospedale Unico Versilia	63.79	10	DEA I level
2	Seravezza	AOU Pisana	9.94	33	DEA II level
3	Seravezza	Ospedale delle Apuane	6.55	11	DEA I level
4	Seravezza	Casa di Cura San Camillo Forte dei Marmi	3.4	6	Private
5	Seravezza	Ospedale Pediatrico Apuano	2.9	11	FTGM
6	Seravezza	Ospedale San Luca Lucca	1.33	29	DEA I level
7	Seravezza	Istituto di Fisiologia Clinica - CNR	1.24	29	FTGM
1	Serravalle Pistoiese	Ospedale San Jacopo Pistoia	62.22	7	DEA I level
2	Serravalle Pistoiese	AOU Careggi	9.29	31	DEA II level
3	Serravalle Pistoiese	Ospedale S.Stefano di Prato	4.6	17	DEA I level
4	Serravalle Pistoiese	Ospedale della Valdinievole	3.07	23	Non-DEA ED
5	Serravalle Pistoiese	AOU Pisana	2.8	43	DEA II level
6	Serravalle Pistoiese	AOU Meyer	2.43	31	Paed. DEA II
7	Serravalle Pistoiese	Casa di Cura Villa Fiorita	1.89	21	Private
8	Serravalle Pistoiese	Casa di Cura Santa Rita	1.17	13	Private
1	Sestino	Ospedale Val Tiberina	21.31	37	Disadvant. area
2	Sestino	Ospedale Area Aretina Nord	13.11	67	DEA I level
3	Sestino	AOU Senese	1.64	125	DEA II level
1	Sesto Fiorentino	AOU Careggi	69.33	10	DEA II level
2	Sesto Fiorentino	AOU Meyer	4.41	11	Paed. DEA II
3	Sesto Fiorentino	Ospedale Torregalli	2.69	14	DEA I level
4	Sesto Fiorentino	Ospedale S.Stefano di Prato	2.61	15	DEA I level
5	Sesto Fiorentino	Ospedale Bagno a Ripoli	2.01	18	DEA I level
6	Sesto Fiorentino	Casa di Cura Ulivella e Glicini	1.65	11	Private
7	Sesto Fiorentino	Ospedale S. Maria Nuova Firenze	1.55	16	Non-DEA ED
8	Sesto Fiorentino	Casa di Cura Villa Fiorita	1.43	19	Private
9	Sesto Fiorentino	SPDC OBLATE	1.11	10	Other
1	Siena	AOU Senese	77.07	6	DEA II level
2	Siena	Ospedale dell'Alta Val d'Elsa	4.07	22	Non-DEA ED
3	Siena	Rugani	2.67	7	Private
4	Siena	AOU Careggi	1.53	67	DEA II level
5	Siena	SPDC c/o AOU Senese	1.22	6	Other
6	Siena	Ospedale Misericordia Grosseto	1.18	73	DEA I level
1	Signa	AOU Careggi	39.52	19	DEA II level
2	Signa	Ospedale Torregalli	24.22	13	DEA I level
3	Signa	Ospedale S.Stefano di Prato	5.35	16	DEA I level
4	Signa	AOU Meyer	4.4	19	Paed. DEA II
5	Signa	Casa di Cura Ulivella e Glicini	3.63	19	Private
6	Signa	Ospedale Bagno a Ripoli	2.29	16	DEA I level
7	Signa	Ospedale S. Maria Nuova Firenze	2.04	19	Non-DEA ED
8	Signa	SPDC OBLATE	1.27	19	Other
9	Signa	Casa di Cura Villa Fiorita	1.15	20	Private
10	Signa	AOU Pisana	1.08	57	DEA II level
1	Sillano Giuncugnano	Ospedale S. Croce Castelnuovo Garfagnana	33.87	23	Non-DEA ED
2	Sillano Giuncugnano	AOU Pisana	18.55	83	DEA II level
3	Sillano Giuncugnano	Ospedale S. Francesco Barga	15.32	36	Other
4	Sillano Giuncugnano	Ospedale San Luca Lucca	13.71	65	DEA I level
5	Sillano Giuncugnano	Istituto di Fisiologia Clinica - CNR	2.42	79	FTGM
6	Sillano Giuncugnano	AOU Meyer	1.61	110	Paed. DEA II
6	Sillano Giuncugnano	Ospedale Pediatrico Apuano	1.61	53	FTGM
6	Sillano Giuncugnano	Casa di Cura San Camillo Forte dei Marmi	1.61	56	Private
1	Sinalunga	Ospedale Riuniti della Val di Chiana Senese	44.59	15	Non-DEA ED
2	Sinalunga	AOU Senese	26.31	44	DEA II level
3	Sinalunga	Ospedale Area Aretina Nord	8.11	28	DEA I level
4	Sinalunga	San Giuseppe	2.7	25	Private
5	Sinalunga	Centro Chirurgico Toscano	2.62	30	Private
6	Sinalunga	AOU Meyer	2.07	68	Paed. DEA II
7	Sinalunga	AOU Careggi	1.43	67	DEA II level
1	Sorano	Ospedale Misericordia Grosseto	27.94	71	DEA I level
2	Sorano	Ospedale Petruccioli Pitigliano	22.06	13	Disadvant. area
3	Sorano	Ospedale S. Giovanni di Dio Orbetello	8.82	57	Non-DEA ED
4	Sorano	AOU Senese	8.53	101	DEA II level
5	Sorano	AOU Pisana	1.76	169	DEA II level
6	Sorano	Casa di Cura Frate Sole	1.47	99	Private

7	Sorano	AOU Careggi	1.18	126	DEA II level
7	Sorano	Ospedale Riuniti della Val di Chiana Senese	1.18	61	Non-DEA ED
7	Sorano	Centro Chirurgico Toscano	1.18	89	Private
1	Sovicille	AOU Senese	78.61	17	DEA II level
2	Sovicille	Ospedale dell'Alta Val d'Elsa	5.08	27	Non-DEA ED
3	Sovicille	Rugani	2.96	16	Private
4	Sovicille	AOU Careggi	1.42	74	DEA II level
5	Sovicille	AOU Meyer	1.06	75	Paed. DEA II
1	Stazzema	Ospedale Unico Versilia	61.09	22	DEA I level
2	Stazzema	AOU Pisana	7.29	45	DEA II level
2	Stazzema	Ospedale delle Apuane	7.29	22	DEA I level
4	Stazzema	Ospedale San Luca Lucca	5.78	40	DEA I level
5	Stazzema	Ospedale Pediatrico Apuano	2.74	22	FTGM
6	Stazzema	Ospedale S. Croce Castelnuovo Garfagnana	2.13	28	Non-DEA ED
6	Stazzema	Casa di Cura San Camillo Forte dei Marmi	2.13	18	Private
1	Subbiano	Ospedale Area Aretina Nord	63.18	24	DEA I level
2	Subbiano	AOU Senese	6.11	80	DEA II level
3	Subbiano	Centro Chirurgico Toscano	5.93	20	Private
4	Subbiano	Ospedale Civile Bibbiena	5.58	23	Disadvant. area
5	Subbiano	AOU Careggi	3.66	77	DEA II level
6	Subbiano	San Giuseppe	2.27	23	Private
7	Subbiano	Ospedale Val Tiberina	1.22	35	Disadvant. area
1	Suvereto	Ospedale Villa Marina Piombino	44.24	25	Non-DEA ED
2	Suvereto	AOU Pisana	12.59	68	DEA II level
3	Suvereto	Ospedale Riuniti Livorno	7.55	63	DEA I level
4	Suvereto	Ospedale Misericordia Grosseto	7.19	50	DEA I level
5	Suvereto	Ospedale Civile di Cecina	6.47	35	Non-DEA ED
6	Suvereto	Ospedale S. Andrea Massa Marittima	3.96	25	Non-DEA ED
7	Suvereto	AOU Meyer	1.8	118	Paed. DEA II
8	Suvereto	AOU Careggi	1.44	118	DEA II level
8	Suvereto	Ospedale Pediatrico Apuano	1.44	90	FTGM
8	Suvereto	Casa di Cura Santa Rita	1.44	92	Private
11	Suvereto	AOU Senese	1.08	77	DEA II level
1	Talla	Ospedale Area Aretina Nord	43.1	39	DEA I level
2	Talla	Ospedale Civile Bibbiena	31.03	28	Disadvant. area
3	Talla	AOU Careggi	4.31	84	DEA II level
3	Talla	Centro Chirurgico Toscano	4.31	35	Private
5	Talla	AOU Senese	3.45	88	DEA II level
5	Talla	Ospedale Bagno a Ripoli	3.45	67	DEA I level
7	Talla	Ospedale Val Tiberina	1.72	55	Disadvant. area
7	Talla	Ospedale S. Maria Nuova Firenze	1.72	78	Non-DEA ED
1	Terranuova Bracciolini	Ospedale del Valdarno	54.94	7	Non-DEA ED
2	Terranuova Bracciolini	Ospedale Area Aretina Nord	14.04	25	DEA I level
3	Terranuova Bracciolini	AOU Careggi	7.57	40	DEA II level
4	Terranuova Bracciolini	AOU Senese	6.93	46	DEA II level
5	Terranuova Bracciolini	Centro Chirurgico Toscano	1.48	28	Private
5	Terranuova Bracciolini	Casa di Cura Frate Sole	1.48	14	Private
7	Terranuova Bracciolini	AOU Meyer	1.11	41	Paed. DEA II
1	Terricciola	Ospedale Filippo Lotti Pontedera	47.36	18	DEA I level
2	Terricciola	AOU Pisana	22.17	29	DEA II level
3	Terricciola	Ospedale Volterra	5.29	28	Non-DEA ED
4	Terricciola	Istituto di Fisiologia Clinica - CNR	4.79	32	FTGM
5	Terricciola	AOU Meyer	2.77	65	Paed. DEA II
6	Terricciola	Ospedale Riuniti Livorno	2.52	35	DEA I level
7	Terricciola	AOU Careggi	1.26	64	DEA II level
8	Terricciola	Casa di Cura M.D. Barbantini Santa Chiara	1.01	45	Private
1	Torrita di Siena	Ospedale Riuniti della Val di Chiana Senese	48.94	9	Non-DEA ED
2	Torrita di Siena	AOU Senese	23.74	50	DEA II level
3	Torrita di Siena	Ospedale Area Aretina Nord	7.56	32	DEA I level
4	Torrita di Siena	Centro Chirurgico Toscano	2.65	34	Private
5	Torrita di Siena	San Giuseppe	2.25	29	Private
6	Torrita di Siena	Ospedale Misericordia Grosseto	1.33	81	DEA I level
7	Torrita di Siena	Rugani	1.06	52	Private

1	Trequanda	Ospedale Riuniti della Val di Chiana Senese	44.63	19	Non-DEA ED
2	Trequanda	AOU Senese	29.75	44	DEA II level
3	Trequanda	Ospedale Area Aretina Nord	6.61	38	DEA I level
4	Trequanda	San Giuseppe	4.13	35	Private
5	Trequanda	AOU Pisana	2.48	126	DEA II level
6	Trequanda	Centro Chirurgico Toscano	1.65	41	Private
1	Tresana	Ospedale delle Apuane	35.32	23	DEA I level
2	Tresana	Ospedale Pontremoli	19.4	17	Non-DEA ED
3	Tresana	Ospedale Fivizzano	7.46	21	Non-DEA ED
4	Tresana	AOU Pisana	6.97	56	DEA II level
5	Tresana	Ospedale Pediatrico Apuano	4.48	29	FTGM
6	Tresana	Ospedale Unico Versilia	1.49	33	DEA I level
7	Tresana	AOU Meyer	1	93	Paed. DEA II
1	Uzzano	Ospedale della Valdinievole	44.75	5	Non-DEA ED
2	Uzzano	Ospedale San Jacopo Pistoia	17.32	16	DEA I level
3	Uzzano	AOU Careggi	9.73	41	DEA II level
4	Uzzano	AOU Pisana	6.61	36	DEA II level
5	Uzzano	Ospedale San Luca Lucca	2.72	19	DEA I level
6	Uzzano	Ospedale S.Stefano di Prato	2.53	27	DEA I level
7	Uzzano	Casa di Cura Santa Rita	1.75	10	Private
8	Uzzano	Ospedale Pediatrico Apuano	1.17	44	FTGM
1	Vagli Sotto	Ospedale S. Croce Castelnuovo Garfagnana	43.22	17	Non-DEA ED
2	Vagli Sotto	Ospedale San Luca Lucca	20.34	59	DEA I level
3	Vagli Sotto	Ospedale S. Francesco Barga	16.95	30	Other
4	Vagli Sotto	AOU Pisana	12.71	78	DEA II level
5	Vagli Sotto	Ospedale Civile di Cecina	1.69	100	Non-DEA ED
5	Vagli Sotto	Ospedale Pediatrico Apuano	1.69	47	FTGM
1	Vaglia	AOU Careggi	55.31	17	DEA II level
2	Vaglia	Ospedale Borgo San Lorenzo	11.59	22	Non-DEA ED
3	Vaglia	AOU Meyer	3.62	17	Paed. DEA II
4	Vaglia	Ospedale S. Maria Nuova Firenze	2.9	24	Non-DEA ED
4	Vaglia	Ospedale Bagno a Ripoli	2.9	29	DEA I level
6	Vaglia	Ospedale Torregalli	2.42	29	DEA I level
7	Vaglia	Casa di Cura Ulivella e Glicini	1.93	19	Private
8	Vaglia	AOU Pisana	1.45	78	DEA II level
8	Vaglia	Ospedale S.Stefano di Prato	1.45	34	DEA I level
1	Vaiano	Ospedale S.Stefano di Prato	67.74	15	DEA I level
2	Vaiano	AOU Careggi	9.06	33	DEA II level
3	Vaiano	Casa di Cura Villa Fiorita	6.98	11	Private
4	Vaiano	Casa di Cura Ulivella e Glicini	1.7	33	Private
5	Vaiano	AOU Meyer	1.13	33	Paed. DEA II
5	Vaiano	Ospedale della Valdinievole	1.13	45	Non-DEA ED
7	Vaiano	AOU Pisana	1.04	64	DEA II level
7	Vaiano	AOU Senese	1.04	76	DEA II level
1	Vecchiano	AOU Pisana	74.35	16	DEA II level
2	Vecchiano	Ospedale Unico Versilia	3.22	16	DEA I level
3	Vecchiano	Ospedale San Luca Lucca	2.14	15	DEA I level
4	Vecchiano	Istituto di Fisiologia Clinica - CNR	2.06	13	FTGM
5	Vecchiano	SPDC Aziendale USL 5	1.79	10	Other
5	Vecchiano	Ospedale Filippo Lotti Pontedera	1.79	31	DEA I level
7	Vecchiano	Casa di Cura San Camillo Forte dei Marmi	1.16	19	Private
1	Vernio	Ospedale S.Stefano di Prato	64.92	30	DEA I level
2	Vernio	AOU Careggi	9.41	41	DEA II level
3	Vernio	Casa di Cura Villa Fiorita	5.51	26	Private
4	Vernio	Ospedale Borgo San Lorenzo	2.82	46	Non-DEA ED
5	Vernio	AOU Meyer	2.15	42	Paed. DEA II
1	Viareggio	Ospedale Unico Versilia	64	9	DEA I level
2	Viareggio	AOU Pisana	11.68	23	DEA II level
3	Viareggio	Ospedale delle Apuane	3.89	16	DEA I level
4	Viareggio	Ospedale Pediatrico Apuano	2.47	17	FTGM
5	Viareggio	Ospedale Riuniti Livorno	1.62	28	DEA I level
6	Viareggio	Casa di Cura San Camillo Forte dei Marmi	1.55	12	Private
7	Viareggio	Ospedale San Luca Lucca	1.49	21	DEA I level
8	Viareggio	Istituto di Fisiologia Clinica - CNR	1.08	20	FTGM

9	Viareggio	AOU Careggi	1.06	62	DEA II level
1	Vicchio	Ospedale Borgo San Lorenzo	50.29	11	Non-DEA ED
2	Vicchio	AOU Careggi	19.77	35	DEA II level
3	Vicchio	Ospedale Bagno a Ripoli	8.74	41	DEA I level
4	Vicchio	AOU Meyer	2.44	35	Paed. DEA II
5	Vicchio	Ospedale Torregalli	2.29	43	DEA I level
6	Vicchio	Casa di Cura Ulivella e Glicini	1.86	36	Private
7	Vicchio	Ospedale S.Stefano di Prato	1.72	54	DEA I level
1	Vicopisano	AOU Pisana	65.92	15	DEA II level
2	Vicopisano	Ospedale Filippo Lotti Pontedera	12.84	13	DEA I level
3	Vicopisano	Istituto di Fisiologia Clinica - CNR	2.88	15	FTGM
4	Vicopisano	SPDC Aziendale USL 5	1.97	19	Other
1	Villa Basilica	Ospedale San Luca Lucca	35.63	24	DEA I level
2	Villa Basilica	Ospedale della Valdinievole	20.69	13	Non-DEA ED
3	Villa Basilica	AOU Meyer	6.9	52	Paed. DEA II
3	Villa Basilica	AOU Pisana	6.9	42	DEA II level
5	Villa Basilica	Casa di Cura M.D. Barbantini Santa Chiara	4.6	25	Private
6	Villa Basilica	Ospedale San Jacopo Pistoia	2.3	27	DEA I level
6	Villa Basilica	Ospedale Unico Versilia	2.3	42	DEA I level
8	Villa Basilica	AOU Careggi	1.72	51	DEA II level
8	Villa Basilica	Ospedale S. Croce Castelnuovo Garfagnana	1.72	37	Non-DEA ED
8	Villa Basilica	Ospedale Riuniti Livorno	1.72	52	DEA I level
8	Villa Basilica	Ospedale S. Giuseppe	1.72	45	DEA I level
8	Villa Basilica	Ospedale S.Stefano di Prato	1.72	37	DEA I level
8	Villa Basilica	Casa di Cura Santa Zita	1.72	26	Private
8	Villa Basilica	Casa di Cura Santa Rita	1.72	21	Private
15	Villa Basilica	AOU Senese	1.15	94	DEA II level
1	Villa Collemantina	Ospedale S. Croce Castelnuovo Garfagnana	34.59	9	Non-DEA ED
2	Villa Collemantina	Ospedale S. Francesco Barga	24.81	23	Other
3	Villa Collemantina	AOU Pisana	12.78	71	DEA II level
3	Villa Collemantina	Ospedale San Luca Lucca	12.78	52	DEA I level
5	Villa Collemantina	Ospedale Riuniti Livorno	1.5	80	DEA I level
5	Villa Collemantina	Ospedale Torregalli	1.5	93	DEA I level
5	Villa Collemantina	Ospedale Unico Versilia	1.5	54	DEA I level
5	Villa Collemantina	Casa di Cura M.D. Barbantini Santa Chiara	1.5	50	Private
1	Villafranca in Lunigiana	Ospedale Pontremoli	32.24	14	Non-DEA ED
2	Villafranca in Lunigiana	Ospedale delle Apuane	25.65	26	DEA I level
3	Villafranca in Lunigiana	AOU Pisana	6.82	59	DEA II level
4	Villafranca in Lunigiana	Ospedale Fivizzano	3.06	24	Non-DEA ED
5	Villafranca in Lunigiana	Ospedale Pediatrico Apuano	2.82	32	FTGM
6	Villafranca in Lunigiana	Ospedale Unico Versilia	1.88	36	DEA I level
7	Villafranca in Lunigiana	AOU Careggi	1.41	95	DEA II level
7	Villafranca in Lunigiana	Casa di Cura Ulivella e Glicini	1.41	95	Private
9	Villafranca in Lunigiana	Istituto di Fisiologia Clinica - CNR	1.18	55	FTGM
1	Vinci	Ospedale S. Giuseppe	60.46	6	DEA I level
2	Vinci	AOU Careggi	11.26	36	DEA II level
3	Vinci	AOU Pisana	3.91	43	DEA II level
4	Vinci	AOU Meyer	3.37	37	Paed. DEA II
5	Vinci	Casa di Cura Leonardo	2.84	5	Private
6	Vinci	Ospedale Fucecchio	2.07	15	Other
7	Vinci	Ospedale Torregalli	1.46	29	DEA I level
8	Vinci	Ospedale Bagno a Ripoli	1.07	33	DEA I level
1	Volterra	Ospedale Volterra	51.45	6	Non-DEA ED
2	Volterra	Ospedale Filippo Lotti Pontedera	13.07	40	DEA I level
3	Volterra	AOU Pisana	12.07	53	DEA II level
4	Volterra	AOU Senese	3.72	49	DEA II level
5	Volterra	Ospedale Riuniti Livorno	3.45	57	DEA I level
6	Volterra	Ospedale Civile di Cecina	2.27	32	Non-DEA ED
7	Volterra	AOU Careggi	1.45	73	DEA II level
1	Zeri	Ospedale Pontremoli	41.6	18	Non-DEA ED
2	Zeri	Ospedale delle Apuane	20	43	DEA I level
3	Zeri	Ospedale Pediatrico Apuano	4	48	FTGM
4	Zeri	Ospedale Fivizzano	3.2	41	Non-DEA ED
4	Zeri	Ospedale Unico Versilia	3.2	52	DEA I level

6	Zeri	AOU Pisana	1.6	75	DEA II level
6	Zeri	Casa di Cura Ulivella e Glicini	1.6	112	Private

Table A.7 – Distribution of total acute day care admissions of residents by municipality and hospital facility ($\geq 1\%$ of total admissions of the municipality).

The table reports the percentage of acute day care admissions by municipality occurring in each facility, the estimated travel time (in minutes) between each municipality and facility, calculated as a population-weighted average based on the resident population in 2021 census sections, and the type of facility according to the classification of the Tuscany Regional Health Agency (ARS Toscana, 2023).

Rank of facility for the municipality	Municipality of residence	Hospital facility	% Day hospital admissions	Estimated travel time (minutes)	Facility type (ARS Toscana classification, 2023)
1	Abbadia San Salvatore	AOU Senese	34.76	72	DEA II level
2	Abbadia San Salvatore	Ospedale Abbadia San Salvatore	30.48	1	Disadvant. area
3	Abbadia San Salvatore	Ospedale Riuniti della Val di Chiana Senese	10.95	40	Non-DEA ED
4	Abbadia San Salvatore	AOU Meyer	3.81	110	Paed. DEA II
5	Abbadia San Salvatore	AOU Careggi	2.86	110	DEA II level
6	Abbadia San Salvatore	Ospedale Misericordia Grosseto	1.9	69	DEA I level
7	Abbadia San Salvatore	AOU Pisana	1.43	156	DEA II level
7	Abbadia San Salvatore	Ospedale dell'Alta Val d'Elsa	1.43	86	Non-DEA ED
7	Abbadia San Salvatore	Casa di Cura Frate Sole	1.43	83	Private
1	Abetone Cutigliano	Ospedale San Jacopo Pistoia	34.62	43	DEA I level
2	Abetone Cutigliano	AOU Pisana	19.23	72	DEA II level
3	Abetone Cutigliano	AOU Meyer	5.77	69	Paed. DEA II
3	Abetone Cutigliano	AOU Careggi	5.77	69	DEA II level
5	Abetone Cutigliano	Ospedale della Valdinievole	3.85	39	Non-DEA ED
6	Abetone Cutigliano	Ospedale S.Stefano di Prato	1.92	54	DEA I level
6	Abetone Cutigliano	Ospedale Riuniti Livorno	1.92	82	DEA I level
6	Abetone Cutigliano	Ospedale San Luca Lucca	1.92	53	DEA I level
6	Abetone Cutigliano	Ospedale Piero Palagi - I.O.T.	1.92	72	Other
6	Abetone Cutigliano	Ospedale Fucecchio	1.92	64	Other
6	Abetone Cutigliano	Casa di Cura Leonardo	1.92	70	Private
6	Abetone Cutigliano	Casa di Cura Santa Rita	1.92	48	Private
6	Abetone Cutigliano	Casa di Cura Villa Fiorita	1.92	59	Private
6	Abetone Cutigliano	Casa di Cura Val Di Sieve	1.92	86	Private
1	Agliaia	Ospedale San Jacopo Pistoia	19.96	7	DEA I level
2	Agliaia	Ospedale S.Stefano di Prato	18.54	8	DEA I level
3	Agliaia	AOU Meyer	15.69	23	Paed. DEA II
4	Agliaia	AOU Careggi	13.73	23	DEA II level
5	Agliaia	Casa di Cura Villa Fiorita	6.6	12	Private
6	Agliaia	Ospedale della Valdinievole	1.78	26	Non-DEA ED
7	Agliaia	AOU Pisana	1.6	46	DEA II level
8	Agliaia	AOU Senese	1.43	66	DEA II level
8	Agliaia	Ospedale Piero Palagi - I.O.T.	1.43	28	Other
8	Agliaia	Stella Maris – Calambrone	1.43	50	Other
11	Agliaia	Ospedale Fucecchio	1.07	33	Other
1	Altopascio	Ospedale San Luca Lucca	29.34	11	DEA I level
2	Altopascio	AOU Pisana	16.57	28	DEA II level
3	Altopascio	AOU Meyer	10.58	40	Paed. DEA II
4	Altopascio	Ospedale della Valdinievole	6.79	13	Non-DEA ED
5	Altopascio	AOU Careggi	4.59	40	DEA II level
6	Altopascio	Casa di Cura Santa Zita	4.39	14	Private
7	Altopascio	Ospedale Unico Versilia	3.39	28	DEA I level
8	Altopascio	Ospedale S. Francesco Barga	3.19	45	Other
9	Altopascio	Ospedale San Jacopo Pistoia	2.2	15	DEA I level
10	Altopascio	AOU Senese	1.6	83	DEA II level
11	Altopascio	Casa di Cura Leonardo	1.4	29	Private
12	Altopascio	Casa di Cura M.D. Barbantini Santa Chiara	1.2	13	Private
12	Altopascio	Casa di Cura Santa Rita	1.2	9	Private
14	Altopascio	Ospedale Pediatrico Apuano	1	36	FTGM
14	Altopascio	Stella Maris – Calambrone	1	32	Other
1	Anghiari	Ospedale Val Tiberina	39.74	14	Disadvant. area
2	Anghiari	Ospedale Area Aretina Nord	23.72	31	DEA I level

3	Anghiari	AOU Meyer	7.05	85	Paed. DEA II
4	Anghiari	Nuovo Ospedale Valdichiana	3.21	61	Non-DEA ED
5	Anghiari	Centro Chirurgico Toscano	2.56	29	Private
6	Anghiari	AOU Careggi	1.92	85	DEA II level
1	Arcidosso	Ospedale Misericordia Grosseto	44.04	48	DEA I level
2	Arcidosso	AOU Senese	14.68	70	DEA II level
3	Arcidosso	Ospedale Abbazia San Salvatore	11.93	23	Disadvant. area
4	Arcidosso	Ospedale S. Giovanni di Dio Orbetello	7.34	72	Non-DEA ED
5	Arcidosso	AOU Meyer	3.67	121	Paed. DEA II
5	Arcidosso	Ospedale S. Andrea Massa Marittima	3.67	72	Non-DEA ED
7	Arcidosso	Casa di Cura Santa Rita	1.83	140	Private
1	Arezzo	Ospedale Area Aretina Nord	43.3	7	DEA I level
2	Arezzo	Ospedale Val Tiberina	11	39	Disadvant. area
3	Arezzo	AOU Meyer	7.99	61	Paed. DEA II
4	Arezzo	AOU Careggi	5.26	61	DEA II level
5	Arezzo	AOU Senese	4.9	63	DEA II level
6	Arezzo	Centro Chirurgico Toscano	4.14	9	Private
7	Arezzo	Ospedale Civile Bibbiena	3.56	47	Disadvant. area
8	Arezzo	San Giuseppe	2.72	8	Private
9	Arezzo	Nuovo Ospedale Valdichiana	2.65	42	Non-DEA ED
10	Arezzo	Ospedale del Valdarno	1.89	26	Non-DEA ED
1	Asciano	AOU Senese	83.21	25	DEA II level
2	Asciano	Ospedale Riuniti della Val di Chiana Senese	3.57	34	Non-DEA ED
3	Asciano	AOU Meyer	3.21	79	Paed. DEA II
4	Asciano	Ospedale dell'Alta Val d'Elsa	2.5	41	Non-DEA ED
5	Asciano	AOU Careggi	1.43	79	DEA II level
5	Asciano	Rugani	1.43	27	Private
1	Aulla	Ospedale delle Apuane	13.29	21	DEA I level
2	Aulla	Ospedale Fivizzano	12.34	17	Non-DEA ED
3	Aulla	AOU Pisana	7.91	53	DEA II level
4	Aulla	Ospedale Civile Carrara	6.33	26	Other
5	Aulla	AOU Meyer	5.38	90	Paed. DEA II
6	Aulla	Ospedale Pontremoli	5.06	21	Non-DEA ED
7	Aulla	Casa di Cura M.D. Barbantini Santa Chiara	2.85	47	Private
7	Aulla	Stella Maris – Calambrone	2.85	51	Other
9	Aulla	Ospedale Unico Versilia	1.9	30	DEA I level
10	Aulla	Ospedale Pediatrico Apuano	1.27	26	FTGM
1	Badia Tedalda	Ospedale Val Tiberina	40	28	Disadvant. area
2	Badia Tedalda	Ospedale Area Aretina Nord	20	59	DEA I level
3	Badia Tedalda	AOU Careggi	3.33	115	DEA II level
1	Bagni Di Lucca	Ospedale San Luca Lucca	22.44	30	DEA I level
2	Bagni Di Lucca	AOU Pisana	14.74	49	DEA II level
2	Bagni Di Lucca	Ospedale S. Croce Castelnuovo Garfagnana	14.74	26	Non-DEA ED
4	Bagni Di Lucca	AOU Meyer	10.9	67	Paed. DEA II
5	Bagni Di Lucca	Ospedale Unico Versilia	8.97	45	DEA I level
6	Bagni Di Lucca	Ospedale S. Francesco Barga	6.41	19	Other
7	Bagni Di Lucca	Casa di Cura M.D. Barbantini Santa Chiara	4.49	28	Private
8	Bagni Di Lucca	Casa di Cura Santa Zita	3.85	27	Private
9	Bagni Di Lucca	Casa di Cura Santa Rita	3.21	36	Private
10	Bagni Di Lucca	AOU Careggi	1.92	66	DEA II level
10	Bagni Di Lucca	Stella Maris – Calambrone	1.92	52	Other
12	Bagni Di Lucca	Ospedale Filippo Lotti Pontedera	1.28	55	DEA I level
12	Bagni Di Lucca	Istituto di Fisiologia Clinica - CNR	1.28	45	FTGM
12	Bagni Di Lucca	Casa di Cura Ville di Nozzano	1.28	34	Private
1	Bagno A Ripoli	AOU Careggi	22.98	20	DEA II level
2	Bagno A Ripoli	Ospedale Bagno a Ripoli	16.43	5	DEA I level
3	Bagno A Ripoli	AOU Meyer	14.4	20	Paed. DEA II
4	Bagno A Ripoli	Ospedale Piero Palagi - I.O.T.	12.62	10	Other
5	Bagno A Ripoli	Ospedale Serristori	8.69	18	Disadvant. area
6	Bagno A Ripoli	Ospedale Torregalli	3.81	14	DEA I level
7	Bagno A Ripoli	Casa di Cura Val Di Sieve	3.1	18	Private
8	Bagno A Ripoli	Ospedale S. Maria Nuova Firenze	2.86	13	Non-DEA ED
9	Bagno A Ripoli	AOU Senese	1.55	54	DEA II level
1	Bagnone	Ospedale Pontremoli	26.09	20	Non-DEA ED

2	Bagnone	Ospedale delle Apuane	13.04	32	DEA I level
3	Bagnone	AOU Meyer	8.7	102	Paed. DEA II
3	Bagnone	AOU Pisana	8.7	65	DEA II level
3	Bagnone	Ospedale Fivizzano	8.7	25	Non-DEA ED
3	Bagnone	Ospedale Civile Carrara	8.7	39	Other
7	Bagnone	AOU Careggi	2.17	101	DEA II level
7	Bagnone	Ospedale Unico Versilia	2.17	42	DEA I level
7	Bagnone	Istituto di Fisiologia Clinica - CNR	2.17	61	FTGM
1	Barberino Di Mugello	AOU Careggi	29.21	30	DEA II level
2	Barberino Di Mugello	Ospedale Borgo San Lorenzo	19.47	25	Non-DEA ED
3	Barberino Di Mugello	AOU Meyer	16.58	31	Paed. DEA II
4	Barberino Di Mugello	Ospedale Bagno a Ripoli	4.74	32	DEA I level
5	Barberino Di Mugello	Ospedale Torregalli	4.21	28	DEA I level
6	Barberino Di Mugello	Ospedale Piero Palagi - I.O.T.	3.42	35	Other
7	Barberino Di Mugello	Ospedale S.Stefano di Prato	3.16	28	DEA I level
8	Barberino Di Mugello	Ospedale S. Maria Nuova Firenze	1.58	33	Non-DEA ED
9	Barberino Di Mugello	Ospedale Serristori	1.32	46	Disadvant. area
10	Barberino Di Mugello	Ospedale S. Giuseppe	1.05	46	DEA I level
1	Barberino Tavarnelle	AOU Senese	20.87	31	DEA II level
2	Barberino Tavarnelle	AOU Careggi	18.43	39	DEA II level
3	Barberino Tavarnelle	AOU Meyer	15.72	39	Paed. DEA II
4	Barberino Tavarnelle	Ospedale dell'Alta Val d'Elsa	13.01	14	Non-DEA ED
5	Barberino Tavarnelle	Ospedale Piero Palagi - I.O.T.	7.59	30	Other
6	Barberino Tavarnelle	Ospedale Bagno a Ripoli	6.23	26	DEA I level
7	Barberino Tavarnelle	Ospedale Serristori	3.79	41	Disadvant. area
8	Barberino Tavarnelle	Ospedale Torregalli	3.52	28	DEA I level
9	Barberino Tavarnelle	Ospedale S. Maria Nuova Firenze	2.17	34	Non-DEA ED
10	Barberino Tavarnelle	Ospedale S. Giuseppe	1.36	35	DEA I level
1	Barga	Ospedale S. Croce Castelnuovo Garfagnana	21.9	12	Non-DEA ED
2	Barga	Ospedale San Luca Lucca	20.8	36	DEA I level
3	Barga	AOU Pisana	10.95	55	DEA II level
4	Barga	Ospedale Unico Versilia	9.49	52	DEA I level
5	Barga	AOU Meyer	8.03	81	Paed. DEA II
6	Barga	Ospedale S. Francesco Barga	6.93	4	Other
7	Barga	Casa di Cura Santa Rita	3.28	50	Private
8	Barga	Casa di Cura M.D. Barbantini Santa Chiara	2.55	35	Private
9	Barga	AOU Careggi	1.46	80	DEA II level
9	Barga	Ospedale delle Apuane	1.46	49	DEA I level
11	Barga	Ospedale Pediatrico Apuano	1.09	47	FTGM
11	Barga	Casa di Cura Santa Zita	1.09	34	Private
11	Barga	Casa di Cura Ville di Nozzano	1.09	41	Private
11	Barga	Stella Maris – Calambrone	1.09	59	Other
1	Bibbiena	Ospedale Area Aretina Nord	28.09	49	DEA I level
2	Bibbiena	Ospedale Civile Bibbiena	21.07	6	Disadvant. area
3	Bibbiena	AOU Meyer	11.04	71	Paed. DEA II
4	Bibbiena	AOU Careggi	9.7	71	DEA II level
5	Bibbiena	Ospedale Val Tiberina	5.02	58	Disadvant. area
6	Bibbiena	AOU Senese	4.35	103	DEA II level
7	Bibbiena	Centro Chirurgico Toscano	3.01	45	Private
8	Bibbiena	Nuovo Ospedale Valdichiana	1.67	88	Non-DEA ED
9	Bibbiena	San Giuseppe	1.34	47	Private
9	Bibbiena	Stella Maris – Calambrone	1.34	130	Other
11	Bibbiena	Ospedale del Valdarno	1	65	Non-DEA ED
11	Bibbiena	Ospedale Torregalli	1	69	DEA I level
11	Bibbiena	Ospedale Piero Palagi - I.O.T.	1	62	Other
1	Bibbona	Ospedale Civile di Cecina	30.39	8	Non-DEA ED
2	Bibbona	AOU Pisana	19.61	41	DEA II level
3	Bibbona	Ospedale Riuniti Livorno	14.71	36	DEA I level
4	Bibbona	AOU Meyer	7.84	92	Paed. DEA II
5	Bibbona	Stella Maris – Calambrone	3.92	43	Other
6	Bibbona	Ospedale Villa Marina Piombino	2.94	34	Non-DEA ED
7	Bibbona	Ospedale S.Stefano di Prato	1.96	81	DEA I level
7	Bibbona	Casa di Cura San Camillo Forte dei Marmi	1.96	58	Private
7	Bibbona	Casa di Cura Val Di Sieve	1.96	103	Private
1	Bientina	AOU Pisana	31.56	21	DEA II level
2	Bientina	Ospedale Filippo Lotti Pontedera	24.11	12	DEA I level

3	Bientina	AOU Meyer	9.22	52	Paed. DEA II
4	Bientina	Ospedale Volterra	6.03	49	Non-DEA ED
5	Bientina	Stella Maris – Calambrone	4.26	31	Other
6	Bientina	AOU Careggi	2.48	51	DEA II level
7	Bientina	Ospedale San Luca Lucca	2.13	21	DEA I level
8	Bientina	Ospedale Riuniti Livorno	1.77	32	DEA I level
8	Bientina	Casa di Cura Leonardo	1.77	31	Private
10	Bientina	AOU Senese	1.42	83	DEA II level
11	Bientina	Istituto di Fisiologia Clinica - CNR	1.06	23	FTGM
11	Bientina	Casa di Cura Santa Zita	1.06	23	Private
1	Borgo A Mozzano	Ospedale San Luca Lucca	39.49	21	DEA I level
2	Borgo A Mozzano	Ospedale S. Croce Castelnuovo Garfagnana	14.87	25	Non-DEA ED
3	Borgo A Mozzano	AOU Pisana	13.85	40	DEA II level
4	Borgo A Mozzano	AOU Meyer	10.77	67	Paed. DEA II
5	Borgo A Mozzano	Casa di Cura M.D. Barbantini Santa Chiara	4.62	20	Private
6	Borgo A Mozzano	Ospedale Unico Versilia	4.1	36	DEA I level
7	Borgo A Mozzano	Ospedale S. Francesco Barga	3.08	19	Other
8	Borgo A Mozzano	Casa di Cura Santa Zita	2.05	19	Private
9	Borgo A Mozzano	Casa di Cura Santa Rita	1.54	36	Private
1	Borgo San Lorenzo	AOU Careggi	26.15	29	DEA II level
2	Borgo San Lorenzo	Ospedale Borgo San Lorenzo	24.34	5	Non-DEA ED
3	Borgo San Lorenzo	AOU Meyer	15.79	29	Paed. DEA II
4	Borgo San Lorenzo	Ospedale Bagno a Ripoli	6.09	36	DEA I level
5	Borgo San Lorenzo	Ospedale Piero Palagi - I.O.T.	5.26	33	Other
6	Borgo San Lorenzo	Ospedale Torregalli	2.8	37	DEA I level
7	Borgo San Lorenzo	Ospedale Serristori	2.47	51	Disadvant. area
8	Borgo San Lorenzo	Ospedale S. Maria Nuova Firenze	1.64	32	Non-DEA ED
9	Borgo San Lorenzo	Ospedale S.Stefano di Prato	1.32	49	DEA I level
1	Bucine	Ospedale del Valdarno	40.76	15	Non-DEA ED
2	Bucine	AOU Meyer	14.65	50	Paed. DEA II
3	Bucine	AOU Senese	12.1	37	DEA II level
4	Bucine	Ospedale Area Aretina Nord	11.46	26	DEA I level
5	Bucine	AOU Careggi	7.01	49	DEA II level
6	Bucine	Nuovo Ospedale Valdichiana	2.55	49	Non-DEA ED
7	Bucine	Ospedale Val Tiberina	1.27	63	Disadvant. area
1	Buggiano	Ospedale della Valdinievole	29.03	9	Non-DEA ED
2	Buggiano	Ospedale San Jacopo Pistoia	17.97	13	DEA I level
3	Buggiano	AOU Careggi	13.36	38	DEA II level
4	Buggiano	AOU Meyer	9.68	38	Paed. DEA II
5	Buggiano	AOU Pisana	4.61	34	DEA II level
6	Buggiano	Casa di Cura Leonardo	2.76	31	Private
6	Buggiano	Stella Maris – Calambrone	2.76	38	Other
8	Buggiano	Casa di Cura Santa Rita	2.3	6	Private
9	Buggiano	Ospedale San Luca Lucca	1.38	18	DEA I level
1	Buonconvento	AOU Senese	71.32	33	DEA II level
2	Buonconvento	AOU Meyer	8.82	93	Paed. DEA II
3	Buonconvento	Ospedale dell'Alta Val d'Elsa	5.88	47	Non-DEA ED
4	Buonconvento	Rugani	2.94	33	Private
5	Buonconvento	AOU Careggi	1.47	93	DEA II level
5	Buonconvento	Ospedale Misericordia Grosseto	1.47	62	DEA I level
1	Buti	AOU Pisana	39.88	21	DEA II level
2	Buti	Ospedale Filippo Lotti Pontedera	21.47	15	DEA I level
3	Buti	AOU Meyer	7.36	51	Paed. DEA II
4	Buti	Stella Maris – Calambrone	4.91	31	Other
5	Buti	Ospedale Volterra	3.68	53	Non-DEA ED
6	Buti	Ospedale Riuniti Livorno	3.07	32	DEA I level
6	Buti	Ospedale San Luca Lucca	3.07	20	DEA I level
8	Buti	Istituto di Fisiologia Clinica - CNR	2.45	20	FTGM
8	Buti	Casa di Cura Leonardo	2.45	35	Private
10	Buti	Casa di Cura Santa Zita	1.84	22	Private
11	Buti	AOU Senese	1.23	87	DEA II level
11	Buti	Casa di Cura Ville di Nozzano	1.23	24	Private
1	Calci	AOU Pisana	67.65	13	DEA II level
2	Calci	Stella Maris – Calambrone	5.88	27	Other
3	Calci	Ospedale Filippo Lotti Pontedera	5.29	23	DEA I level
4	Calci	AOU Meyer	1.76	64	Paed. DEA II

4	Calci	Ospedale Volterra	1.76	59	Non-DEA ED
4	Calci	Istituto di Fisiologia Clinica - CNR	1.76	12	FTGM
7	Calci	Ospedale delle Apuane	1.18	39	DEA I level
7	Calci	Ospedale Unico Versilia	1.18	32	DEA I level
1	Calcinaia	AOU Pisana	32.49	17	DEA II level
2	Calcinaia	Ospedale Filippo Lotti Pontedera	25.19	8	DEA I level
3	Calcinaia	AOU Meyer	9.07	55	Paed. DEA II
4	Calcinaia	Stella Maris – Calambrone	6.8	27	Other
5	Calcinaia	Ospedale Volterra	5.29	47	Non-DEA ED
6	Calcinaia	AOU Senese	2.52	81	DEA II level
7	Calcinaia	Casa di Cura Santa Zita	2.02	27	Private
8	Calcinaia	Ospedale Riuniti Livorno	1.76	28	DEA I level
8	Calcinaia	Istituto di Fisiologia Clinica - CNR	1.76	20	FTGM
10	Calcinaia	AOU Careggi	1.51	54	DEA II level
1	Calenzano	AOU Careggi	44.85	16	DEA II level
2	Calenzano	AOU Meyer	18.56	16	Paed. DEA II
3	Calenzano	Ospedale S.Stefano di Prato	7.56	13	DEA I level
4	Calenzano	Ospedale Piero Palagi - I.O.T.	4.47	21	Other
5	Calenzano	Casa di Cura Villa Fiorita	3.78	16	Private
6	Calenzano	Casa di Cura Val Di Sieve	1.89	33	Private
7	Calenzano	Ospedale Bagno a Ripoli	1.55	17	DEA I level
8	Calenzano	Ospedale Borgo San Lorenzo	1.03	37	Non-DEA ED
8	Calenzano	Ospedale Serristori	1.03	32	Disadvant. area
1	Camaione	Ospedale Unico Versilia	48.79	8	DEA I level
2	Camaione	AOU Pisana	13.11	28	DEA II level
3	Camaione	AOU Meyer	4.82	65	Paed. DEA II
4	Camaione	Ospedale San Luca Lucca	3.95	23	DEA I level
5	Camaione	Ospedale delle Apuane	3.28	16	DEA I level
5	Camaione	Stella Maris – Calambrone	3.28	27	Other
7	Camaione	AOU Careggi	2.03	64	DEA II level
7	Camaione	Ospedale Pediatrico Apuano	2.03	17	FTGM
7	Camaione	Casa di Cura San Camillo Forte dei Marmi	2.03	12	Private
10	Camaione	Casa di Cura Santa Rita	1.35	34	Private
11	Camaione	Casa di Cura M.D. Barbantini Santa Chiara	1.25	22	Private
1	Campagnatico	Ospedale Misericordia Grosseto	39.39	20	DEA I level
2	Campagnatico	Ospedale S. Andrea Massa Marittima	15.15	51	Non-DEA ED
3	Campagnatico	AOU Meyer	12.12	129	Paed. DEA II
4	Campagnatico	Ospedale S. Giovanni di Dio Orbetello	9.09	48	Non-DEA ED
5	Campagnatico	AOU Careggi	6.06	128	DEA II level
6	Campagnatico	Stella Maris – Calambrone	3.03	120	Other
7	Campagnatico	AOU Senese	1.52	69	DEA II level
7	Campagnatico	Casa di Cura Santa Rita	1.52	140	Private
7	Campagnatico	Rugani	1.52	68	Private
1	Campi Bisenzio	AOU Careggi	43.53	15	DEA II level
2	Campi Bisenzio	AOU Meyer	17.44	16	Paed. DEA II
3	Campi Bisenzio	Ospedale S.Stefano di Prato	7.52	12	DEA I level
4	Campi Bisenzio	Ospedale Piero Palagi - I.O.T.	4.08	18	Other
5	Campi Bisenzio	Casa di Cura Villa Fiorita	2.53	16	Private
6	Campi Bisenzio	Ospedale Torregalli	2.46	11	DEA I level
7	Campi Bisenzio	Ospedale S. Maria Nuova Firenze	1.97	17	Non-DEA ED
8	Campi Bisenzio	Casa di Cura Val Di Sieve	1.9	30	Private
9	Campi Bisenzio	Stella Maris – Calambrone	1.48	59	Other
10	Campi Bisenzio	Ospedale Bagno a Ripoli	1.2	14	DEA I level
11	Campi Bisenzio	Casa di Cura Ulivella e Glicini	1.05	15	Private
1	Campiglia Marittima	Ospedale Villa Marina Piombino	33.43	17	Non-DEA ED
2	Campiglia Marittima	AOU Pisana	16.71	60	DEA II level
3	Campiglia Marittima	Ospedale Civile di Cecina	10.37	27	Non-DEA ED
4	Campiglia Marittima	Ospedale Riuniti Livorno	8.36	55	DEA I level
5	Campiglia Marittima	AOU Meyer	3.75	111	Paed. DEA II
6	Campiglia Marittima	AOU Careggi	2.88	111	DEA II level
7	Campiglia Marittima	Ospedale Misericordia Grosseto	2.31	49	DEA I level
8	Campiglia Marittima	Ospedale Filippo Lotti Pontedera	2.02	62	DEA I level
8	Campiglia Marittima	Stella Maris – Calambrone	2.02	63	Other
10	Campiglia Marittima	AOU Senese	1.73	85	DEA II level

10	Campiglia Marittima	Ospedale S. Andrea Massa Marittima	1.73	31	Non-DEA ED
12	Campiglia Marittima	Ospedale delle Apuane	1.44	82	DEA I level
12	Campiglia Marittima	Casa di Cura Santa Rita	1.44	84	Private
1	Campo Nell'Elba	Ospedale Civile Elbano Portoferraio	39.55	18	Non-DEA ED
1	Camporgiano	AOU Pisana	22.39	71	DEA II level
2	Camporgiano	Ospedale San Luca Lucca	17.91	52	DEA I level
3	Camporgiano	Ospedale S. Croce Castelnuovo Garfagnana	16.42	10	Non-DEA ED
4	Camporgiano	AOU Meyer	8.96	96	Paed. DEA II
5	Camporgiano	Ospedale Unico Versilia	5.97	51	DEA I level
6	Camporgiano	Ospedale S. Giuseppe	4.48	87	DEA I level
6	Camporgiano	Casa di Cura Santa Rita	4.48	66	Private
8	Camporgiano	Casa di Cura Santa Zita	2.99	50	Private
9	Camporgiano	AOU Careggi	1.49	96	DEA II level
9	Camporgiano	Ospedale delle Apuane	1.49	45	DEA I level
9	Camporgiano	Ospedale S. Francesco Barga	1.49	23	Other
9	Camporgiano	Ospedale Pediatrico Apuano	1.49	42	FTGM
9	Camporgiano	Casa di Cura San Camillo Forte dei Marmi	1.49	46	Private
9	Camporgiano	Casa di Cura Ulivella e Glicini	1.49	96	Private
9	Camporgiano	Casa di Cura Ville di Nozzano	1.49	56	Private
9	Camporgiano	Stella Maris – Calambrone	1.49	72	Other
1	Cantagallo	Ospedale S. Stefano di Prato	31	21	DEA I level
2	Cantagallo	AOU Careggi	17	40	DEA II level
2	Cantagallo	Casa di Cura Villa Fiorita	17	18	Private
4	Cantagallo	AOU Meyer	10	40	Paed. DEA II
5	Cantagallo	AOU Senese	4	83	DEA II level
6	Cantagallo	Ospedale San Luca Lucca	2	53	DEA I level
7	Cantagallo	AOU Pisana	1	70	DEA II level
7	Cantagallo	Ospedale Serristori	1	55	Disadvant. area
7	Cantagallo	Ospedale Piero Palagi - I.O.T.	1	45	Other
7	Cantagallo	Casa di Cura Ulivella e Glicini	1	39	Private
7	Cantagallo	Casa di Cura Val Di Sieve	1	57	Private
7	Cantagallo	Stella Maris – Calambrone	1	73	Other
1	Capalbio	Ospedale Misericordia Grosseto	38.74	48	DEA I level
2	Capalbio	Ospedale S. Giovanni di Dio Orbetello	18.02	18	Non-DEA ED
3	Capalbio	AOU Senese	6.31	121	DEA II level
4	Capalbio	AOU Pisana	2.7	148	DEA II level
4	Capalbio	Stella Maris – Calambrone	2.7	151	Other
1	Capannoli	AOU Pisana	24.74	24	DEA II level
2	Capannoli	Ospedale Filippo Lotti Pontedera	20	12	DEA I level
3	Capannoli	AOU Meyer	12.63	59	Paed. DEA II
3	Capannoli	Ospedale Volterra	12.63	32	Non-DEA ED
5	Capannoli	Stella Maris – Calambrone	6.84	35	Other
6	Capannoli	Istituto di Fisiologia Clinica - CNR	3.16	27	FTGM
7	Capannoli	Ospedale Riuniti Livorno	2.63	31	DEA I level
8	Capannoli	AOU Senese	2.11	67	DEA II level
9	Capannoli	Casa di Cura Leonardo	1.58	32	Private
9	Capannoli	Casa di Cura Santa Zita	1.58	42	Private
11	Capannoli	AOU Careggi	1.05	59	DEA II level
11	Capannoli	Ospedale Unico Versilia	1.05	45	DEA I level
11	Capannoli	Ospedale Fucecchio	1.05	26	Other
11	Capannoli	Casa di Cura San Camillo Forte dei Marmi	1.05	49	Private
1	Capannori	Ospedale San Luca Lucca	39.72	10	DEA I level
2	Capannori	AOU Pisana	14.9	28	DEA II level
3	Capannori	AOU Meyer	7.34	50	Paed. DEA II
4	Capannori	Casa di Cura Santa Zita	6.92	12	Private
5	Capannori	Ospedale S. Francesco Barga	4.34	37	Other
6	Capannori	Casa di Cura M.D. Barbantini Santa Chiara	3.78	11	Private
7	Capannori	Ospedale S. Croce Castelnuovo Garfagnana	3.15	44	Non-DEA ED
8	Capannori	AOU Careggi	2.8	50	DEA II level
9	Capannori	Stella Maris – Calambrone	2.45	32	Other
10	Capannori	Ospedale Unico Versilia	2.38	28	DEA I level
11	Capannori	Casa di Cura Santa Rita	1.12	20	Private

1	Capoliveri	Ospedale Civile Elbano Portoferraio	33.61	11	Non-DEA ED
1	Capolona	Ospedale Area Aretina Nord	38.69	21	DEA I level
2	Capolona	AOU Meyer	13.87	74	Paed. DEA II
3	Capolona	Ospedale Val Tiberina	8.76	38	Disadvant. area
4	Capolona	Ospedale Civile Bibbiena	7.3	27	Disadvant. area
5	Capolona	AOU Senese	5.84	76	DEA II level
6	Capolona	Centro Chirurgico Toscano	5.11	18	Private
6	Capolona	San Giuseppe	5.11	20	Private
8	Capolona	AOU Pisana	3.65	122	DEA II level
9	Capolona	AOU Careggi	2.92	73	DEA II level
10	Capolona	Nuovo Ospedale Valdichiana	2.19	60	Non-DEA ED
1	Capraia E Limite	Ospedale S. Giuseppe	27.31	9	DEA I level
2	Capraia E Limite	AOU Careggi	14.29	32	DEA II level
3	Capraia E Limite	AOU Meyer	12.18	32	Paed. DEA II
4	Capraia E Limite	AOU Pisana	10.92	47	DEA II level
5	Capraia E Limite	Casa di Cura Leonardo	7.14	8	Private
6	Capraia E Limite	Ospedale Piero Palagi - I.O.T.	3.78	31	Other
7	Capraia E Limite	AOU Senese	2.94	61	DEA II level
8	Capraia E Limite	Ospedale Serristori	2.1	42	Disadvant. area
9	Capraia E Limite	Ospedale S.Stefano di Prato	1.68	24	DEA I level
9	Capraia E Limite	Ospedale Torregalli	1.68	24	DEA I level
11	Capraia E Limite	Ospedale Riuniti Livorno	1.26	53	DEA I level
11	Capraia E Limite	Casa di Cura Val Di Sieve	1.26	43	Private
1	Caprese Michelangelo	Ospedale Val Tiberina	48.57	24	Disadvant. area
2	Caprese Michelangelo	Ospedale Area Aretina Nord	14.29	41	DEA I level
3	Caprese Michelangelo	AOU Meyer	5.71	95	Paed. DEA II
3	Caprese Michelangelo	AOU Careggi	5.71	94	DEA II level
3	Caprese Michelangelo	Ospedale del Valdarno	5.71	60	Non-DEA ED
6	Caprese Michelangelo	Nuovo Ospedale Valdichiana	2.86	76	Non-DEA ED
1	Careggine	Ospedale Unico Versilia	28.57	41	DEA I level
2	Careggine	Ospedale S. Croce Castelnuovo Garfagnana	21.43	13	Non-DEA ED
3	Careggine	AOU Pisana	14.29	64	DEA II level
4	Careggine	AOU Meyer	7.14	99	Paed. DEA II
4	Careggine	Ospedale San Luca Lucca	7.14	55	DEA I level
4	Careggine	Ospedale S. Francesco Barga	7.14	26	Other
1	Carmignano	Ospedale S.Stefano di Prato	33.5	13	DEA I level
2	Carmignano	AOU Meyer	15.48	25	Paed. DEA II
2	Carmignano	AOU Careggi	15.48	24	DEA II level
4	Carmignano	Casa di Cura Villa Fiorita	8.12	17	Private
5	Carmignano	Ospedale San Jacopo Pistoia	2.03	17	DEA I level
6	Carmignano	Ospedale Serristori	1.78	39	Disadvant. area
7	Carmignano	AOU Senese	1.52	66	DEA II level
7	Carmignano	Casa di Cura Leonardo	1.52	18	Private
9	Carmignano	Ospedale S. Maria Nuova Firenze	1.27	26	Non-DEA ED
9	Carmignano	Ospedale Piero Palagi - I.O.T.	1.27	28	Other
9	Carmignano	Casa di Cura Val Di Sieve	1.27	40	Private
12	Carmignano	Ospedale Torregalli	1.02	20	DEA I level
1	Carrara	Ospedale delle Apuane	39.69	8	DEA I level
2	Carrara	Ospedale Civile Carrara	15.38	8	Other
3	Carrara	AOU Pisana	9.76	41	DEA II level
4	Carrara	AOU Meyer	6.43	78	Paed. DEA II
5	Carrara	Stella Maris – Calambrone	2.62	39	Other
6	Carrara	Ospedale Unico Versilia	2.29	18	DEA I level
6	Carrara	Ospedale Fivizzano	2.29	32	Non-DEA ED
8	Carrara	Casa di Cura San Camillo Forte dei Marmi	2.24	12	Private
9	Carrara	Ospedale Pediatrico Apuano	1.09	12	FTGM
10	Carrara	Ospedale Pontremoli	1.04	35	Non-DEA ED
10	Carrara	Istituto di Fisiologia Clinica - CNR	1.04	37	FTGM
1	Casale Marittimo	Ospedale Civile di Cecina	45.45	9	Non-DEA ED
2	Casale Marittimo	AOU Pisana	21.21	42	DEA II level
3	Casale Marittimo	Istituto di Fisiologia Clinica - CNR	6.06	44	FTGM
4	Casale Marittimo	AOU Meyer	3.03	93	Paed. DEA II
4	Casale Marittimo	Ospedale Riuniti Livorno	3.03	37	DEA I level
4	Casale Marittimo	Casa di Cura Santa Zita	3.03	56	Private
1	Casciana Terme Lari	AOU Pisana	34.51	23	DEA II level

2	Casciana Terme Lari	Ospedale Filippo Lotti Pontedera	21.91	13	DEA I level
3	Casciana Terme Lari	Ospedale Volterra	10.33	38	Non-DEA ED
4	Casciana Terme Lari	AOU Meyer	6.8	62	Paed. DEA II
5	Casciana Terme Lari	Stella Maris – Calambrone	4.03	31	Other
6	Casciana Terme Lari	Ospedale Riuniti Livorno	3.02	27	DEA I level
7	Casciana Terme Lari	Casa di Cura Santa Zita	2.52	41	Private
8	Casciana Terme Lari	Istituto di Fisiologia Clinica - CNR	2.27	26	FTGM
9	Casciana Terme Lari	Ospedale San Luca Lucca	1.51	38	DEA I level
10	Casciana Terme Lari	Ospedale Unico Versilia	1.26	42	DEA I level
1	Cascina	AOU Pisana	60.24	10	DEA II level
2	Cascina	Stella Maris – Calambrone	7	21	Other
3	Cascina	Ospedale Filippo Lotti Pontedera	6.85	15	DEA I level
4	Cascina	AOU Meyer	6.77	61	Paed. DEA II
5	Cascina	Istituto di Fisiologia Clinica - CNR	1.91	13	FTGM
6	Cascina	AOU Careggi	1.62	61	DEA II level
6	Cascina	Casa di Cura Santa Zita	1.62	26	Private
8	Cascina	AOU Senese	1.25	86	DEA II level
9	Cascina	Ospedale Riuniti Livorno	1.18	23	DEA I level
9	Cascina	Ospedale Volterra	1.18	50	Non-DEA ED
1	Casola In Lunigiana	Ospedale Fivizzano	43.48	13	Non-DEA ED
2	Casola In Lunigiana	AOU Pisana	13.04	71	DEA II level
2	Casola In Lunigiana	Ospedale delle Apuane	13.04	38	DEA I level
2	Casola In Lunigiana	Ospedale Civile Carrara	13.04	29	Other
5	Casola In Lunigiana	Ospedale Pontremoli	4.35	38	Non-DEA ED
1	Casole D'Elsa	AOU Senese	36.57	29	DEA II level
2	Casole D'Elsa	Ospedale dell'Alta Val d'Elsa	33.58	18	Non-DEA ED
3	Casole D'Elsa	AOU Meyer	6.72	66	Paed. DEA II
4	Casole D'Elsa	AOU Careggi	5.22	65	DEA II level
5	Casole D'Elsa	AOU Pisana	2.99	75	DEA II level
5	Casole D'Elsa	Rugani	2.99	26	Private
1	Castagneto Carducci	Ospedale Civile di Cecina	31.13	15	Non-DEA ED
2	Castagneto Carducci	AOU Pisana	18.68	47	DEA II level
3	Castagneto Carducci	Ospedale Riuniti Livorno	11.67	42	DEA I level
4	Castagneto Carducci	Ospedale Villa Marina Piombino	8.56	27	Non-DEA ED
5	Castagneto Carducci	AOU Careggi	5.06	98	DEA II level
6	Castagneto Carducci	AOU Meyer	2.33	98	Paed. DEA II
7	Castagneto Carducci	Casa di Cura San Camillo Forte dei Marmi	1.95	65	Private
7	Castagneto Carducci	Stella Maris – Calambrone	1.95	50	Other
9	Castagneto Carducci	Ospedale Misericordia Grosseto	1.56	61	DEA I level
9	Castagneto Carducci	Casa di Cura Val Di Sieve	1.56	110	Private
11	Castagneto Carducci	Ospedale Volterra	1.17	42	Non-DEA ED
1	Castel Del Piano	Ospedale Misericordia Grosseto	31.91	50	DEA I level
2	Castel Del Piano	Ospedale Abbazia San Salvatore	15.96	21	Disadvant. area
3	Castel Del Piano	AOU Senese	10.64	66	DEA II level
4	Castel Del Piano	AOU Meyer	7.45	117	Paed. DEA II
5	Castel Del Piano	Ospedale S. Andrea Massa Marittima	6.38	71	Non-DEA ED
6	Castel Del Piano	Ospedale S. Giovanni di Dio Orbetello	4.26	74	Non-DEA ED
7	Castel Del Piano	AOU Careggi	3.19	116	DEA II level
8	Castel Del Piano	Ospedale Bagno a Ripoli	2.13	99	DEA I level
8	Castel Del Piano	Rugani	2.13	66	Private
10	Castel Del Piano	AOU Pisana	1.06	140	DEA II level
10	Castel Del Piano	Ospedale Torregalli	1.06	109	DEA I level
10	Castel Del Piano	Ospedale San Luca Lucca	1.06	149	DEA I level
10	Castel Del Piano	Ospedale Riuniti della Val di Chiana Senese	1.06	48	Non-DEA ED
10	Castel Del Piano	Ospedale S. Maria Nuova Firenze	1.06	110	Non-DEA ED
10	Castel Del Piano	Ospedale Civile Castel del Piano	1.06	3	Disadvant. area
1	Castel Focognano	Ospedale Area Aretina Nord	41.94	38	DEA I level
2	Castel Focognano	Ospedale Civile Bibbiena	17.2	14	Disadvant. area
3	Castel Focognano	AOU Careggi	11.83	82	DEA II level
4	Castel Focognano	AOU Meyer	6.45	82	Paed. DEA II
4	Castel Focognano	Ospedale Val Tiberina	6.45	48	Disadvant. area
6	Castel Focognano	Centro Chirurgico Toscano	3.23	34	Private
7	Castel Focognano	AOU Senese	2.15	93	DEA II level
7	Castel Focognano	Ospedale del Valdarno	2.15	56	Non-DEA ED

9	Castel Focognano	AOU Pisana	1.08	135	DEA II level
9	Castel Focognano	Ospedale Torregalli	1.08	80	DEA I level
9	Castel Focognano	Nuovo Ospedale Valdichiana	1.08	77	Non-DEA ED
9	Castel Focognano	San Giuseppe	1.08	37	Private
9	Castel Focognano	Stella Maris – Calambrone	1.08	141	Other
1	Castel San Niccolo'	Ospedale Civile Bibbiena	23.33	24	Disadvant. area
2	Castel San Niccolo'	AOU Careggi	16.67	58	DEA II level
3	Castel San Niccolo'	Ospedale Area Aretina Nord	13.33	65	DEA I level
4	Castel San Niccolo'	AOU Meyer	10	58	Paed. DEA II
5	Castel San Niccolo'	AOU Senese	6.67	90	DEA II level
6	Castel San Niccolo'	Ospedale S.Stefano di Prato	3.33	69	DEA I level
6	Castel San Niccolo'	Ospedale Val Tiberina	3.33	75	Disadvant. area
6	Castel San Niccolo'	Ospedale Serristori	3.33	45	Disadvant. area
6	Castel San Niccolo'	San Giuseppe	3.33	64	Private
10	Castel San Niccolo'	Ospedale Torregalli	1.67	56	DEA I level
10	Castel San Niccolo'	Nuovo Ospedale Valdichiana	1.67	96	Non-DEA ED
1	Castelfiorentino	Ospedale S. Giuseppe	33.7	19	DEA I level
2	Castelfiorentino	AOU Meyer	13.66	45	Paed. DEA II
3	Castelfiorentino	AOU Careggi	9.91	44	DEA II level
3	Castelfiorentino	AOU Senese	9.91	48	DEA II level
5	Castelfiorentino	Casa di Cura Leonardo	7.93	22	Private
6	Castelfiorentino	AOU Pisana	6.17	51	DEA II level
7	Castelfiorentino	Ospedale dell'Alta Val d'Elsa	2.42	28	Non-DEA ED
8	Castelfiorentino	Ospedale Piero Palagi - I.O.T.	1.32	39	Other
9	Castelfiorentino	Ospedale Riuniti Livorno	1.1	57	DEA I level
1	Castelfranco Di Sotto	Ospedale S. Giuseppe	23.58	20	DEA I level
2	Castelfranco Di Sotto	AOU Pisana	22.39	29	DEA II level
3	Castelfranco Di Sotto	AOU Meyer	8.06	46	Paed. DEA II
4	Castelfranco Di Sotto	Ospedale Filippo Lotti Pontedera	5.67	15	DEA I level
5	Castelfranco Di Sotto	AOU Careggi	5.07	46	DEA II level
6	Castelfranco Di Sotto	Ospedale Fucecchio	4.18	12	Other
7	Castelfranco Di Sotto	Ospedale San Luca Lucca	3.88	22	DEA I level
7	Castelfranco Di Sotto	Casa di Cura Leonardo	3.88	22	Private
9	Castelfranco Di Sotto	Ospedale della Valdinievole	2.69	24	Non-DEA ED
9	Castelfranco Di Sotto	Stella Maris – Calambrone	2.69	37	Other
11	Castelfranco Di Sotto	Ospedale San Jacopo Pistoia	1.79	26	DEA I level
11	Castelfranco Di Sotto	Ospedale Pediatrico Apuano	1.79	47	FTGM
11	Castelfranco Di Sotto	Casa di Cura Santa Rita	1.79	21	Private
14	Castelfranco Di Sotto	Ospedale S.Stefano di Prato	1.19	36	DEA I level
1	Castelfranco Piandisco	Ospedale del Valdarno	31.45	13	Non-DEA ED
2	Castelfranco Piandisco	AOU Careggi	12.89	36	DEA II level
3	Castelfranco Piandisco	AOU Meyer	11.32	37	Paed. DEA II
4	Castelfranco Piandisco	Ospedale Area Aretina Nord	8.81	33	DEA I level
5	Castelfranco Piandisco	AOU Senese	7.23	52	DEA II level
6	Castelfranco Piandisco	Casa di Cura Val Di Sieve	5.35	27	Private
7	Castelfranco Piandisco	Ospedale Serristori	4.72	9	Disadvant. area
8	Castelfranco Piandisco	Ospedale Val Tiberina	2.83	70	Disadvant. area
9	Castelfranco Piandisco	Ospedale Bagno a Ripoli	2.2	19	DEA I level
10	Castelfranco Piandisco	AOU Pisana	1.89	85	DEA II level
10	Castelfranco Piandisco	Casa di Cura Frate Sole	1.89	10	Private
12	Castelfranco Piandisco	Ospedale Piero Palagi - I.O.T.	1.57	28	Other
13	Castelfranco Piandisco	Ospedale Torregalli	1.26	29	DEA I level
1	Castell'Azzara	Ospedale Misericordia Grosseto	39.47	67	DEA I level
2	Castell'Azzara	Ospedale Abbazia San Salvatore	26.32	19	Disadvant. area
3	Castell'Azzara	AOU Senese	15.79	90	DEA II level
4	Castell'Azzara	AOU Meyer	2.63	120	Paed. DEA II
4	Castell'Azzara	AOU Careggi	2.63	120	DEA II level
4	Castell'Azzara	Ospedale Riuniti della Val di Chiana Senese	2.63	55	Non-DEA ED
4	Castell'Azzara	Ospedale S. Giovanni di Dio Orbetello	2.63	66	Non-DEA ED
1	Castellina In Chianti	AOU Senese	72.53	17	DEA II level
2	Castellina In Chianti	Ospedale dell'Alta Val d'Elsa	8.79	16	Non-DEA ED
3	Castellina In Chianti	AOU Careggi	5.49	49	DEA II level
4	Castellina In Chianti	Rugani	4.4	13	Private
5	Castellina In Chianti	AOU Meyer	3.3	50	Paed. DEA II
6	Castellina In Chianti	Ospedale Misericordia Grosseto	1.1	89	DEA I level
6	Castellina In Chianti	Ospedale S. Giuseppe	1.1	48	DEA I level
1	Castellina Marittima	AOU Pisana	25	33	DEA II level
1	Castellina Marittima	Ospedale Civile di Cecina	25	13	Non-DEA ED

3	Castellina Marittima	AOU Meyer	17.31	83	Paed. DEA II
4	Castellina Marittima	Ospedale Riuniti Livorno	9.62	28	DEA I level
5	Castellina Marittima	Ospedale Villa Marina Piombino	3.85	49	Non-DEA ED
6	Castellina Marittima	AOU Senese	1.92	80	DEA II level
6	Castellina Marittima	Ospedale delle Apuane	1.92	55	DEA I level
6	Castellina Marittima	Ospedale S. Giuseppe	1.92	53	DEA I level
6	Castellina Marittima	Casa di Cura Santa Rita	1.92	57	Private
6	Castellina Marittima	Stella Maris – Calambrone	1.92	36	Other
1	Castelnuovo Berardenga	AOU Senese	76.61	14	DEA II level
2	Castelnuovo Berardenga	Ospedale dell'Alta Val d'Elsa	5.66	31	Non-DEA ED
3	Castelnuovo Berardenga	AOU Meyer	4.11	65	Paed. DEA II
4	Castelnuovo Berardenga	Rugani	3.34	15	Private
5	Castelnuovo Berardenga	AOU Careggi	1.8	65	DEA II level
1	Castelnuovo Di Garfagnana	Ospedale S. Croce Castelnuovo Garfagnana	28.75	2	Non-DEA ED
2	Castelnuovo Di Garfagnana	Ospedale San Luca Lucca	18.75	44	DEA I level
3	Castelnuovo Di Garfagnana	AOU Pisana	11.88	63	DEA II level
4	Castelnuovo Di Garfagnana	Ospedale Unico Versilia	8.75	45	DEA I level
5	Castelnuovo Di Garfagnana	Ospedale S. Francesco Barga	6.88	14	Other
6	Castelnuovo Di Garfagnana	AOU Meyer	5	88	Paed. DEA II
7	Castelnuovo Di Garfagnana	Casa di Cura Santa Rita	4.38	57	Private
8	Castelnuovo Di Garfagnana	Ospedale Pediatrico Apuano	1.88	37	FTGM
9	Castelnuovo Di Garfagnana	AOU Careggi	1.25	87	DEA II level
9	Castelnuovo Di Garfagnana	Istituto di Fisiologia Clinica - CNR	1.25	59	FTGM
9	Castelnuovo Di Garfagnana	Casa di Cura Santa Zita	1.25	41	Private
1	Castelnuovo Di Val Di cecina	AOU Senese	20.34	54	DEA II level
2	Castelnuovo Di Val Di cecina	Ospedale Volterra	18.64	33	Non-DEA ED
3	Castelnuovo Di Val Di cecina	AOU Careggi	8.47	90	DEA II level
3	Castelnuovo Di Val Di cecina	AOU Pisana	8.47	75	DEA II level
3	Castelnuovo Di Val Di cecina	Ospedale S. Andrea Massa Marittima	8.47	24	Non-DEA ED
6	Castelnuovo Di Val Di cecina	AOU Meyer	5.08	90	Paed. DEA II
6	Castelnuovo Di Val Di cecina	Ospedale Civile di Cecina	5.08	44	Non-DEA ED
8	Castelnuovo Di Val Di cecina	Ospedale Villa Marina Piombino	3.39	54	Non-DEA ED
8	Castelnuovo Di Val Di cecina	Istituto di Fisiologia Clinica - CNR	3.39	78	FTGM
10	Castelnuovo Di Val Di cecina	Ospedale Filippo Lotti Pontedera	1.69	65	DEA I level
10	Castelnuovo Di Val Di cecina	Ospedale Riuniti Livorno	1.69	70	DEA I level
10	Castelnuovo Di Val Di cecina	Casa di Cura Frate Sole	1.69	92	Private
10	Castelnuovo Di Val Di cecina	Casa di Cura Val Di Sieve	1.69	93	Private
1	Castiglion Fibocchi	Ospedale Area Aretina Nord	38.64	20	DEA I level
2	Castiglion Fibocchi	AOU Meyer	9.09	58	Paed. DEA II
2	Castiglion Fibocchi	AOU Senese	9.09	62	DEA II level
2	Castiglion Fibocchi	Ospedale Val Tiberina	9.09	49	Disadvant. area
5	Castiglion Fibocchi	AOU Careggi	4.55	58	DEA II level
5	Castiglion Fibocchi	Centro Chirurgico Toscano	4.55	19	Private
5	Castiglion Fibocchi	San Giuseppe	4.55	18	Private
8	Castiglion Fibocchi	AOU Pisana	2.27	106	DEA II level
8	Castiglion Fibocchi	Ospedale del Valdarno	2.27	23	Non-DEA ED
8	Castiglion Fibocchi	Nuovo Ospedale Valdichiana	2.27	54	Non-DEA ED

8	Castiglion Fibocchi	Ospedale Civile Bibbiena	2.27	45	Disadvant. area
1	Castiglion Fiorentino	Ospedale Area Aretina Nord	35.91	29	DEA I level
2	Castiglion Fiorentino	Nuovo Ospedale Valdichiana	13.95	18	Non-DEA ED
3	Castiglion Fiorentino	AOU Senese	9.5	71	DEA II level
4	Castiglion Fiorentino	Ospedale Val Tiberina	8.61	55	Disadvant. area
5	Castiglion Fiorentino	AOU Meyer	6.53	79	Paed. DEA II
6	Castiglion Fiorentino	Ospedale Riuniti della Val di Chiana Senese	3.86	40	Non-DEA ED
7	Castiglion Fiorentino	San Giuseppe	2.37	30	Private
8	Castiglion Fiorentino	AOU Careggi	2.08	78	DEA II level
8	Castiglion Fiorentino	Ospedale Civile Bibbiena	2.08	73	Disadvant. area
10	Castiglion Fiorentino	Centro Chirurgico Toscano	1.78	33	Private
10	Castiglion Fiorentino	Stella Maris – Calambrone	1.78	133	Other
12	Castiglion Fiorentino	Ospedale del Valdarno	1.19	44	Non-DEA ED
1	Castiglione D'Orcia	AOU Senese	46.27	61	DEA II level
2	Castiglione D'Orcia	Ospedale Riuniti della Val di Chiana Senese	17.91	32	Non-DEA ED
3	Castiglione D'Orcia	Ospedale Abbazia San Salvatore	16.42	14	Disadvant. area
4	Castiglione D'Orcia	AOU Meyer	10.45	103	Paed. DEA II
5	Castiglione D'Orcia	Ospedale dell'Alta Val d'Elsa	4.48	74	Non-DEA ED
6	Castiglione D'Orcia	Rugani	1.49	61	Private
1	Castiglione Della Pescaia	Ospedale Misericordia Grosseto	43.79	26	DEA I level
2	Castiglione Della Pescaia	Ospedale S. Andrea Massa Marittima	10.65	37	Non-DEA ED
3	Castiglione Della Pescaia	AOU Careggi	8.88	137	DEA II level
4	Castiglione Della Pescaia	Ospedale S. Giovanni di Dio Orbetello	5.33	55	Non-DEA ED
5	Castiglione Della Pescaia	AOU Pisana	4.73	95	DEA II level
6	Castiglione Della Pescaia	AOU Senese	4.14	88	DEA II level
7	Castiglione Della Pescaia	AOU Meyer	2.37	137	Paed. DEA II
8	Castiglione Della Pescaia	Ospedale Piero Palagi - I.O.T.	1.78	128	Other
9	Castiglione Della Pescaia	Ospedale San Luca Lucca	1.18	111	DEA I level
9	Castiglione Della Pescaia	Centro Chirurgico Toscano	1.18	130	Private
1	Castiglione Di Garfagnana	Ospedale S. Croce Castelnuovo Garfagnana	36.84	7	Non-DEA ED
2	Castiglione Di Garfagnana	Ospedale San Luca Lucca	15.79	49	DEA I level
3	Castiglione Di Garfagnana	Ospedale S. Francesco Barga	10.53	20	Other
4	Castiglione Di Garfagnana	AOU Meyer	7.89	94	Paed. DEA II
4	Castiglione Di Garfagnana	AOU Pisana	7.89	68	DEA II level
4	Castiglione Di Garfagnana	Ospedale Unico Versilia	7.89	52	DEA I level
7	Castiglione Di Garfagnana	Ospedale delle Apuane	2.63	46	DEA I level
7	Castiglione Di Garfagnana	Casa di Cura M.D. Barbantini Santa Chiara	2.63	48	Private
7	Castiglione Di Garfagnana	Casa di Cura Santa Zita	2.63	47	Private
7	Castiglione Di Garfagnana	Casa di Cura Santa Rita	2.63	63	Private
1	Cavriglia	Ospedale del Valdarno	43.81	11	Non-DEA ED
2	Cavriglia	AOU Careggi	12.06	44	DEA II level
3	Cavriglia	AOU Meyer	11.43	44	Paed. DEA II
4	Cavriglia	Ospedale Area Aretina Nord	9.21	33	DEA I level
5	Cavriglia	AOU Senese	4.76	39	DEA II level
6	Cavriglia	Ospedale Serristori	2.22	15	Disadvant. area
7	Cavriglia	Nuovo Ospedale Valdichiana	1.9	58	Non-DEA ED
8	Cavriglia	Ospedale Val Tiberina	1.59	70	Disadvant. area
9	Cavriglia	Ospedale Piero Palagi - I.O.T.	1.27	35	Other
9	Cavriglia	Casa di Cura Frate Sole	1.27	16	Private

1	Cecina	Ospedale Civile di Cecina	36.64	4	Non-DEA ED
2	Cecina	AOU Pisana	20.74	36	DEA II level
3	Cecina	Ospedale Riuniti Livorno	13.08	31	DEA I level
4	Cecina	AOU Meyer	6.76	87	Paed. DEA II
5	Cecina	Stella Maris – Calambrone	2.37	39	Other
6	Cecina	Ospedale Villa Marina Piombino	2.25	39	Non-DEA ED
7	Cecina	AOU Careggi	1.8	87	DEA II level
8	Cecina	AOU Senese	1.47	79	DEA II level
1	Cerreto Guidi	Ospedale S. Giuseppe	37.54	12	DEA I level
2	Cerreto Guidi	AOU Careggi	11.67	43	DEA II level
3	Cerreto Guidi	AOU Meyer	8.83	43	Paed. DEA II
3	Cerreto Guidi	AOU Pisana	8.83	41	DEA II level
5	Cerreto Guidi	Casa di Cura Leonardo	7.26	12	Private
6	Cerreto Guidi	Ospedale Piero Palagi - I.O.T.	3.79	44	Other
7	Cerreto Guidi	AOU Senese	2.21	73	DEA II level
7	Cerreto Guidi	Istituto di Fisiologia Clinica - CNR	2.21	43	FTGM
9	Cerreto Guidi	Ospedale Riuniti Livorno	1.89	48	DEA I level
10	Cerreto Guidi	Ospedale San Jacopo Pistoia	1.58	25	DEA I level
11	Cerreto Guidi	Ospedale S.Stefano di Prato	1.26	31	DEA I level
11	Cerreto Guidi	Ospedale della Valdinievole	1.26	30	Non-DEA ED
1	Certaldo	AOU Senese	29.88	38	DEA II level
2	Certaldo	Ospedale dell'Alta Val d'Elsa	18.12	17	Non-DEA ED
3	Certaldo	Ospedale S. Giuseppe	15.53	30	DEA I level
4	Certaldo	AOU Meyer	11.76	46	Paed. DEA II
5	Certaldo	AOU Careggi	8	46	DEA II level
6	Certaldo	Ospedale Piero Palagi - I.O.T.	3.06	36	Other
7	Certaldo	Casa di Cura Leonardo	1.88	33	Private
8	Certaldo	AOU Pisana	1.41	60	DEA II level
9	Certaldo	Ospedale Bagno a Ripoli	1.18	33	DEA I level
1	Cetona	Ospedale Riuniti della Val di Chiana Senese	35.48	19	Non-DEA ED
2	Cetona	AOU Senese	26.88	66	DEA II level
3	Cetona	AOU Meyer	4.3	85	Paed. DEA II
4	Cetona	AOU Careggi	3.23	84	DEA II level
5	Cetona	Ospedale Area Aretina Nord	2.15	45	DEA I level
5	Cetona	Ospedale Abbazia San Salvatore	2.15	33	Disadvant. area
7	Cetona	AOU Pisana	1.08	133	DEA II level
7	Cetona	Nuovo Ospedale Valdichiana	1.08	41	Non-DEA ED
7	Cetona	Centro Chirurgico Toscano	1.08	47	Private
7	Cetona	San Giuseppe	1.08	42	Private
7	Cetona	Casa di Cura Frate Sole	1.08	57	Private
7	Cetona	Casa di Cura Ulivella e Glicini	1.08	84	Private
1	Chianciano Terme	Ospedale Riuniti della Val di Chiana Senese	40.09	15	Non-DEA ED
2	Chianciano Terme	AOU Senese	26.89	63	DEA II level
3	Chianciano Terme	AOU Meyer	5.19	81	Paed. DEA II
4	Chianciano Terme	Ospedale Area Aretina Nord	4.25	41	DEA I level
5	Chianciano Terme	Ospedale Misericordia Grosseto	1.42	85	DEA I level
5	Chianciano Terme	Ospedale Abbazia San Salvatore	1.42	32	Disadvant. area
1	Chianni	AOU Pisana	34.09	35	DEA II level
2	Chianni	Ospedale Volterra	20.45	31	Non-DEA ED
3	Chianni	Ospedale Filippo Lotti Pontedera	18.18	25	DEA I level
4	Chianni	AOU Meyer	4.55	73	Paed. DEA II
4	Chianni	AOU Senese	4.55	69	DEA II level
4	Chianni	Ospedale Fucecchio	4.55	40	Other
7	Chianni	Ospedale Riuniti Livorno	2.27	36	DEA I level
7	Chianni	Ospedale San Jacopo Pistoia	2.27	56	DEA I level
7	Chianni	Istituto di Fisiologia Clinica - CNR	2.27	38	FTGM
7	Chianni	Casa di Cura M.D. Barbantini Santa Chiara	2.27	51	Private
7	Chianni	Casa di Cura San Camillo Forte dei Marmi	2.27	56	Private
7	Chianni	Stella Maris – Calambrone	2.27	42	Other
1	Chiesina Uzzanese	Ospedale della Valdinievole	25	10	Non-DEA ED
2	Chiesina Uzzanese	AOU Pisana	14.06	30	DEA II level
3	Chiesina Uzzanese	Ospedale San Jacopo Pistoia	13.28	12	DEA I level
4	Chiesina Uzzanese	AOU Meyer	10.16	38	Paed. DEA II
5	Chiesina Uzzanese	AOU Careggi	7.81	37	DEA II level

5	Chiesina Uzzanese	Casa di Cura Santa Rita	7.81	7	Private
7	Chiesina Uzzanese	AOU Senese	4.69	80	DEA II level
8	Chiesina Uzzanese	Ospedale San Luca Lucca	3.91	13	DEA I level
9	Chiesina Uzzanese	Ospedale S.Stefano di Prato	2.34	23	DEA I level
9	Chiesina Uzzanese	Ospedale S. Giuseppe	2.34	30	DEA I level
11	Chiesina Uzzanese	Stella Maris – Calambrone	1.56	34	Other
1	Chitignano	Ospedale Civile Bibbiena	29.17	19	Disadvant. area
2	Chitignano	Ospedale Area Aretina Nord	16.67	40	DEA I level
3	Chitignano	AOU Careggi	12.5	88	DEA II level
4	Chitignano	AOU Senese	8.33	95	DEA II level
4	Chitignano	Nuovo Ospedale Valdichiana	8.33	79	Non-DEA ED
4	Chitignano	Ospedale Val Tiberina	8.33	49	Disadvant. area
4	Chitignano	San Giuseppe	8.33	39	Private
8	Chitignano	Centro Chirurgico Toscano	4.17	36	Private
8	Chitignano	Casa di Cura Frate Sole	4.17	66	Private
1	Chiusdino	AOU Senese	73.33	35	DEA II level
2	Chiusdino	Ospedale dell'Alta Val d'Elsa	8	37	Non-DEA ED
3	Chiusdino	AOU Meyer	4	84	Paed. DEA II
3	Chiusdino	AOU Pisana	4	96	DEA II level
5	Chiusdino	Rugani	2.67	35	Private
6	Chiusdino	AOU Careggi	1.33	84	DEA II level
6	Chiusdino	Ospedale Misericordia Grosseto	1.33	51	DEA I level
6	Chiusdino	Ospedale Riuniti della Val di Chiana Senese	1.33	78	Non-DEA ED
6	Chiusdino	Casa di Cura Santa Rita	1.33	100	Private
6	Chiusdino	Stella Maris – Calambrone	1.33	102	Other
1	Chiusi	Ospedale Riuniti della Val di Chiana Senese	40.29	17	Non-DEA ED
2	Chiusi	AOU Senese	25.73	64	DEA II level
3	Chiusi	AOU Careggi	4.37	81	DEA II level
4	Chiusi	AOU Meyer	3.4	82	Paed. DEA II
5	Chiusi	Ospedale Area Aretina Nord	1.94	42	DEA I level
5	Chiusi	Ospedale Abbazia San Salvatore	1.94	39	Disadvant. area
5	Chiusi	Stella Maris – Calambrone	1.94	135	Other
8	Chiusi	Casa di Cura Frate Sole	1.46	55	Private
1	Chiusi Della Verna	Ospedale Area Aretina Nord	30.23	51	DEA I level
2	Chiusi Della Verna	Ospedale Civile Bibbiena	25.58	19	Disadvant. area
3	Chiusi Della Verna	AOU Meyer	9.3	88	Paed. DEA II
3	Chiusi Della Verna	Ospedale Val Tiberina	9.3	45	Disadvant. area
5	Chiusi Della Verna	San Giuseppe	4.65	49	Private
6	Chiusi Della Verna	AOU Careggi	2.33	88	DEA II level
6	Chiusi Della Verna	Ospedale del Valdarno	2.33	69	Non-DEA ED
6	Chiusi Della Verna	Ospedale Piero Palagi - I.O.T.	2.33	77	Other
6	Chiusi Della Verna	Casa di Cura Leonardo	2.33	107	Private
1	Cinigiano	Ospedale Misericordia Grosseto	31.71	35	DEA I level
2	Cinigiano	AOU Senese	29.27	61	DEA II level
3	Cinigiano	Ospedale S. Andrea Massa Marittima	9.76	60	Non-DEA ED
4	Cinigiano	Ospedale S. Giovanni di Dio Orbetello	7.32	63	Non-DEA ED
5	Cinigiano	AOU Meyer	2.44	120	Paed. DEA II
5	Cinigiano	Ospedale Filippo Lotti Pontedera	2.44	125	DEA I level
5	Cinigiano	Ospedale Unico Versilia	2.44	143	DEA I level
5	Cinigiano	Ospedale Abbazia San Salvatore	2.44	38	Disadvant. area
5	Cinigiano	Ospedale Piero Palagi - I.O.T.	2.44	111	Other
5	Cinigiano	Stella Maris – Calambrone	2.44	132	Other
1	Civitella In Val Di Chiana	Ospedale Area Aretina Nord	42.37	15	DEA I level
2	Civitella In Val Di Chiana	Ospedale Val Tiberina	9.75	49	Disadvant. area
3	Civitella In Val Di Chiana	AOU Senese	8.47	52	DEA II level
4	Civitella In Val Di Chiana	AOU Meyer	7.2	55	Paed. DEA II
5	Civitella In Val Di Chiana	Centro Chirurgico Toscano	4.24	18	Private
5	Civitella In Val Di Chiana	San Giuseppe	4.24	13	Private
7	Civitella In Val Di Chiana	AOU Careggi	3.81	55	DEA II level

7	Civitella In Val Di Chiana	Nuovo Ospedale Valdichiana	3.81	36	Non-DEA ED
9	Civitella In Val Di Chiana	Ospedale Civile Bibbiena	2.97	57	Disadvant. area
10	Civitella In Val Di Chiana	Ospedale del Valdarno	2.54	20	Non-DEA ED
1	Civitella Paganico	Ospedale Misericordia Grosseto	40	30	DEA I level
2	Civitella Paganico	AOU Senese	33.85	49	DEA II level
3	Civitella Paganico	Ospedale S. Giovanni di Dio Orbetello	7.69	63	Non-DEA ED
4	Civitella Paganico	Ospedale S. Andrea Massa Marittima	4.62	46	Non-DEA ED
5	Civitella Paganico	AOU Meyer	3.08	109	Paed. DEA II
5	Civitella Paganico	Stella Maris – Calambrone	3.08	118	Other
7	Civitella Paganico	AOU Pisana	1.54	115	DEA II level
7	Civitella Paganico	Ospedale dell'Alta Val d'Elsa	1.54	61	Non-DEA ED
7	Civitella Paganico	Ospedale Riuniti della Val di Chiana Senese	1.54	62	Non-DEA ED
1	Colle Di Val D'Elsa	AOU Senese	45.95	22	DEA II level
2	Colle Di Val D'Elsa	Ospedale dell'Alta Val d'Elsa	29.11	7	Non-DEA ED
3	Colle Di Val D'Elsa	AOU Meyer	9.24	55	Paed. DEA II
4	Colle Di Val D'Elsa	AOU Careggi	3.42	54	DEA II level
5	Colle Di Val D'Elsa	Rugani	2.78	18	Private
1	Collesalveti	Ospedale Riuniti Livorno	34.53	13	DEA I level
2	Collesalveti	AOU Pisana	27.91	16	DEA II level
3	Collesalveti	AOU Meyer	6.8	68	Paed. DEA II
3	Collesalveti	Stella Maris – Calambrone	6.8	18	Other
5	Collesalveti	Ospedale Filippo Lotti Pontedera	5.19	19	DEA I level
6	Collesalveti	Ospedale Civile di Cecina	1.79	23	Non-DEA ED
7	Collesalveti	Istituto di Fisiologia Clinica - CNR	1.61	19	FTGM
8	Collesalveti	AOU Careggi	1.43	67	DEA II level
9	Collesalveti	AOU Senese	1.25	89	DEA II level
10	Collesalveti	Ospedale delle Apuane	1.07	37	DEA I level
1	Comano	Ospedale Pontremoli	33.33	34	Non-DEA ED
2	Comano	Ospedale Fivizzano	22.22	18	Non-DEA ED
2	Comano	Casa di Cura M.D. Barbantini Santa Chiara	22.22	64	Private
4	Comano	Ospedale delle Apuane	11.11	37	DEA I level
1	Coreglia Antelminelli	Ospedale San Luca Lucca	26.39	34	DEA I level
2	Coreglia Antelminelli	Ospedale S. Croce Castelnuovo Garfagnana	19.44	20	Non-DEA ED
3	Coreglia Antelminelli	AOU Pisana	11.11	53	DEA II level
4	Coreglia Antelminelli	AOU Meyer	9.72	78	Paed. DEA II
5	Coreglia Antelminelli	Ospedale Unico Versilia	7.64	49	DEA I level
6	Coreglia Antelminelli	Ospedale S. Francesco Barga	4.86	12	Other
6	Coreglia Antelminelli	Casa di Cura M.D. Barbantini Santa Chiara	4.86	32	Private
8	Coreglia Antelminelli	Casa di Cura Santa Zita	3.47	31	Private
8	Coreglia Antelminelli	Casa di Cura Santa Rita	3.47	47	Private
10	Coreglia Antelminelli	AOU Careggi	1.39	77	DEA II level
10	Coreglia Antelminelli	Ospedale Pediatrico Apuano	1.39	54	FTGM
10	Coreglia Antelminelli	Casa di Cura Olivella e Glicini	1.39	77	Private
10	Coreglia Antelminelli	Stella Maris – Calambrone	1.39	56	Other
1	Cortona	Ospedale Area Aretina Nord	24.14	44	DEA I level
2	Cortona	Nuovo Ospedale Valdichiana	17.73	16	Non-DEA ED
3	Cortona	AOU Senese	10.18	66	DEA II level
4	Cortona	Ospedale Riuniti della Val di Chiana Senese	9.03	30	Non-DEA ED
5	Cortona	AOU Meyer	6.4	84	Paed. DEA II
6	Cortona	Ospedale Val Tiberina	5.25	73	Disadvant. area
7	Cortona	AOU Careggi	2.96	84	DEA II level
8	Cortona	San Giuseppe	1.97	41	Private
9	Cortona	Ospedale del Valdarno	1.64	49	Non-DEA ED
1	Crespina Lorenzana	AOU Pisana	52.38	19	DEA II level
2	Crespina Lorenzana	Ospedale Filippo Lotti Pontedera	13.1	14	DEA I level
3	Crespina Lorenzana	AOU Meyer	7.14	63	Paed. DEA II
4	Crespina Lorenzana	Ospedale Riuniti Livorno	3.57	21	DEA I level
4	Crespina Lorenzana	Stella Maris – Calambrone	3.57	25	Other
6	Crespina Lorenzana	Casa di Cura Santa Zita	2.98	37	Private
7	Crespina Lorenzana	Ospedale Volterra	2.38	43	Non-DEA ED

7	Crespina Lorenzana	Istituto di Fisiologia Clinica - CNR	2.38	22	FTGM
9	Crespina Lorenzana	AOU Senese	1.79	81	DEA II level
10	Crespina Lorenzana	AOU Careggi	1.19	63	DEA II level
1	Dicomano	Ospedale Borgo San Lorenzo	20.11	18	Non-DEA ED
2	Dicomano	AOU Careggi	17.39	42	DEA II level
3	Dicomano	AOU Meyer	16.3	42	Paed. DEA II
4	Dicomano	Casa di Cura Val Di Sieve	11.41	18	Private
5	Dicomano	Ospedale Bagno a Ripoli	7.07	35	DEA I level
6	Dicomano	Ospedale Piero Palagi - I.O.T.	6.52	38	Other
7	Dicomano	Ospedale Torregalli	2.72	44	DEA I level
7	Dicomano	Ospedale Serristori	2.72	40	Disadvant. area
9	Dicomano	Casa di Cura Ulivella e Glicini	2.17	43	Private
10	Dicomano	AOU Pisana	1.63	99	DEA II level
10	Dicomano	AOU Senese	1.63	85	DEA II level
1	Empoli	Ospedale S. Giuseppe	37.45	4	DEA I level
2	Empoli	AOU Careggi	14.29	33	DEA II level
3	Empoli	AOU Meyer	12.73	34	Paed. DEA II
4	Empoli	Casa di Cura Leonardo	7.77	6	Private
5	Empoli	AOU Pisana	5.18	40	DEA II level
6	Empoli	Ospedale Piero Palagi - I.O.T.	3.11	33	Other
7	Empoli	AOU Senese	2.22	61	DEA II level
8	Empoli	Ospedale Riuniti Livorno	1.63	47	DEA I level
8	Empoli	Stella Maris – Calambrone	1.63	50	Other
1	Fabbri di Vergemoli	Ospedale San Luca Lucca	25	39	DEA I level
1	Fabbri di Vergemoli	Ospedale Unico Versilia	25	42	DEA I level
3	Fabbri di Vergemoli	Ospedale S. Francesco Barga	16.67	18	Other
4	Fabbri di Vergemoli	AOU Careggi	8.33	84	DEA II level
4	Fabbri di Vergemoli	AOU Pisana	8.33	58	DEA II level
4	Fabbri di Vergemoli	Ospedale S. Croce Castelnuovo Garfagnana	8.33	22	Non-DEA ED
4	Fabbri di Vergemoli	Istituto di Fisiologia Clinica - CNR	8.33	54	FTGM
1	Fauglia	AOU Pisana	44.53	19	DEA II level
2	Fauglia	Ospedale Riuniti Livorno	10.94	19	DEA I level
3	Fauglia	Stella Maris – Calambrone	7.81	23	Other
4	Fauglia	Ospedale Filippo Lotti Pontedera	7.03	17	DEA I level
5	Fauglia	AOU Meyer	3.91	66	Paed. DEA II
5	Fauglia	Ospedale Volterra	3.91	47	Non-DEA ED
7	Fauglia	Istituto di Fisiologia Clinica - CNR	2.34	22	FTGM
8	Fauglia	AOU Senese	1.56	84	DEA II level
1	Fiesole	AOU Careggi	45.68	13	DEA II level
2	Fiesole	AOU Meyer	17.7	12	Paed. DEA II
3	Fiesole	Ospedale Piero Palagi - I.O.T.	7.2	12	Other
4	Fiesole	Ospedale Bagno a Ripoli	6.17	15	DEA I level
5	Fiesole	Ospedale S. Maria Nuova Firenze	4.12	12	Non-DEA ED
6	Fiesole	Ospedale Serristori	3.29	30	Disadvant. area
7	Fiesole	Ospedale Torregalli	2.26	18	DEA I level
7	Fiesole	Casa di Cura Val Di Sieve	2.26	20	Private
9	Fiesole	Ospedale S. Stefano di Prato	1.44	30	DEA I level
10	Fiesole	AOU Senese	1.03	64	DEA II level
1	Figline e Incisa In Valdarno	Ospedale Serristori	20.83	5	Disadvant. area
2	Figline e Incisa In Valdarno	AOU Careggi	16.3	32	DEA II level
3	Figline e Incisa In Valdarno	AOU Meyer	16.17	32	Paed. DEA II
4	Figline e Incisa In Valdarno	Ospedale Bagno a Ripoli	9.31	15	DEA I level
5	Figline e Incisa In Valdarno	Ospedale del Valdarno	7.37	12	Non-DEA ED
6	Figline e Incisa In Valdarno	Ospedale Piero Palagi - I.O.T.	6.99	23	Other
7	Figline e Incisa In Valdarno	Casa di Cura Frate Sole	2.72	6	Private
8	Figline e Incisa In Valdarno	Ospedale Area Aretina Nord	2.59	32	DEA I level
9	Figline e Incisa In Valdarno	Casa di Cura Val Di Sieve	2.33	22	Private

10	Figline e Incisa In Valdarno	AOU Senese	2.07	51	DEA II level
11	Figline e Incisa In Valdarno	Ospedale Torregalli	1.81	25	DEA I level
12	Figline e Incisa In Valdarno	Ospedale S. Maria Nuova Firenze	1.29	26	Non-DEA ED
13	Figline e Incisa In Valdarno	AOU Pisana	1.16	80	DEA II level
1	Filattiera	Ospedale Pontremoli	22	11	Non-DEA ED
2	Filattiera	Ospedale delle Apuane	16	32	DEA I level
3	Filattiera	Ospedale Civile Carrara	6	39	Other
4	Filattiera	AOU Pisana	4	64	DEA II level
4	Filattiera	Ospedale Fivizzano	4	30	Non-DEA ED
6	Filattiera	AOU Meyer	2	102	Paed. DEA II
6	Filattiera	Ospedale Riuniti Livorno	2	69	DEA I level
6	Filattiera	Ospedale Pediatrico Apuano	2	37	FTGM
6	Filattiera	Casa di Cura M.D. Barbantini Santa Chiara	2	59	Private
1	Firenze	AOU Careggi	38.96	9	DEA II level
2	Firenze	AOU Meyer	18.46	9	Paed. DEA II
3	Firenze	Ospedale Piero Palagi - I.O.T.	9.57	9	Other
4	Firenze	Ospedale Torregalli	4.79	10	DEA I level
5	Firenze	Ospedale S. Maria Nuova Firenze	4.34	7	Non-DEA ED
6	Firenze	Ospedale Bagno a Ripoli	3.81	12	DEA I level
7	Firenze	Ospedale Serristori	1.77	27	Disadvant. area
8	Firenze	Casa di Cura Val Di Sieve	1.69	25	Private
9	Firenze	Ospedale S.Stefano di Prato	1.3	21	DEA I level
10	Firenze	AOU Senese	1.28	58	DEA II level
1	Firenzuola	AOU Careggi	22.63	48	DEA II level
2	Firenzuola	Ospedale Borgo San Lorenzo	18.98	28	Non-DEA ED
3	Firenzuola	AOU Meyer	14.6	49	Paed. DEA II
4	Firenzuola	Ospedale Piero Palagi - I.O.T.	5.84	52	Other
5	Firenzuola	Ospedale Torregalli	5.11	47	DEA I level
5	Firenzuola	Ospedale Bagno a Ripoli	5.11	51	DEA I level
1	Fivizzano	Ospedale Fivizzano	24.88	8	Non-DEA ED
2	Fivizzano	Ospedale delle Apuane	15.96	32	DEA I level
3	Fivizzano	Ospedale Civile Carrara	10.33	26	Other
4	Fivizzano	Ospedale Pontremoli	4.23	32	Non-DEA ED
5	Fivizzano	AOU Meyer	3.76	102	Paed. DEA II
6	Fivizzano	AOU Pisana	3.29	64	DEA II level
7	Fivizzano	Casa di Cura M.D. Barbantini Santa Chiara	2.82	59	Private
8	Fivizzano	Ospedale San Luca Lucca	2.35	60	DEA I level
8	Fivizzano	Ospedale Unico Versilia	2.35	42	DEA I level
10	Fivizzano	Ospedale Pediatrico Apuano	1.88	36	FTGM
10	Fivizzano	Stella Maris – Calambrone	1.88	63	Other
12	Fivizzano	AOU Careggi	1.41	101	DEA II level
12	Fivizzano	AOU Senese	1.41	144	DEA II level
12	Fivizzano	Casa di Cura San Camillo Forte dei Marmi	1.41	36	Private
1	Foiano Della Chiana	Ospedale Area Aretina Nord	23.62	27	DEA I level
2	Foiano Della Chiana	Nuovo Ospedale Valdichiana	15.87	23	Non-DEA ED
3	Foiano Della Chiana	AOU Senese	15.13	51	DEA II level
4	Foiano Della Chiana	Ospedale Riuniti della Val di Chiana Senese	9.23	17	Non-DEA ED
5	Foiano Della Chiana	AOU Meyer	8.49	67	Paed. DEA II
6	Foiano Della Chiana	Ospedale Val Tiberina	5.9	61	Disadvant. area
7	Foiano Della Chiana	AOU Careggi	3.32	66	DEA II level
8	Foiano Della Chiana	San Giuseppe	1.85	24	Private
9	Foiano Della Chiana	Centro Chirurgico Toscano	1.48	29	Private
10	Foiano Della Chiana	Ospedale Civile Bibbiena	1.11	68	Disadvant. area
1	Follonica	Ospedale Misericordia Grosseto	26.59	37	DEA I level
2	Follonica	Ospedale S. Andrea Massa Marittima	22.81	20	Non-DEA ED
3	Follonica	AOU Senese	12.01	76	DEA II level
4	Follonica	AOU Pisana	6.52	74	DEA II level
5	Follonica	AOU Meyer	6.35	122	Paed. DEA II
6	Follonica	Stella Maris – Calambrone	2.74	76	Other
7	Follonica	Ospedale S. Giovanni di Dio Orbetello	2.57	69	Non-DEA ED
8	Follonica	AOU Careggi	2.23	122	DEA II level

9	Follonica	Ospedale Villa Marina Piombino	2.06	23	Non-DEA ED
10	Follonica	Ospedale Riuniti Livorno	1.72	69	DEA I level
11	Follonica	Ospedale Civile di Cecina	1.37	41	Non-DEA ED
12	Follonica	Casa di Cura Santa Rita	1.2	98	Private
1	Forte Dei Marmi	Ospedale Unico Versilia	32.08	8	DEA I level
2	Forte Dei Marmi	AOU Pisana	15.57	31	DEA II level
3	Forte Dei Marmi	Ospedale delle Apuane	8.49	8	DEA I level
4	Forte Dei Marmi	AOU Careggi	7.08	68	DEA II level
5	Forte Dei Marmi	Casa di Cura San Camillo Forte dei Marmi	4.72	3	Private
6	Forte Dei Marmi	AOU Meyer	3.3	68	Paed. DEA II
7	Forte Dei Marmi	Ospedale Civile Carrara	2.36	18	Other
7	Forte Dei Marmi	Ospedale Pediatrico Apuano	2.36	9	FTGM
9	Forte Dei Marmi	Istituto di Fisiologia Clinica - CNR	1.42	27	FTGM
9	Forte Dei Marmi	Stella Maris – Calambrone	1.42	29	Other
1	Fosciandora	Ospedale S. Croce Castelnuovo Garfagnana	70	6	Non-DEA ED
2	Fosciandora	AOU Meyer	10	90	Paed. DEA II
2	Fosciandora	AOU Pisana	10	64	DEA II level
2	Fosciandora	Casa di Cura Santa Zita	10	43	Private
1	Fosdinovo	Ospedale delle Apuane	18.4	17	DEA I level
2	Fosdinovo	Ospedale Civile Carrara	14.11	18	Other
3	Fosdinovo	Ospedale Fivizzano	7.36	21	Non-DEA ED
4	Fosdinovo	AOU Pisana	5.52	50	DEA II level
5	Fosdinovo	AOU Meyer	4.91	87	Paed. DEA II
6	Fosdinovo	Ospedale Unico Versilia	3.07	27	DEA I level
7	Fosdinovo	Casa di Cura San Camillo Forte dei Marmi	2.45	21	Private
8	Fosdinovo	Ospedale Pontremoli	1.84	35	Non-DEA ED
9	Fosdinovo	Ospedale Pediatrico Apuano	1.23	23	FTGM
9	Fosdinovo	Casa di Cura M.D. Barbantini Santa Chiara	1.23	44	Private
1	Fucecchio	Ospedale S. Giuseppe	30.81	15	DEA I level
2	Fucecchio	AOU Pisana	13.39	35	DEA II level
3	Fucecchio	AOU Meyer	11.77	45	Paed. DEA II
4	Fucecchio	AOU Careggi	8.55	45	DEA II level
5	Fucecchio	Casa di Cura Leonardo	4.68	16	Private
6	Fucecchio	Ospedale Riuniti Livorno	4.52	42	DEA I level
7	Fucecchio	Ospedale Fucecchio	3.23	4	Other
8	Fucecchio	Ospedale della Valdinievole	2.42	26	Non-DEA ED
9	Fucecchio	AOU Senese	1.94	75	DEA II level
10	Fucecchio	Stella Maris – Calambrone	1.77	44	Other
11	Fucecchio	Ospedale Filippo Lotti Pontedera	1.61	20	DEA I level
11	Fucecchio	Istituto di Fisiologia Clinica - CNR	1.61	37	FTGM
13	Fucecchio	Ospedale Piero Palagi - I.O.T.	1.29	45	Other
14	Fucecchio	Ospedale San Luca Lucca	1.13	28	DEA I level
1	Gaiole In Chianti	AOU Senese	72.34	23	DEA II level
2	Gaiole In Chianti	Ospedale del Valdarno	5.32	21	Non-DEA ED
2	Gaiole In Chianti	Ospedale dell'Alta Val d'Elsa	5.32	34	Non-DEA ED
4	Gaiole In Chianti	AOU Careggi	3.19	57	DEA II level
5	Gaiole In Chianti	AOU Meyer	2.13	57	Paed. DEA II
5	Gaiole In Chianti	Rugani	2.13	23	Private
7	Gaiole In Chianti	Ospedale Val Tiberina	1.06	80	Disadvant. area
7	Gaiole In Chianti	Casa di Cura Val Di Sieve	1.06	48	Private
7	Gaiole In Chianti	Stella Maris – Calambrone	1.06	109	Other
1	Galliciano	Ospedale S. Croce Castelnuovo Garfagnana	22.77	9	Non-DEA ED
2	Galliciano	Ospedale San Luca Lucca	12.87	35	DEA I level
3	Galliciano	AOU Meyer	11.88	80	Paed. DEA II
3	Galliciano	AOU Pisana	11.88	54	DEA II level
5	Galliciano	Ospedale Unico Versilia	10.89	50	DEA I level
6	Galliciano	Ospedale S. Francesco Barga	9.9	8	Other
7	Galliciano	Casa di Cura M.D. Barbantini Santa Chiara	4.95	34	Private
8	Galliciano	AOU Careggi	1.98	79	DEA II level
8	Galliciano	Casa di Cura Santa Zita	1.98	33	Private
8	Galliciano	Casa di Cura Santa Rita	1.98	49	Private
8	Galliciano	Casa di Cura Ville di Nozzano	1.98	40	Private
1	Gambassi Terme	Ospedale S. Giuseppe	25.36	28	DEA I level

2	Gambassi Terme	AOU Meyer	22.46	51	Paed. DEA II
3	Gambassi Terme	AOU Senese	14.49	42	DEA II level
4	Gambassi Terme	Ospedale dell'Alta Val d'Elsa	8.7	22	Non-DEA ED
5	Gambassi Terme	AOU Careggi	4.35	50	DEA II level
5	Gambassi Terme	AOU Pisana	4.35	54	DEA II level
7	Gambassi Terme	Casa di Cura Leonardo	3.62	31	Private
8	Gambassi Terme	Ospedale Volterra	2.9	28	Non-DEA ED
9	Gambassi Terme	Ospedale Torregalli	2.17	40	DEA I level
9	Gambassi Terme	Ospedale Piero Palagi - I.O.T.	2.17	42	Other
11	Gambassi Terme	Ospedale S.Stefano di Prato	1.45	51	DEA I level
11	Gambassi Terme	Rugani	1.45	38	Private
1	Gavorrano	Ospedale Misericordia Grosseto	34.19	26	DEA I level
2	Gavorrano	Ospedale S. Andrea Massa Marittima	19.23	20	Non-DEA ED
3	Gavorrano	AOU Senese	14.53	72	DEA II level
4	Gavorrano	AOU Meyer	6.84	122	Paed. DEA II
5	Gavorrano	AOU Pisana	3.85	84	DEA II level
6	Gavorrano	AOU Careggi	2.99	121	DEA II level
7	Gavorrano	Ospedale S. Giovanni di Dio Orbetello	2.14	59	Non-DEA ED
8	Gavorrano	Rugani	1.71	72	Private
9	Gavorrano	Ospedale Filippo Lotti Pontedera	1.28	86	DEA I level
9	Gavorrano	Casa di Cura Santa Rita	1.28	109	Private
9	Gavorrano	Stella Maris – Calambrone	1.28	87	Other
1	Greve In Chianti	AOU Careggi	19.6	39	DEA II level
2	Greve In Chianti	Ospedale Bagno a Ripoli	15.88	25	DEA I level
3	Greve In Chianti	Ospedale Serristori	13.15	28	Disadvant. area
4	Greve In Chianti	AOU Meyer	12.9	39	Paed. DEA II
5	Greve In Chianti	Ospedale Piero Palagi - I.O.T.	11.66	29	Other
6	Greve In Chianti	Ospedale Torregalli	6.45	30	DEA I level
7	Greve In Chianti	AOU Senese	3.72	44	DEA II level
8	Greve In Chianti	Ospedale S. Maria Nuova Firenze	1.99	33	Non-DEA ED
9	Greve In Chianti	Ospedale S.Stefano di Prato	1.74	43	DEA I level
10	Greve In Chianti	Casa di Cura Val Di Sieve	1.24	40	Private
1	Grosseto	Ospedale Misericordia Grosseto	49.52	6	DEA I level
2	Grosseto	AOU Senese	10.58	81	DEA II level
3	Grosseto	Ospedale S. Giovanni di Dio Orbetello	7.64	37	Non-DEA ED
4	Grosseto	Ospedale S. Andrea Massa Marittima	7.24	40	Non-DEA ED
5	Grosseto	AOU Meyer	5.36	132	Paed. DEA II
6	Grosseto	Stella Maris – Calambrone	2.99	108	Other
7	Grosseto	AOU Pisana	2.24	106	DEA II level
8	Grosseto	AOU Careggi	2.15	132	DEA II level
1	Guardistallo	Ospedale Civile di Cecina	45.45	10	Non-DEA ED
2	Guardistallo	AOU Pisana	13.64	42	DEA II level
3	Guardistallo	Ospedale Riuniti Livorno	9.09	37	DEA I level
4	Guardistallo	Ospedale Villa Marina Piombino	6.82	42	Non-DEA ED
5	Guardistallo	AOU Meyer	4.55	93	Paed. DEA II
6	Guardistallo	AOU Careggi	2.27	93	DEA II level
6	Guardistallo	Ospedale delle Apuane	2.27	64	DEA I level
6	Guardistallo	Ospedale Filippo Lotti Pontedera	2.27	44	DEA I level
6	Guardistallo	Ospedale Unico Versilia	2.27	57	DEA I level
6	Guardistallo	Casa di Cura Santa Rita	2.27	67	Private
6	Guardistallo	Casa di Cura Val Di Sieve	2.27	101	Private
1	Impruneta	AOU Careggi	30.72	21	DEA II level
2	Impruneta	AOU Meyer	15.25	21	Paed. DEA II
3	Impruneta	Ospedale Piero Palagi - I.O.T.	11.02	11	Other
4	Impruneta	Ospedale Bagno a Ripoli	8.69	8	DEA I level
5	Impruneta	Ospedale Torregalli	6.36	11	DEA I level
6	Impruneta	Ospedale Serristori	4.87	23	Disadvant. area
7	Impruneta	Casa di Cura Val Di Sieve	2.97	24	Private
8	Impruneta	AOU Senese	2.12	47	DEA II level
8	Impruneta	Ospedale S. Maria Nuova Firenze	2.12	16	Non-DEA ED
10	Impruneta	Ospedale S.Stefano di Prato	1.69	24	DEA I level
11	Impruneta	Casa di Cura Villa Fiorita	1.27	28	Private
11	Impruneta	Stella Maris – Calambrone	1.27	71	Other
1	Lajatico	AOU Pisana	38.46	41	DEA II level
2	Lajatico	Ospedale Volterra	25.64	20	Non-DEA ED
3	Lajatico	Ospedale Filippo Lotti Pontedera	15.38	29	DEA I level

4	Lajatico	AOU Meyer	5.13	74	Paed. DEA II
4	Lajatico	Istituto di Fisiologia Clinica - CNR	5.13	43	FTGM
6	Lajatico	AOU Careggi	2.56	74	DEA II level
6	Lajatico	Ospedale Riuniti Livorno	2.56	47	DEA I level
6	Lajatico	Casa di Cura Ville di Nozzano	2.56	58	Private
1	Lamporecchio	Ospedale San Jacopo Pistoia	17.46	18	DEA I level
2	Lamporecchio	AOU Meyer	14.29	39	Paed. DEA II
3	Lamporecchio	Ospedale S. Giuseppe	13.23	16	DEA I level
4	Lamporecchio	AOU Careggi	12.7	38	DEA II level
5	Lamporecchio	Casa di Cura Leonardo	7.41	13	Private
6	Lamporecchio	AOU Pisana	5.82	47	DEA II level
7	Lamporecchio	Ospedale della Valdinievole	5.29	28	Non-DEA ED
8	Lamporecchio	Ospedale Piero Palagi - I.O.T.	4.76	43	Other
9	Lamporecchio	Stella Maris – Calambrone	2.65	51	Other
10	Lamporecchio	Casa di Cura Santa Rita	2.12	19	Private
11	Lamporecchio	Ospedale S.Stefano di Prato	1.59	25	DEA I level
11	Lamporecchio	Ospedale Fucecchio	1.59	15	Other
13	Lamporecchio	AOU Senese	1.06	77	DEA II level
13	Lamporecchio	Ospedale Torregalli	1.06	36	DEA I level
13	Lamporecchio	Ospedale Unico Versilia	1.06	47	DEA I level
13	Lamporecchio	Casa di Cura Villa Fiorita	1.06	29	Private
13	Lamporecchio	Casa di Cura Val Di Sieve	1.06	55	Private
1	Larciano	Ospedale San Jacopo Pistoia	19.25	16	DEA I level
2	Larciano	AOU Meyer	11.8	41	Paed. DEA II
3	Larciano	Ospedale S. Giuseppe	11.18	20	DEA I level
4	Larciano	AOU Careggi	8.7	40	DEA II level
5	Larciano	Ospedale della Valdinievole	7.45	24	Non-DEA ED
6	Larciano	AOU Pisana	6.83	44	DEA II level
7	Larciano	Casa di Cura Leonardo	6.21	16	Private
8	Larciano	Ospedale Piero Palagi - I.O.T.	5.59	45	Other
8	Larciano	Ospedale Fucecchio	5.59	14	Other
10	Larciano	Casa di Cura Santa Rita	3.73	16	Private
11	Larciano	AOU Senese	1.86	80	DEA II level
12	Larciano	Casa di Cura Villa Fiorita	1.24	31	Private
1	Lastra A Signa	AOU Careggi	27.68	21	DEA II level
2	Lastra A Signa	AOU Meyer	18.24	22	Paed. DEA II
3	Lastra A Signa	Ospedale Torregalli	12.64	13	DEA I level
4	Lastra A Signa	Ospedale Piero Palagi - I.O.T.	9.44	20	Other
5	Lastra A Signa	Ospedale S. Giuseppe	3.2	18	DEA I level
5	Lastra A Signa	Ospedale Bagno a Ripoli	3.2	17	DEA I level
7	Lastra A Signa	Ospedale S. Maria Nuova Firenze	2.88	20	Non-DEA ED
8	Lastra A Signa	Casa di Cura Leonardo	1.92	20	Private
9	Lastra A Signa	AOU Senese	1.76	57	DEA II level
9	Lastra A Signa	Casa di Cura Val Di Sieve	1.76	33	Private
11	Lastra A Signa	Ospedale S.Stefano di Prato	1.6	22	DEA I level
11	Lastra A Signa	Casa di Cura Ulivella e Glicini	1.6	21	Private
13	Lastra A Signa	Casa di Cura Villa Fiorita	1.44	26	Private
1	Laterina Pergine Valdarno	Ospedale Area Aretina Nord	33.16	18	DEA I level
2	Laterina Pergine Valdarno	Ospedale del Valdarno	15.26	12	Non-DEA ED
3	Laterina Pergine Valdarno	AOU Meyer	10.53	47	Paed. DEA II
4	Laterina Pergine Valdarno	Ospedale Val Tiberina	7.89	55	Disadvant. area
5	Laterina Pergine Valdarno	AOU Careggi	6.84	46	DEA II level
6	Laterina Pergine Valdarno	AOU Senese	5.79	48	DEA II level
7	Laterina Pergine Valdarno	Nuovo Ospedale Valdichiana	2.11	43	Non-DEA ED
8	Laterina Pergine Valdarno	Ospedale Civile Bibbiena	1.58	57	Disadvant. area
8	Laterina Pergine Valdarno	Centro Chirurgico Toscano	1.58	20	Private
8	Laterina Pergine Valdarno	San Giuseppe	1.58	15	Private
11	Laterina Pergine Valdarno	Ospedale Torregalli	1.05	39	DEA I level

11	Laterina Pergine Valdarno	Casa di Cura Val Di Sieve	1.05	37	Private
1	Licciana Nardi	Ospedale delle Apuane	15.49	25	DEA I level
2	Licciana Nardi	Ospedale Fivizzano	13.38	17	Non-DEA ED
3	Licciana Nardi	Ospedale Civile Carrara	9.86	31	Other
4	Licciana Nardi	Ospedale Pontremoli	9.15	21	Non-DEA ED
5	Licciana Nardi	AOU Meyer	8.45	94	Paed. DEA II
6	Licciana Nardi	AOU Pisana	4.93	57	DEA II level
7	Licciana Nardi	AOU Careggi	2.11	94	DEA II level
8	Licciana Nardi	Ospedale Riuniti Livorno	1.41	61	DEA I level
8	Licciana Nardi	Ospedale S. Francesco Barga	1.41	68	Other
8	Licciana Nardi	Istituto di Fisiologia Clinica - CNR	1.41	53	FTGM
8	Licciana Nardi	Stella Maris – Calambrone	1.41	55	Other
1	Livorno	Ospedale Riuniti Livorno	50.46	4	DEA I level
2	Livorno	AOU Pisana	18.35	23	DEA II level
3	Livorno	AOU Meyer	6.69	77	Paed. DEA II
4	Livorno	Stella Maris – Calambrone	5.08	21	Other
5	Livorno	Ospedale delle Apuane	2.45	41	DEA I level
6	Livorno	AOU Senese	1.17	98	DEA II level
7	Livorno	AOU Careggi	1.11	77	DEA II level
7	Livorno	Ospedale Civile di Cecina	1.11	30	Non-DEA ED
1	Londa	AOU Careggi	21.31	47	DEA II level
2	Londa	AOU Meyer	11.48	47	Paed. DEA II
2	Londa	Casa di Cura Val Di Sieve	11.48	19	Private
4	Londa	Ospedale Borgo San Lorenzo	9.84	25	Non-DEA ED
4	Londa	Ospedale Piero Palagi - I.O.T.	9.84	38	Other
6	Londa	Ospedale Torregalli	8.2	45	DEA I level
6	Londa	Ospedale Serristori	8.2	41	Disadvant. area
8	Londa	Ospedale S. Maria Nuova Firenze	6.56	41	Non-DEA ED
9	Londa	Ospedale S.Stefano di Prato	1.64	58	DEA I level
9	Londa	Ospedale Bagno a Ripoli	1.64	36	DEA I level
9	Londa	Casa di Cura Villa Fiorita	1.64	62	Private
1	Loro Ciuffenna	Ospedale del Valdarno	41.14	15	Non-DEA ED
2	Loro Ciuffenna	AOU Senese	12.66	54	DEA II level
2	Loro Ciuffenna	Ospedale Area Aretina Nord	12.66	31	DEA I level
4	Loro Ciuffenna	AOU Meyer	7.59	49	Paed. DEA II
4	Loro Ciuffenna	AOU Careggi	7.59	49	DEA II level
6	Loro Ciuffenna	Ospedale Torregalli	2.53	42	DEA I level
7	Loro Ciuffenna	AOU Pisana	1.9	98	DEA II level
7	Loro Ciuffenna	Nuovo Ospedale Valdichiana	1.9	57	Non-DEA ED
7	Loro Ciuffenna	Ospedale Civile Bibbiena	1.9	65	Disadvant. area
7	Loro Ciuffenna	Ospedale Serristori	1.9	22	Disadvant. area
11	Loro Ciuffenna	Ospedale Val Tiberina	1.27	67	Disadvant. area
1	Lucca	Ospedale San Luca Lucca	39.85	7	DEA I level
2	Lucca	AOU Pisana	16.06	23	DEA II level
3	Lucca	AOU Meyer	6.6	52	Paed. DEA II
4	Lucca	Casa di Cura Santa Zita	6.35	6	Private
5	Lucca	Casa di Cura M.D. Barbantini Santa Chiara	4.14	6	Private
6	Lucca	Ospedale S. Francesco Barga	3.14	35	Other
7	Lucca	Stella Maris – Calambrone	2.52	27	Other
8	Lucca	Ospedale Unico Versilia	2.45	22	DEA I level
9	Lucca	AOU Careggi	2.18	51	DEA II level
10	Lucca	Ospedale S. Croce Castelnuovo Garfagnana	2.11	42	Non-DEA ED
11	Lucca	Casa di Cura Ville di Nozzano	1.21	10	Private
12	Lucca	AOU Senese	1.07	94	DEA II level
1	Lucignano	Ospedale Area Aretina Nord	30.3	24	DEA I level
2	Lucignano	AOU Senese	18.18	45	DEA II level
3	Lucignano	Nuovo Ospedale Valdichiana	10.1	28	Non-DEA ED
4	Lucignano	AOU Meyer	9.09	64	Paed. DEA II
5	Lucignano	Ospedale Riuniti della Val di Chiana Senese	8.08	18	Non-DEA ED
6	Lucignano	Ospedale Val Tiberina	4.04	58	Disadvant. area
7	Lucignano	AOU Careggi	3.03	63	DEA II level
8	Lucignano	Ospedale Civile Bibbiena	2.02	65	Disadvant. area
9	Lucignano	AOU Pisana	1.01	112	DEA II level
9	Lucignano	Ospedale S. Giuseppe	1.01	77	DEA I level
9	Lucignano	Centro Chirurgico Toscano	1.01	26	Private

9	Lucignano	Casa di Cura Ulivella e Glicini	1.01	63	Private
1	Magliano In Toscana	Ospedale Misericordia Grosseto	41.9	29	DEA I level
2	Magliano In Toscana	Ospedale S. Giovanni di Dio Orbetello	20	23	Non-DEA ED
3	Magliano In Toscana	AOU Senese	11.43	101	DEA II level
4	Magliano In Toscana	AOU Meyer	3.81	155	Paed. DEA II
4	Magliano In Toscana	AOU Pisana	3.81	129	DEA II level
6	Magliano In Toscana	Ospedale S. Andrea Massa Marittima	1.9	63	Non-DEA ED
1	Manciano	Ospedale Misericordia Grosseto	37.23	47	DEA I level
2	Manciano	Ospedale S. Giovanni di Dio Orbetello	20.74	32	Non-DEA ED
3	Manciano	AOU Senese	7.98	109	DEA II level
4	Manciano	AOU Meyer	4.26	152	Paed. DEA II
5	Manciano	Ospedale S. Andrea Massa Marittima	2.13	80	Non-DEA ED
6	Manciano	Rugani	1.6	109	Private
7	Manciano	AOU Pisana	1.06	147	DEA II level
7	Manciano	Ospedale Torregalli	1.06	145	DEA I level
1	Marciana	Ospedale Civile Elbano Portoferraio	34.09	20	Non-DEA ED
1	Marciana Marina	Ospedale Civile Elbano Portoferraio	29.73	18	Non-DEA ED
1	Marciano Della Chiana	Ospedale Area Aretina Nord	43.33	21	DEA I level
2	Marciano Della Chiana	Ospedale Val Tiberina	10	56	Disadvant. area
3	Marciano Della Chiana	AOU Meyer	8.89	61	Paed. DEA II
4	Marciano Della Chiana	AOU Senese	6.67	53	DEA II level
4	Marciano Della Chiana	Nuovo Ospedale Valdichiana	6.67	26	Non-DEA ED
6	Marciano Della Chiana	Ospedale Riuniti della Val di Chiana Senese	3.33	21	Non-DEA ED
7	Marciano Della Chiana	Ospedale del Valdarno	2.22	26	Non-DEA ED
7	Marciano Della Chiana	San Giuseppe	2.22	18	Private
9	Marciano Della Chiana	Ospedale S. Stefano di Prato	1.11	67	DEA I level
9	Marciano Della Chiana	Ospedale Misericordia Grosseto	1.11	96	DEA I level
9	Marciano Della Chiana	Ospedale Civile Bibbiena	1.11	62	Disadvant. area
9	Marciano Della Chiana	Ospedale Piero Palagi - I.O.T.	1.11	53	Other
1	Marliana	Ospedale San Jacopo Pistoia	28.38	13	DEA I level
2	Marliana	AOU Meyer	12.16	38	Paed. DEA II
3	Marliana	Ospedale della Valdinievole	10.81	20	Non-DEA ED
4	Marliana	AOU Careggi	6.76	38	DEA II level
5	Marliana	Ospedale S. Stefano di Prato	5.41	24	DEA I level
5	Marliana	Ospedale Piero Palagi - I.O.T.	5.41	43	Other
5	Marliana	Ospedale Fucecchio	5.41	34	Other
8	Marliana	Ospedale Torregalli	4.05	35	DEA I level
8	Marliana	Casa di Cura Santa Rita	4.05	15	Private
10	Marliana	AOU Pisana	2.7	46	DEA II level
10	Marliana	Ospedale San Luca Lucca	2.7	29	DEA I level
12	Marliana	Ospedale S. Giuseppe	1.35	41	DEA I level
12	Marliana	Ospedale Bagno a Ripoli	1.35	39	DEA I level
12	Marliana	Ospedale Unico Versilia	1.35	46	DEA I level
12	Marliana	Ospedale S. Maria Nuova Firenze	1.35	41	Non-DEA ED
12	Marliana	Ospedale Val Tiberina	1.35	117	Disadvant. area
12	Marliana	Ospedale Serristori	1.35	54	Disadvant. area
12	Marliana	Casa di Cura Leonardo	1.35	38	Private
1	Marradi	Ospedale Borgo San Lorenzo	6.58	40	Non-DEA ED
2	Marradi	AOU Meyer	3.95	66	Paed. DEA II
3	Marradi	AOU Careggi	2.63	66	DEA II level
3	Marradi	Ospedale Torregalli	2.63	74	DEA I level
3	Marradi	Ospedale Bagno a Ripoli	2.63	72	DEA I level
3	Marradi	Ospedale S. Maria Nuova Firenze	2.63	68	Non-DEA ED
7	Marradi	AOU Senese	1.32	121	DEA II level
7	Marradi	Ospedale San Jacopo Pistoia	1.32	90	DEA I level
7	Marradi	Casa di Cura Villa Fiorita	1.32	90	Private
1	Massa	Ospedale delle Apuane	36.77	6	DEA I level
2	Massa	Ospedale Civile Carrara	14.13	11	Other
3	Massa	AOU Pisana	8.69	37	DEA II level
4	Massa	AOU Meyer	6.7	74	Paed. DEA II
5	Massa	Ospedale Unico Versilia	4.47	14	DEA I level
6	Massa	Casa di Cura San Camillo Forte dei Marmi	3.64	8	Private
7	Massa	Stella Maris – Calambrone	2.33	35	Other

8	Massa	Ospedale Pediatrico Apuano	1.75	7	FTGM
9	Massa	Ospedale Fivizzano	1.46	37	Non-DEA ED
1	Massa E Cozzile	Ospedale della Valdinievole	20.66	12	Non-DEA ED
2	Massa E Cozzile	Ospedale San Jacopo Pistoia	15.96	12	DEA I level
3	Massa E Cozzile	AOU Meyer	12.21	37	Paed. DEA II
4	Massa E Cozzile	AOU Careggi	9.39	36	DEA II level
5	Massa E Cozzile	Casa di Cura Santa Rita	6.1	4	Private
6	Massa E Cozzile	AOU Pisana	4.69	35	DEA II level
6	Massa E Cozzile	Ospedale San Luca Lucca	4.69	18	DEA I level
8	Massa E Cozzile	AOU Senese	4.23	80	DEA II level
9	Massa E Cozzile	Stella Maris – Calambrone	3.76	38	Other
10	Massa E Cozzile	Ospedale Fucecchio	1.88	24	Other
10	Massa E Cozzile	Casa di Cura Leonardo	1.88	30	Private
12	Massa E Cozzile	Ospedale S.Stefano di Prato	1.41	22	DEA I level
1	Massa Marittima	Ospedale Misericordia Grosseto	31.53	39	DEA I level
2	Massa Marittima	Ospedale S. Andrea Massa Marittima	27.59	5	Non-DEA ED
3	Massa Marittima	AOU Senese	8.87	58	DEA II level
4	Massa Marittima	AOU Meyer	5.42	105	Paed. DEA II
5	Massa Marittima	AOU Pisana	4.43	87	DEA II level
6	Massa Marittima	AOU Careggi	2.96	104	DEA II level
7	Massa Marittima	Stella Maris – Calambrone	1.97	90	Other
8	Massa Marittima	Ospedale Riuniti Livorno	1.48	82	DEA I level
1	Massarosa	Ospedale Unico Versilia	47.67	10	DEA I level
2	Massarosa	AOU Pisana	15.84	26	DEA II level
3	Massarosa	AOU Meyer	6.4	58	Paed. DEA II
4	Massarosa	Ospedale San Luca Lucca	5.67	17	DEA I level
5	Massarosa	Ospedale delle Apuane	2.62	18	DEA I level
6	Massarosa	AOU Careggi	2.03	58	DEA II level
6	Massarosa	Stella Maris – Calambrone	2.03	24	Other
8	Massarosa	Casa di Cura Santa Zita	1.31	15	Private
8	Massarosa	Casa di Cura Ville di Nozzano	1.31	9	Private
10	Massarosa	Casa di Cura San Camillo Forte dei Marmi	1.16	14	Private
1	Minucciano	Ospedale S. Croce Castelnuovo Garfagnana	22.22	26	Non-DEA ED
2	Minucciano	AOU Pisana	15.56	78	DEA II level
3	Minucciano	Ospedale San Luca Lucca	11.11	67	DEA I level
4	Minucciano	Ospedale Unico Versilia	8.89	55	DEA I level
5	Minucciano	Istituto di Fisiologia Clinica - CNR	6.67	74	FTGM
6	Minucciano	AOU Careggi	4.44	110	DEA II level
6	Minucciano	Casa di Cura Santa Rita	4.44	80	Private
8	Minucciano	AOU Meyer	2.22	111	Paed. DEA II
8	Minucciano	AOU Senese	2.22	153	DEA II level
8	Minucciano	Ospedale delle Apuane	2.22	46	DEA I level
8	Minucciano	Ospedale Pontremoli	2.22	46	Non-DEA ED
8	Minucciano	Ospedale S. Francesco Barga	2.22	39	Other
1	Molazzana	Ospedale S. Croce Castelnuovo Garfagnana	41.38	7	Non-DEA ED
2	Molazzana	AOU Pisana	10.34	59	DEA II level
2	Molazzana	Ospedale Unico Versilia	10.34	49	DEA I level
4	Molazzana	AOU Senese	6.9	127	DEA II level
4	Molazzana	Ospedale San Luca Lucca	6.9	40	DEA I level
6	Molazzana	AOU Meyer	3.45	85	Paed. DEA II
6	Molazzana	AOU Careggi	3.45	84	DEA II level
6	Molazzana	Ospedale S. Francesco Barga	3.45	12	Other
6	Molazzana	Ospedale Pediatrico Apuano	3.45	41	FTGM
6	Molazzana	Casa di Cura M.D. Barbantini Santa Chiara	3.45	39	Private
6	Molazzana	Casa di Cura Santa Rita	3.45	54	Private
6	Molazzana	Stella Maris – Calambrone	3.45	63	Other
1	Monsummano Terme	Ospedale della Valdinievole	20.53	18	Non-DEA ED
2	Monsummano Terme	Ospedale San Jacopo Pistoia	15.69	10	DEA I level
3	Monsummano Terme	AOU Meyer	13.36	35	Paed. DEA II
4	Monsummano Terme	AOU Careggi	12.19	35	DEA II level
5	Monsummano Terme	AOU Pisana	7.18	37	DEA II level
6	Monsummano Terme	Casa di Cura Santa Rita	5.68	8	Private
7	Monsummano Terme	Ospedale S.Stefano di Prato	2.84	20	DEA I level
8	Monsummano Terme	Stella Maris – Calambrone	2.5	41	Other

9	Monsummano Terme	Ospedale San Luca Lucca	2.17	21	DEA I level
9	Monsummano Terme	Casa di Cura Leonardo	2.17	23	Private
11	Monsummano Terme	Ospedale Piero Palagi - I.O.T.	1.84	41	Other
12	Monsummano Terme	Ospedale S. Giuseppe	1.67	27	DEA I level
13	Monsummano Terme	Casa di Cura M.D. Barbantini Santa Chiara	1.17	23	Private
14	Monsummano Terme	Ospedale Fucecchio	1	18	Other
1	Montaione	Ospedale S. Giuseppe	30.48	27	DEA I level
2	Montaione	AOU Senese	17.14	49	DEA II level
3	Montaione	AOU Pisana	12.38	47	DEA II level
4	Montaione	AOU Meyer	8.57	53	Paed. DEA II
5	Montaione	AOU Careggi	6.67	52	DEA II level
6	Montaione	Ospedale dell'Alta Val d'Elsa	4.76	29	Non-DEA ED
7	Montaione	Casa di Cura Leonardo	3.81	30	Private
8	Montaione	Ospedale Serristori	1.9	58	Disadvant. area
8	Montaione	Ospedale Piero Palagi - I.O.T.	1.9	46	Other
8	Montaione	Ospedale Fucecchio	1.9	26	Other
1	Montalcino -San Giovanni D'Asso	AOU Senese	61.79	43	DEA II level
2	Montalcino -San Giovanni D'Asso	Ospedale Riuniti della Val di Chiana Senese	7.08	34	Non-DEA ED
3	Montalcino -San Giovanni D'Asso	AOU Meyer	5.19	97	Paed. DEA II
4	Montalcino -San Giovanni D'Asso	Ospedale Abbazia San Salvatore	4.72	33	Disadvant. area
5	Montalcino -San Giovanni D'Asso	Rugani	4.25	44	Private
6	Montalcino -San Giovanni D'Asso	Ospedale dell'Alta Val d'Elsa	2.36	58	Non-DEA ED
7	Montalcino -San Giovanni D'Asso	AOU Careggi	1.89	96	DEA II level
7	Montalcino -San Giovanni D'Asso	San Giuseppe	1.89	54	Private
9	Montalcino -San Giovanni D'Asso	Ospedale Misericordia Grosseto	1.42	55	DEA I level
1	Montale	Ospedale San Jacopo Pistoia	21.82	13	DEA I level
2	Montale	Ospedale S.Stefano di Prato	17.92	11	DEA I level
3	Montale	AOU Careggi	15.31	28	DEA II level
4	Montale	AOU Meyer	12.38	28	Paed. DEA II
5	Montale	Casa di Cura Villa Fiorita	10.42	12	Private
6	Montale	Ospedale della Valdinievole	1.95	32	Non-DEA ED
7	Montale	Stella Maris – Calambrone	1.63	55	Other
8	Montale	Casa di Cura Santa Rita	1.3	21	Private
8	Montale	Casa di Cura Ulivella e Glicini	1.3	28	Private
1	Monte Argentario	Ospedale Misericordia Grosseto	28.88	46	DEA I level
2	Monte Argentario	Ospedale S. Giovanni di Dio Orbetello	25.84	14	Non-DEA ED
3	Monte Argentario	AOU Senese	12.46	119	DEA II level
4	Monte Argentario	AOU Meyer	3.04	173	Paed. DEA II
5	Monte Argentario	AOU Pisana	2.43	146	DEA II level
6	Monte Argentario	Casa di Cura Santa Rita	1.22	170	Private
1	Monte San Savino	Ospedale Area Aretina Nord	34.76	21	DEA I level
2	Monte San Savino	Ospedale Val Tiberina	13.3	54	Disadvant. area
3	Monte San Savino	AOU Senese	7.73	48	DEA II level
4	Monte San Savino	Nuovo Ospedale Valdichiana	6.87	34	Non-DEA ED
5	Monte San Savino	AOU Meyer	6.44	61	Paed. DEA II
6	Monte San Savino	AOU Careggi	5.58	61	DEA II level
6	Monte San Savino	Ospedale del Valdarno	5.58	27	Non-DEA ED
8	Monte San Savino	Centro Chirurgico Toscano	3.43	24	Private
9	Monte San Savino	Ospedale Riuniti della Val di Chiana Senese	1.72	25	Non-DEA ED
9	Monte San Savino	Ospedale Civile Bibbiena	1.72	63	Disadvant. area
11	Monte San Savino	San Giuseppe	1.29	19	Private
1	Montecarlo	Ospedale San Luca Lucca	28.48	13	DEA I level
2	Montecarlo	AOU Meyer	10.76	42	Paed. DEA II
2	Montecarlo	AOU Careggi	10.76	41	DEA II level
2	Montecarlo	AOU Pisana	10.76	29	DEA II level
5	Montecarlo	Ospedale della Valdinievole	4.43	10	Non-DEA ED
6	Montecarlo	Casa di Cura Santa Zita	3.16	15	Private
6	Montecarlo	Stella Maris – Calambrone	3.16	33	Other
8	Montecarlo	Ospedale San Jacopo Pistoia	2.53	17	DEA I level

8	Montecarlo	Ospedale Fucecchio	2.53	21	Other
8	Montecarlo	Casa di Cura M.D. Barbantini Santa Chiara	2.53	14	Private
8	Montecarlo	Casa di Cura Santa Rita	2.53	11	Private
12	Montecarlo	Ospedale S.Stefano di Prato	1.9	27	DEA I level
13	Montecarlo	Ospedale delle Apuane	1.27	36	DEA I level
13	Montecarlo	Ospedale Unico Versilia	1.27	29	DEA I level
13	Montecarlo	Ospedale S. Croce Castelnuovo Garfagnana	1.27	50	Non-DEA ED
1	Montecatini Terme	Ospedale della Valdinievole	21.9	14	Non-DEA ED
2	Montecatini Terme	Ospedale San Jacopo Pistoia	18.41	10	DEA I level
3	Montecatini Terme	AOU Careggi	11.9	35	DEA II level
4	Montecatini Terme	AOU Meyer	11.27	35	Paed. DEA II
5	Montecatini Terme	Casa di Cura Santa Rita	5.71	3	Private
6	Montecatini Terme	AOU Pisana	5.24	35	DEA II level
7	Montecatini Terme	Ospedale S.Stefano di Prato	3.49	20	DEA I level
8	Montecatini Terme	Stella Maris – Calambrone	1.9	38	Other
9	Montecatini Terme	Ospedale S. Giuseppe	1.11	33	DEA I level
9	Montecatini Terme	Casa di Cura Villa Fiorita	1.11	25	Private
1	Montecatini Val Di Cecina	Ospedale Volterra	26.79	18	Non-DEA ED
2	Montecatini Val Di Cecina	AOU Meyer	17.86	86	Paed. DEA II
3	Montecatini Val Di Cecina	AOU Pisana	12.5	51	DEA II level
4	Montecatini Val Di Cecina	Ospedale Filippo Lotti Pontedera	10.71	44	DEA I level
5	Montecatini Val Di Cecina	AOU Senese	5.36	62	DEA II level
5	Montecatini Val Di Cecina	Ospedale Civile di Cecina	5.36	23	Non-DEA ED
5	Montecatini Val Di Cecina	Stella Maris – Calambrone	5.36	56	Other
8	Montecatini Val Di Cecina	Ospedale Riuniti Livorno	3.57	49	DEA I level
9	Montecatini Val Di Cecina	Ospedale Misericordia Grosseto	1.79	86	DEA I level
9	Montecatini Val Di Cecina	Ospedale San Luca Lucca	1.79	66	DEA I level
9	Montecatini Val Di Cecina	Istituto di Fisiologia Clinica - CNR	1.79	54	FTGM
9	Montecatini Val Di Cecina	Casa di Cura Ville di Nozzano	1.79	65	Private
1	Montelupo Fiorentino	Ospedale S. Giuseppe	28.02	10	DEA I level
2	Montelupo Fiorentino	AOU Careggi	17.63	28	DEA II level
3	Montelupo Fiorentino	AOU Meyer	13.77	28	Paed. DEA II
4	Montelupo Fiorentino	Casa di Cura Leonardo	7.73	11	Private
5	Montelupo Fiorentino	Ospedale Piero Palagi - I.O.T.	4.59	28	Other
6	Montelupo Fiorentino	AOU Pisana	3.14	44	DEA II level
6	Montelupo Fiorentino	Ospedale Torregalli	3.14	20	DEA I level
8	Montelupo Fiorentino	Ospedale Filippo Lotti Pontedera	2.17	28	DEA I level
9	Montelupo Fiorentino	Ospedale Bagno a Ripoli	1.69	23	DEA I level
9	Montelupo Fiorentino	Ospedale Fucecchio	1.69	19	Other
11	Montelupo Fiorentino	Stella Maris – Calambrone	1.45	54	Other
12	Montelupo Fiorentino	AOU Senese	1.21	57	DEA II level
1	Montemignaio	Ospedale Civile Bibbiena	28.57	33	Disadvant. area
2	Montemignaio	AOU Careggi	14.29	48	DEA II level
2	Montemignaio	Ospedale Area Aretina Nord	14.29	61	DEA I level
4	Montemignaio	Ospedale del Valdarno	4.76	41	Non-DEA ED
4	Montemignaio	Ospedale Bagno a Ripoli	4.76	37	DEA I level
4	Montemignaio	Ospedale Unico Versilia	4.76	103	DEA I level
4	Montemignaio	Ospedale Serristori	4.76	35	Disadvant. area
4	Montemignaio	Ospedale Piero Palagi - I.O.T.	4.76	40	Other
4	Montemignaio	Casa di Cura Val Di Sieve	4.76	23	Private
1	Montemurlo	Ospedale S.Stefano di Prato	41.25	8	DEA I level
2	Montemurlo	Casa di Cura Villa Fiorita	14.04	9	Private
3	Montemurlo	AOU Meyer	12.65	26	Paed. DEA II
4	Montemurlo	AOU Careggi	11.09	26	DEA II level
5	Montemurlo	Ospedale San Jacopo Pistoia	3.29	12	DEA I level
6	Montemurlo	Stella Maris – Calambrone	1.56	55	Other
7	Montemurlo	Ospedale Piero Palagi - I.O.T.	1.39	31	Other

8	Montemurlo	Ospedale Torregalli	1.21	23	DEA I level
9	Montemurlo	AOU Pisana	1.04	51	DEA II level
9	Montemurlo	Casa di Cura Ulivella e Glicini	1.04	26	Private
1	Montepulciano	Ospedale Riuniti della Val di Chiana Senese	40.85	6	Non-DEA ED
2	Montepulciano	AOU Senese	30	56	DEA II level
3	Montepulciano	Ospedale Area Aretina Nord	5.11	35	DEA I level
4	Montepulciano	AOU Meyer	3.62	75	Paed. DEA II
5	Montepulciano	AOU Careggi	1.91	75	DEA II level
6	Montepulciano	Ospedale Abbazia San Salvatore	1.7	39	Disadvant. area
7	Montepulciano	Rugani	1.49	58	Private
1	Monterchi	Ospedale Area Aretina Nord	42.11	27	DEA I level
2	Monterchi	Ospedale Val Tiberina	28.95	19	Disadvant. area
3	Monterchi	AOU Senese	7.89	85	DEA II level
4	Monterchi	AOU Careggi	5.26	83	DEA II level
5	Monterchi	AOU Meyer	2.63	83	Paed. DEA II
1	Monteriggioni	AOU Senese	67.34	10	DEA II level
2	Monteriggioni	Ospedale dell'Alta Val d'Elsa	10.38	14	Non-DEA ED
3	Monteriggioni	AOU Meyer	6.84	61	Paed. DEA II
4	Monteriggioni	Rugani	3.8	7	Private
5	Monteriggioni	AOU Careggi	1.52	60	DEA II level
1	Monteroni D'Arbia	AOU Senese	78.45	21	DEA II level
2	Monteroni D'Arbia	AOU Meyer	6.77	81	Paed. DEA II
3	Monteroni D'Arbia	Ospedale dell'Alta Val d'Elsa	3.51	34	Non-DEA ED
4	Monteroni D'Arbia	Rugani	3.01	21	Private
5	Monteroni D'Arbia	AOU Pisana	1.5	105	DEA II level
6	Monteroni D'Arbia	AOU Careggi	1	81	DEA II level
6	Monteroni D'Arbia	Ospedale Misericordia Grosseto	1	70	DEA I level
6	Monteroni D'Arbia	Ospedale Riuniti della Val di Chiana Senese	1	49	Non-DEA ED
1	Monterotondo Marittimo	Ospedale Misericordia Grosseto	24.14	54	DEA I level
2	Monterotondo Marittimo	Ospedale S. Andrea Massa Marittima	20.69	20	Non-DEA ED
3	Monterotondo Marittimo	AOU Senese	10.34	60	DEA II level
3	Monterotondo Marittimo	Ospedale Villa Marina Piombino	10.34	42	Non-DEA ED
5	Monterotondo Marittimo	Stella Maris – Calambrone	6.9	76	Other
6	Monterotondo Marittimo	AOU Careggi	3.45	102	DEA II level
6	Monterotondo Marittimo	AOU Pisana	3.45	73	DEA II level
6	Monterotondo Marittimo	Ospedale S. Giuseppe	3.45	89	DEA I level
6	Monterotondo Marittimo	Ospedale Volterra	3.45	44	Non-DEA ED
6	Monterotondo Marittimo	Casa di Cura Leonardo	3.45	92	Private
1	Montescudaio	Ospedale Civile di Cecina	36.23	6	Non-DEA ED
2	Montescudaio	AOU Pisana	23.19	38	DEA II level
3	Montescudaio	AOU Meyer	11.59	89	Paed. DEA II
4	Montescudaio	Ospedale Riuniti Livorno	7.25	33	DEA I level
5	Montescudaio	AOU Careggi	4.35	88	DEA II level
6	Montescudaio	Casa di Cura Santa Rita	2.9	62	Private
6	Montescudaio	Casa di Cura Val Di Sieve	2.9	100	Private
8	Montescudaio	Ospedale Unico Versilia	1.45	52	DEA I level
8	Montescudaio	Ospedale Pediatrico Apuano	1.45	60	FTGM
8	Montescudaio	Casa di Cura Santa Zita	1.45	52	Private
1	Montespertoli	Ospedale S. Giuseppe	22.8	19	DEA I level
2	Montespertoli	AOU Careggi	20.6	33	DEA II level
3	Montespertoli	AOU Meyer	14.01	34	Paed. DEA II
4	Montespertoli	Ospedale Piero Palagi - I.O.T.	6.04	27	Other
5	Montespertoli	Ospedale Torregalli	4.67	23	DEA I level
6	Montespertoli	Casa di Cura Leonardo	3.85	21	Private
7	Montespertoli	AOU Senese	3.57	48	DEA II level
8	Montespertoli	Casa di Cura Val Di Sieve	2.47	40	Private
9	Montespertoli	Ospedale San Jacopo Pistoia	1.92	39	DEA I level
10	Montespertoli	AOU Pisana	1.65	53	DEA II level
10	Montespertoli	Ospedale Bagno a Ripoli	1.65	24	DEA I level

12	Montespertoli	Ospedale S.Stefano di Prato	1.37	34	DEA I level
13	Montespertoli	Ospedale Serristori	1.1	39	Disadvant. area
13	Montespertoli	Casa di Cura Villa Fiorita	1.1	38	Private
1	Montevarchi	Ospedale del Valdarno	40.36	5	Non-DEA ED
2	Montevarchi	AOU Meyer	12.15	42	Paed. DEA II
3	Montevarchi	Ospedale Area Aretina Nord	11.59	24	DEA I level
4	Montevarchi	AOU Careggi	9.5	41	DEA II level
5	Montevarchi	AOU Senese	9.36	40	DEA II level
6	Montevarchi	Ospedale Val Tiberina	1.68	61	Disadvant. area
7	Montevarchi	Casa di Cura Val Di Sieve	1.54	32	Private
8	Montevarchi	Casa di Cura Frate Sole	1.4	14	Private
9	Montevarchi	Ospedale Serristori	1.12	14	Disadvant. area
1	Monteverdi Marittimo	AOU Pisana	29.41	60	DEA II level
2	Monteverdi Marittimo	Ospedale Riuniti Livorno	23.53	55	DEA I level
3	Monteverdi Marittimo	Ospedale Villa Marina Piombino	11.76	41	Non-DEA ED
4	Monteverdi Marittimo	AOU Meyer	5.88	108	Paed. DEA II
4	Monteverdi Marittimo	AOU Careggi	5.88	107	DEA II level
4	Monteverdi Marittimo	AOU Senese	5.88	73	DEA II level
4	Monteverdi Marittimo	Ospedale Civile di Cecina	5.88	29	Non-DEA ED
4	Monteverdi Marittimo	Casa di Cura San Camillo Forte dei Marmi	5.88	78	Private
1	Monticiano	AOU Senese	66	34	DEA II level
2	Monticiano	Ospedale dell'Alta Val d'Elsa	12	39	Non-DEA ED
3	Monticiano	AOU Meyer	4	87	Paed. DEA II
4	Monticiano	AOU Careggi	2	86	DEA II level
4	Monticiano	Ospedale Piero Palagi - I.O.T.	2	78	Other
4	Monticiano	Rugani	2	34	Private
1	Montieri	Ospedale Misericordia Grosseto	31.58	45	DEA I level
2	Montieri	AOU Pisana	21.05	92	DEA II level
2	Montieri	Ospedale S. Andrea Massa Marittima	21.05	19	Non-DEA ED
4	Montieri	AOU Senese	10.53	44	DEA II level
5	Montieri	AOU Meyer	5.26	90	Paed. DEA II
5	Montieri	AOU Careggi	5.26	90	DEA II level
5	Montieri	Ospedale Torregalli	5.26	79	DEA I level
1	Montignoso	Ospedale delle Apuane	31.75	8	DEA I level
2	Montignoso	Ospedale Civile Carrara	12.7	14	Other
3	Montignoso	AOU Pisana	11.75	35	DEA II level
4	Montignoso	Ospedale Unico Versilia	10.48	12	DEA I level
5	Montignoso	AOU Meyer	6.35	73	Paed. DEA II
6	Montignoso	Stella Maris – Calambrone	4.76	33	Other
7	Montignoso	Casa di Cura San Camillo Forte dei Marmi	4.13	7	Private
8	Montignoso	Ospedale Pediatrico Apuano	3.81	5	FTGM
9	Montignoso	Ospedale S.Stefano di Prato	1.59	58	DEA I level
9	Montignoso	Casa di Cura Ville di Nozzano	1.59	24	Private
11	Montignoso	Ospedale Fivizzano	1.27	40	Non-DEA ED
11	Montignoso	Casa di Cura M.D. Barbantini Santa Chiara	1.27	29	Private
1	Montopoli In Val D'Arno	AOU Pisana	20.29	27	DEA II level
2	Montopoli In Val D'Arno	Ospedale S. Giuseppe	19.12	16	DEA I level
3	Montopoli In Val D'Arno	Ospedale Filippo Lotti Pontedera	12.35	11	DEA I level
4	Montopoli In Val D'Arno	AOU Meyer	8.82	46	Paed. DEA II
5	Montopoli In Val D'Arno	AOU Careggi	5.59	45	DEA II level
6	Montopoli In Val D'Arno	Casa di Cura Leonardo	5.29	19	Private
7	Montopoli In Val D'Arno	Ospedale Riuniti Livorno	2.65	33	DEA I level
7	Montopoli In Val D'Arno	Stella Maris – Calambrone	2.65	37	Other
9	Montopoli In Val D'Arno	Ospedale San Jacopo Pistoia	2.06	34	DEA I level
9	Montopoli In Val D'Arno	Ospedale della Valdinievole	2.06	32	Non-DEA ED
9	Montopoli In Val D'Arno	Ospedale Fucecchio	2.06	13	Other

9	Montopoli In Val D'Arno	Istituto di Fisiologia Clinica - CNR	2.06	29	FTGM
13	Montopoli In Val D'Arno	AOU Senese	1.76	72	DEA II level
14	Montopoli In Val D'Arno	Ospedale Volterra	1.47	45	Non-DEA ED
15	Montopoli In Val D'Arno	Ospedale San Luca Lucca	1.18	30	DEA I level
1	Mulazzo	Ospedale delle Apuane	14.29	27	DEA I level
2	Mulazzo	Ospedale Pontremoli	12.5	11	Non-DEA ED
3	Mulazzo	Ospedale Fivizzano	5.36	25	Non-DEA ED
3	Mulazzo	Ospedale Civile Carrara	5.36	34	Other
5	Mulazzo	AOU Meyer	1.79	97	Paed. DEA II
5	Mulazzo	AOU Senese	1.79	140	DEA II level
5	Mulazzo	Ospedale Filippo Lotti Pontedera	1.79	73	DEA I level
5	Mulazzo	Ospedale San Luca Lucca	1.79	55	DEA I level
5	Mulazzo	Ospedale Pediatrico Apuano	1.79	33	FTGM
5	Mulazzo	Casa di Cura Santa Rita	1.79	66	Private
5	Mulazzo	Stella Maris – Calambrone	1.79	58	Other
1	Murlo	AOU Senese	75.24	26	DEA II level
2	Murlo	AOU Meyer	3.81	87	Paed. DEA II
3	Murlo	Ospedale dell'Alta Val d'Elsa	2.86	40	Non-DEA ED
3	Murlo	Rugani	2.86	26	Private
5	Murlo	Ospedale Misericordia Grosseto	1.9	59	DEA I level
1	Orbetello	Ospedale Misericordia Grosseto	32.6	34	DEA I level
2	Orbetello	Ospedale S. Giovanni di Dio Orbetello	24.02	7	Non-DEA ED
3	Orbetello	AOU Senese	8.33	107	DEA II level
4	Orbetello	AOU Meyer	5.15	160	Paed. DEA II
5	Orbetello	AOU Pisana	2.7	134	DEA II level
6	Orbetello	Stella Maris – Calambrone	2.21	136	Other
7	Orbetello	AOU Careggi	1.47	159	DEA II level
1	Orciano Pisano	AOU Pisana	62.5	23	DEA II level
2	Orciano Pisano	Ospedale Filippo Lotti Pontedera	12.5	25	DEA I level
2	Orciano Pisano	Ospedale Riuniti Livorno	12.5	18	DEA I level
4	Orciano Pisano	AOU Meyer	6.25	74	Paed. DEA II
4	Orciano Pisano	Casa di Cura Leonardo	6.25	47	Private
1	Ortignano Raggiolo	Ospedale Civile Bibbiena	42.86	14	Disadvant. area
2	Ortignano Raggiolo	AOU Careggi	23.81	73	DEA II level
3	Ortignano Raggiolo	Ospedale Area Aretina Nord	14.29	55	DEA I level
4	Ortignano Raggiolo	AOU Senese	4.76	108	DEA II level
4	Ortignano Raggiolo	Ospedale S.Stefano di Prato	4.76	84	DEA I level
4	Ortignano Raggiolo	Ospedale Torregalli	4.76	71	DEA I level
4	Ortignano Raggiolo	Ospedale Val Tiberina	4.76	64	Disadvant. area
1	Palaia	AOU Pisana	28.76	29	DEA II level
2	Palaia	Ospedale Filippo Lotti Pontedera	22.22	14	DEA I level
3	Palaia	Ospedale Volterra	13.73	34	Non-DEA ED
4	Palaia	AOU Meyer	9.15	56	Paed. DEA II
5	Palaia	Stella Maris – Calambrone	4.58	39	Other
6	Palaia	Ospedale Riuniti Livorno	3.92	36	DEA I level
7	Palaia	Casa di Cura Santa Zita	3.27	42	Private
8	Palaia	Ospedale Unico Versilia	1.96	50	DEA I level
9	Palaia	Ospedale San Luca Lucca	1.31	40	DEA I level
9	Palaia	Istituto di Fisiologia Clinica - CNR	1.31	32	FTGM
1	Palazzuolo Sul Senio	AOU Meyer	10.34	65	Paed. DEA II
2	Palazzuolo Sul Senio	Ospedale Borgo San Lorenzo	6.9	39	Non-DEA ED
1	Peccioli	AOU Pisana	25	33	DEA II level
1	Peccioli	Ospedale Filippo Lotti Pontedera	25	21	DEA I level
3	Peccioli	Ospedale Volterra	17.57	27	Non-DEA ED
4	Peccioli	AOU Meyer	12.16	66	Paed. DEA II
5	Peccioli	Stella Maris – Calambrone	3.38	43	Other
6	Peccioli	AOU Senese	2.03	63	DEA II level
6	Peccioli	Istituto di Fisiologia Clinica - CNR	2.03	36	FTGM
8	Peccioli	AOU Careggi	1.35	65	DEA II level
8	Peccioli	Ospedale delle Apuane	1.35	61	DEA I level
8	Peccioli	Ospedale Fucecchio	1.35	33	Other
1	Pelago	AOU Careggi	27.65	32	DEA II level
2	Pelago	Casa di Cura Val Di Sieve	17.41	5	Private
3	Pelago	AOU Meyer	15.02	32	Paed. DEA II

4	Pelago	Ospedale Bagno a Ripoli	10.24	20	DEA I level
4	Pelago	Ospedale Piero Palagi - I.O.T.	10.24	23	Other
6	Pelago	Ospedale Serristori	5.46	23	Disadvant. area
7	Pelago	AOU Senese	1.71	68	DEA II level
7	Pelago	Ospedale Borgo San Lorenzo	1.71	36	Non-DEA ED
9	Pelago	Ospedale S. Maria Nuova Firenze	1.37	25	Non-DEA ED
1	Pescaglia	Ospedale San Luca Lucca	33.64	19	DEA I level
2	Pescaglia	AOU Meyer	14.95	66	Paed. DEA II
3	Pescaglia	AOU Pisana	13.08	38	DEA II level
4	Pescaglia	Ospedale S. Croce Castelnuovo Garfagnana	8.41	38	Non-DEA ED
5	Pescaglia	Ospedale S. Francesco Barga	7.48	32	Other
6	Pescaglia	Casa di Cura M.D. Barbantini Santa Chiara	6.54	17	Private
7	Pescaglia	Ospedale Unico Versilia	4.67	24	DEA I level
8	Pescaglia	AOU Careggi	2.8	66	DEA II level
9	Pescaglia	Ospedale della Valdinievole	1.87	38	Non-DEA ED
1	Pescia	Ospedale della Valdinievole	28.41	4	Non-DEA ED
2	Pescia	AOU Meyer	12.73	45	Paed. DEA II
3	Pescia	Ospedale San Jacopo Pistoia	11.99	19	DEA I level
4	Pescia	AOU Careggi	8.3	44	DEA II level
5	Pescia	AOU Pisana	7.01	37	DEA II level
6	Pescia	Casa di Cura Santa Rita	6.27	14	Private
7	Pescia	Ospedale San Luca Lucca	4.98	20	DEA I level
8	Pescia	Ospedale S.Stefano di Prato	2.77	30	DEA I level
9	Pescia	Casa di Cura Leonardo	2.03	37	Private
10	Pescia	Stella Maris – Calambrone	1.66	41	Other
11	Pescia	AOU Senese	1.29	87	DEA II level
1	Piancastagnaio	AOU Senese	33.33	78	DEA II level
2	Piancastagnaio	Ospedale Abbazia San Salvatore	24.18	7	Disadvant. area
3	Piancastagnaio	Ospedale Riuniti della Val di Chiana Senese	17.65	45	Non-DEA ED
4	Piancastagnaio	AOU Meyer	4.58	113	Paed. DEA II
4	Piancastagnaio	Ospedale Misericordia Grosseto	4.58	68	DEA I level
6	Piancastagnaio	Ospedale S. Giovanni di Dio Orbetello	1.96	76	Non-DEA ED
7	Piancastagnaio	Ospedale Area Aretina Nord	1.31	73	DEA I level
1	Piazza Al Serchio	Ospedale S. Croce Castelnuovo Garfagnana	30.3	17	Non-DEA ED
2	Piazza Al Serchio	AOU Pisana	15.15	78	DEA II level
3	Piazza Al Serchio	Ospedale S. Francesco Barga	10.61	30	Other
4	Piazza Al Serchio	Ospedale San Luca Lucca	9.09	59	DEA I level
5	Piazza Al Serchio	Ospedale Unico Versilia	7.58	57	DEA I level
6	Piazza Al Serchio	Casa di Cura M.D. Barbantini Santa Chiara	4.55	58	Private
7	Piazza Al Serchio	AOU Meyer	3.03	104	Paed. DEA II
8	Piazza Al Serchio	AOU Careggi	1.52	103	DEA II level
8	Piazza Al Serchio	AOU Senese	1.52	146	DEA II level
8	Piazza Al Serchio	Ospedale S.Stefano di Prato	1.52	89	DEA I level
8	Piazza Al Serchio	Ospedale delle Apuane	1.52	51	DEA I level
8	Piazza Al Serchio	Casa di Cura Santa Rita	1.52	73	Private
8	Piazza Al Serchio	Stella Maris – Calambrone	1.52	78	Other
1	Pienza	AOU Senese	40.28	55	DEA II level
2	Pienza	Ospedale Riuniti della Val di Chiana Senese	31.94	18	Non-DEA ED
3	Pienza	AOU Meyer	4.17	87	Paed. DEA II
4	Pienza	AOU Careggi	1.39	87	DEA II level
4	Pienza	Ospedale Area Aretina Nord	1.39	47	DEA I level
4	Pienza	Ospedale Misericordia Grosseto	1.39	70	DEA I level
4	Pienza	Ospedale Bagno a Ripoli	1.39	70	DEA I level
4	Pienza	Casa di Cura Ulivella e Glicini	1.39	86	Private
1	Pietrasanta	Ospedale Unico Versilia	50.21	7	DEA I level
2	Pietrasanta	AOU Pisana	10.91	30	DEA II level
3	Pietrasanta	AOU Meyer	4.34	67	Paed. DEA II
4	Pietrasanta	Stella Maris – Calambrone	3.78	28	Other
5	Pietrasanta	Ospedale delle Apuane	3.5	11	DEA I level
5	Pietrasanta	Casa di Cura San Camillo Forte dei Marmi	3.5	6	Private
7	Pietrasanta	Ospedale San Luca Lucca	2.38	26	DEA I level
8	Pietrasanta	AOU Careggi	1.96	67	DEA II level
9	Pietrasanta	Ospedale Pediatrico Apuano	1.82	11	FTGM

10	Pietrasanta	Ospedale Civile Carrara	1.12	20	Other
10	Pietrasanta	Casa di Cura M.D. Barbantini Santa Chiara	1.12	24	Private
1	Pieve A Nievole	Ospedale della Valdinievole	22.18	15	Non-DEA ED
2	Pieve A Nievole	AOU Meyer	15.32	34	Paed. DEA II
3	Pieve A Nievole	Ospedale San Jacopo Pistoia	14.11	9	DEA I level
4	Pieve A Nievole	AOU Careggi	10.89	33	DEA II level
5	Pieve A Nievole	Casa di Cura Santa Rita	6.45	5	Private
6	Pieve A Nievole	Stella Maris – Calambrone	4.84	38	Other
7	Pieve A Nievole	Ospedale S.Stefano di Prato	3.63	19	DEA I level
8	Pieve A Nievole	AOU Pisana	3.23	34	DEA II level
9	Pieve A Nievole	Ospedale San Luca Lucca	1.21	18	DEA I level
9	Pieve A Nievole	Ospedale Civile Bibbiena	1.21	93	Disadvant. area
9	Pieve A Nievole	Ospedale Piero Palagi - I.O.T.	1.21	39	Other
9	Pieve A Nievole	Casa di Cura Leonardo	1.21	27	Private
1	Pieve Fosciana	Ospedale Unico Versilia	23.53	48	DEA I level
2	Pieve Fosciana	Ospedale S. Croce Castelnuovo Garfagnana	17.65	3	Non-DEA ED
3	Pieve Fosciana	Ospedale San Luca Lucca	14.71	46	DEA I level
4	Pieve Fosciana	AOU Meyer	11.76	90	Paed. DEA II
4	Pieve Fosciana	AOU Pisana	11.76	65	DEA II level
6	Pieve Fosciana	Ospedale S. Francesco Barga	5.88	17	Other
7	Pieve Fosciana	Ospedale Pediatrico Apuano	4.41	40	FTGM
8	Pieve Fosciana	AOU Senese	2.94	133	DEA II level
9	Pieve Fosciana	AOU Careggi	1.47	90	DEA II level
9	Pieve Fosciana	Ospedale S. Giuseppe	1.47	82	DEA I level
9	Pieve Fosciana	Casa di Cura San Camillo Forte dei Marmi	1.47	44	Private
1	Pieve Santo Stefano	Ospedale Val Tiberina	36.14	15	Disadvant. area
2	Pieve Santo Stefano	Ospedale Area Aretina Nord	26.51	45	DEA I level
3	Pieve Santo Stefano	AOU Meyer	4.82	101	Paed. DEA II
4	Pieve Santo Stefano	AOU Careggi	3.61	101	DEA II level
5	Pieve Santo Stefano	Ospedale Civile Bibbiena	2.41	53	Disadvant. area
5	Pieve Santo Stefano	Centro Chirurgico Toscano	2.41	44	Private
7	Pieve Santo Stefano	AOU Pisana	1.2	149	DEA II level
7	Pieve Santo Stefano	Nuovo Ospedale Valdichiana	1.2	74	Non-DEA ED
1	Piombino	Ospedale Villa Marina Piombino	38.82	4	Non-DEA ED
2	Piombino	AOU Pisana	18.78	71	DEA II level
3	Piombino	AOU Meyer	7.28	122	Paed. DEA II
4	Piombino	Ospedale Riuniti Livorno	6.75	66	DEA I level
5	Piombino	Ospedale Civile di Cecina	5.59	38	Non-DEA ED
6	Piombino	Stella Maris – Calambrone	2.53	74	Other
7	Piombino	AOU Senese	2.32	93	DEA II level
8	Piombino	AOU Careggi	2	122	DEA II level
9	Piombino	Casa di Cura Santa Rita	1.37	95	Private
10	Piombino	Ospedale delle Apuane	1.05	93	DEA I level
10	Piombino	Casa di Cura Santa Zita	1.05	86	Private
1	Pisa	AOU Pisana	62.76	8	DEA II level
2	Pisa	Stella Maris – Calambrone	6.16	13	Other
3	Pisa	AOU Meyer	5.34	65	Paed. DEA II
4	Pisa	Ospedale Filippo Lotti Pontedera	3.51	23	DEA I level
5	Pisa	Istituto di Fisiologia Clinica - CNR	2.48	7	FTGM
6	Pisa	Ospedale Riuniti Livorno	1.16	20	DEA I level
7	Pisa	AOU Senese	1.12	93	DEA II level
8	Pisa	Ospedale San Luca Lucca	1.02	23	DEA I level
8	Pisa	Casa di Cura Santa Zita	1.02	21	Private
1	Pistoia	Ospedale San Jacopo Pistoia	34.46	5	DEA I level
2	Pistoia	AOU Meyer	12.69	30	Paed. DEA II
3	Pistoia	AOU Careggi	11.22	29	DEA II level
4	Pistoia	Ospedale S.Stefano di Prato	5.3	15	DEA I level
5	Pistoia	Ospedale della Valdinievole	4.41	24	Non-DEA ED
6	Pistoia	AOU Pisana	3.79	44	DEA II level
7	Pistoia	Casa di Cura Villa Fiorita	3.75	19	Private
8	Pistoia	Casa di Cura Santa Rita	3.46	14	Private
9	Pistoia	Ospedale Fucecchio	2.87	31	Other
10	Pistoia	Ospedale Piero Palagi - I.O.T.	1.95	35	Other
11	Pistoia	Stella Maris – Calambrone	1.66	48	Other
12	Pistoia	Casa di Cura Leonardo	1.32	31	Private
13	Pistoia	AOU Senese	1.03	72	DEA II level

1	Pitigliano	Ospedale Misericordia Grosseto	42.71	63	DEA I level
2	Pitigliano	Ospedale S. Giovanni di Dio Orbetello	16.67	48	Non-DEA ED
3	Pitigliano	AOU Senese	13.54	112	DEA II level
4	Pitigliano	AOU Meyer	3.13	136	Paed. DEA II
5	Pitigliano	AOU Pisana	1.04	162	DEA II level
5	Pitigliano	Ospedale S. Andrea Massa Marittima	1.04	96	Non-DEA ED
5	Pitigliano	Ospedale Abbadia San Salvatore	1.04	41	Disadvant. area
1	Podenzana	Ospedale Fivizzano	11.29	22	Non-DEA ED
2	Podenzana	Ospedale delle Apuane	9.68	19	DEA I level
3	Podenzana	Ospedale Civile Carrara	8.06	26	Other
4	Podenzana	Ospedale Pontremoli	6.45	22	Non-DEA ED
5	Podenzana	AOU Meyer	4.84	89	Paed. DEA II
5	Podenzana	Stella Maris – Calambrone	4.84	50	Other
7	Podenzana	AOU Pisana	3.23	52	DEA II level
7	Podenzana	Casa di Cura Santa Rita	3.23	58	Private
9	Podenzana	Ospedale San Jacopo Pistoia	1.61	64	DEA I level
9	Podenzana	Ospedale Unico Versilia	1.61	29	DEA I level
9	Podenzana	Istituto di Fisiologia Clinica - CNR	1.61	48	FTGM
9	Podenzana	Casa di Cura M.D. Barbantini Santa Chiara	1.61	46	Private
9	Podenzana	Casa di Cura San Camillo Forte dei Marmi	1.61	23	Private
1	Poggibonsi	AOU Senese	41.23	23	DEA II level
2	Poggibonsi	Ospedale dell'Alta Val d'Elsa	34.61	4	Non-DEA ED
3	Poggibonsi	AOU Meyer	8.15	48	Paed. DEA II
4	Poggibonsi	AOU Careggi	3.26	48	DEA II level
5	Poggibonsi	Rugani	1.63	19	Private
6	Poggibonsi	AOU Pisana	1.25	73	DEA II level
1	Poggio A Caiano	Ospedale S.Stefano di Prato	32.06	12	DEA I level
2	Poggio A Caiano	AOU Careggi	16.79	22	DEA II level
3	Poggio A Caiano	AOU Meyer	14.89	23	Paed. DEA II
4	Poggio A Caiano	Casa di Cura Villa Fiorita	8.4	16	Private
5	Poggio A Caiano	Ospedale Piero Palagi - I.O.T.	3.82	24	Other
6	Poggio A Caiano	AOU Senese	2.67	63	DEA II level
7	Poggio A Caiano	Ospedale San Jacopo Pistoia	1.91	17	DEA I level
7	Poggio A Caiano	Ospedale Serristori	1.91	35	Disadvant. area
9	Poggio A Caiano	AOU Pisana	1.53	55	DEA II level
9	Poggio A Caiano	Casa di Cura Leonardo	1.53	20	Private
11	Poggio A Caiano	Ospedale Torregalli	1.15	17	DEA I level
11	Poggio A Caiano	Ospedale S. Maria Nuova Firenze	1.15	24	Non-DEA ED
1	Pomarance	Ospedale Volterra	28.67	23	Non-DEA ED
2	Pomarance	AOU Pisana	24.67	65	DEA II level
3	Pomarance	AOU Senese	12.67	55	DEA II level
4	Pomarance	Ospedale Filippo Lotti Pontedera	5.33	54	DEA I level
5	Pomarance	Stella Maris – Calambrone	4.67	69	Other
6	Pomarance	AOU Meyer	4	89	Paed. DEA II
7	Pomarance	AOU Careggi	2.67	89	DEA II level
7	Pomarance	Ospedale Civile di Cecina	2.67	35	Non-DEA ED
9	Pomarance	Casa di Cura Santa Zita	2	81	Private
9	Pomarance	Casa di Cura Val Di Sieve	2	93	Private
11	Pomarance	Ospedale delle Apuane	1.33	88	DEA I level
11	Pomarance	Ospedale Riuniti Livorno	1.33	62	DEA I level
11	Pomarance	Ospedale San Luca Lucca	1.33	80	DEA I level
1	Ponsacco	AOU Pisana	33.56	19	DEA II level
2	Ponsacco	Ospedale Filippo Lotti Pontedera	26.21	7	DEA I level
3	Ponsacco	Ospedale Volterra	9.43	38	Non-DEA ED
4	Ponsacco	AOU Meyer	8.05	56	Paed. DEA II
5	Ponsacco	Stella Maris – Calambrone	4.6	29	Other
6	Ponsacco	Casa di Cura Santa Zita	2.76	36	Private
7	Ponsacco	Ospedale Riuniti Livorno	2.53	25	DEA I level
1	Pontassieve	AOU Careggi	25.77	27	DEA II level
2	Pontassieve	AOU Meyer	15.23	27	Paed. DEA II
3	Pontassieve	Casa di Cura Val Di Sieve	10.98	7	Private
4	Pontassieve	Ospedale Bagno a Ripoli	10.54	19	DEA I level
5	Pontassieve	Ospedale Piero Palagi - I.O.T.	10.25	19	Other
6	Pontassieve	Ospedale Serristori	8.78	27	Disadvant. area
7	Pontassieve	Ospedale Torregalli	3.51	27	DEA I level

8	Pontassieve	Ospedale Borgo San Lorenzo	2.2	29	Non-DEA ED
9	Pontassieve	Ospedale S. Maria Nuova Firenze	1.76	22	Non-DEA ED
10	Pontassieve	Stella Maris – Calambrone	1.17	87	Other
1	Ponte Buggianese	Ospedale della Valdinievole	24.52	13	Non-DEA ED
2	Ponte Buggianese	Ospedale San Jacopo Pistoia	14.94	13	DEA I level
3	Ponte Buggianese	AOU Meyer	11.49	39	Paed. DEA II
4	Ponte Buggianese	AOU Careggi	7.28	38	DEA II level
4	Ponte Buggianese	Casa di Cura Santa Rita	7.28	8	Private
6	Ponte Buggianese	AOU Pisana	6.51	33	DEA II level
7	Ponte Buggianese	Ospedale San Luca Lucca	4.6	16	DEA I level
8	Ponte Buggianese	Ospedale Fucecchio	3.45	21	Other
9	Ponte Buggianese	AOU Senese	2.3	81	DEA II level
9	Ponte Buggianese	Ospedale S.Stefano di Prato	2.3	24	DEA I level
9	Ponte Buggianese	Ospedale Piero Palagi - I.O.T.	2.3	45	Other
12	Ponte Buggianese	Stella Maris – Calambrone	1.92	37	Other
1	Pontedera	Ospedale Filippo Lotti Pontedera	33.04	4	DEA I level
2	Pontedera	AOU Pisana	26.99	21	DEA II level
3	Pontedera	AOU Meyer	8.95	54	Paed. DEA II
4	Pontedera	Ospedale Volterra	7.31	42	Non-DEA ED
5	Pontedera	Stella Maris – Calambrone	5.42	31	Other
6	Pontedera	AOU Careggi	1.77	53	DEA II level
7	Pontedera	AOU Senese	1.64	75	DEA II level
7	Pontedera	Ospedale Riuniti Livorno	1.64	28	DEA I level
9	Pontedera	Istituto di Fisiologia Clinica - CNR	1.51	24	FTGM
1	Pontremoli	Ospedale Pontremoli	20.65	5	Non-DEA ED
2	Pontremoli	Ospedale delle Apuane	15.76	32	DEA I level
3	Pontremoli	Ospedale Civile Carrara	8.7	39	Other
4	Pontremoli	AOU Meyer	6.52	102	Paed. DEA II
5	Pontremoli	AOU Pisana	5.98	65	DEA II level
6	Pontremoli	Ospedale Fivizzano	3.8	31	Non-DEA ED
7	Pontremoli	AOU Careggi	1.63	101	DEA II level
7	Pontremoli	Stella Maris – Calambrone	1.63	63	Other
9	Pontremoli	Ospedale Pediatrico Apuano	1.09	38	FTGM
9	Pontremoli	Casa di Cura M.D. Barbantini Santa Chiara	1.09	59	Private
9	Pontremoli	Casa di Cura Santa Rita	1.09	71	Private
1	Poppi	Ospedale Area Aretina Nord	23.4	56	DEA I level
2	Poppi	Ospedale Civile Bibbiena	19.86	13	Disadvant. area
3	Poppi	AOU Meyer	18.44	65	Paed. DEA II
4	Poppi	AOU Careggi	9.22	65	DEA II level
5	Poppi	Ospedale Val Tiberina	6.38	64	Disadvant. area
6	Poppi	AOU Senese	4.26	100	DEA II level
7	Poppi	Ospedale del Valdarno	2.84	61	Non-DEA ED
8	Poppi	AOU Pisana	1.42	118	DEA II level
8	Poppi	Nuovo Ospedale Valdichiana	1.42	95	Non-DEA ED
8	Poppi	Ospedale Piero Palagi - I.O.T.	1.42	56	Other
8	Poppi	Centro Chirurgico Toscano	1.42	52	Private
1	Porcari	Ospedale San Luca Lucca	44.62	10	DEA I level
2	Porcari	AOU Pisana	14.34	27	DEA II level
3	Porcari	AOU Meyer	8.37	45	Paed. DEA II
4	Porcari	Casa di Cura Santa Zita	5.58	13	Private
5	Porcari	Ospedale S. Francesco Barga	3.19	40	Other
6	Porcari	Casa di Cura M.D. Barbantini Santa Chiara	2.79	12	Private
7	Porcari	Ospedale Unico Versilia	2.39	27	DEA I level
7	Porcari	Stella Maris – Calambrone	2.39	31	Other
9	Porcari	Ospedale S. Croce Castelnuovo Garfagnana	1.99	46	Non-DEA ED
9	Porcari	Istituto di Fisiologia Clinica - CNR	1.99	24	FTGM
11	Porcari	Ospedale della Valdinievole	1.2	15	Non-DEA ED
1	Porto Azzurro	Ospedale Civile Elbano Portoferraio	33.33	13	Non-DEA ED
1	Portoferraio	Ospedale Civile Elbano Portoferraio	35.23	3	Non-DEA ED
1	Prato	Ospedale S.Stefano di Prato	39.63	6	DEA I level
2	Prato	AOU Meyer	13.57	21	Paed. DEA II
3	Prato	Casa di Cura Villa Fiorita	12.62	8	Private
4	Prato	AOU Careggi	12.16	20	DEA II level
5	Prato	Ospedale Piero Palagi - I.O.T.	1.71	25	Other

6	Prato	AOU Senese	1.69	63	DEA II level
7	Prato	Ospedale San Jacopo Pistoia	1.67	14	DEA I level
8	Prato	AOU Pisana	1.3	52	DEA II level
9	Prato	Ospedale Serristori	1	36	Disadvant. area
1	Pratovecchio Stia	Ospedale Civile Bibbiena	20.59	29	Disadvant. area
2	Pratovecchio Stia	Ospedale Area Aretina Nord	19.85	71	DEA I level
3	Pratovecchio Stia	AOU Careggi	15.44	59	DEA II level
4	Pratovecchio Stia	AOU Meyer	13.24	60	Paed. DEA II
5	Pratovecchio Stia	Ospedale Val Tiberina	5.88	80	Disadvant. area
6	Pratovecchio Stia	AOU Senese	5.15	94	DEA II level
7	Pratovecchio Stia	Ospedale Torregalli	2.94	57	DEA I level
7	Pratovecchio Stia	Centro Chirurgico Toscano	2.94	67	Private
9	Pratovecchio Stia	Ospedale Piero Palagi - I.O.T.	2.21	50	Other
10	Pratovecchio Stia	Ospedale del Valdarno	1.47	56	Non-DEA ED
10	Pratovecchio Stia	Casa di Cura Val Di Sieve	1.47	34	Private
1	Quarrata	Ospedale San Jacopo Pistoia	21.28	12	DEA I level
2	Quarrata	AOU Meyer	18.24	27	Paed. DEA II
3	Quarrata	AOU Careggi	14.64	26	DEA II level
4	Quarrata	Ospedale S.Stefano di Prato	12.61	12	DEA I level
5	Quarrata	Casa di Cura Villa Fiorita	6.98	17	Private
6	Quarrata	Ospedale della Valdinievole	2.7	30	Non-DEA ED
7	Quarrata	AOU Pisana	2.48	50	DEA II level
8	Quarrata	Ospedale Piero Palagi - I.O.T.	1.91	32	Other
8	Quarrata	Casa di Cura Santa Rita	1.91	20	Private
10	Quarrata	Ospedale S. Maria Nuova Firenze	1.46	30	Non-DEA ED
10	Quarrata	Stella Maris – Calambrone	1.46	54	Other
12	Quarrata	Ospedale Fucecchio	1.35	27	Other
13	Quarrata	Casa di Cura Leonardo	1.01	21	Private
1	Radda In Chianti	AOU Senese	60	25	DEA II level
2	Radda In Chianti	AOU Meyer	15.56	56	Paed. DEA II
3	Radda In Chianti	AOU Careggi	6.67	56	DEA II level
4	Radda In Chianti	Ospedale del Valdarno	4.44	22	Non-DEA ED
4	Radda In Chianti	Ospedale Piero Palagi - I.O.T.	4.44	47	Other
6	Radda In Chianti	Ospedale S.Stefano di Prato	2.22	59	DEA I level
1	Radicofani	AOU Senese	34.62	74	DEA II level
2	Radicofani	Ospedale Riuniti della Val di Chiana Senese	26.92	30	Non-DEA ED
3	Radicofani	Ospedale Abbazia San Salvatore	11.54	18	Disadvant. area
4	Radicofani	AOU Meyer	3.85	97	Paed. DEA II
4	Radicofani	Ospedale Misericordia Grosseto	3.85	83	DEA I level
4	Radicofani	Stella Maris – Calambrone	3.85	150	Other
1	Radicondoli	AOU Senese	62.5	39	DEA II level
2	Radicondoli	Ospedale dell'Alta Val d'Elsa	21.88	28	Non-DEA ED
3	Radicondoli	AOU Meyer	6.25	76	Paed. DEA II
4	Radicondoli	AOU Careggi	3.13	76	DEA II level
4	Radicondoli	Ospedale Torregalli	3.13	65	DEA I level
1	Rapolano Terme	AOU Senese	74.36	31	DEA II level
2	Rapolano Terme	Ospedale Riuniti della Val di Chiana Senese	8.72	28	Non-DEA ED
3	Rapolano Terme	AOU Meyer	4.1	73	Paed. DEA II
4	Rapolano Terme	AOU Careggi	2.05	73	DEA II level
5	Rapolano Terme	Ospedale dell'Alta Val d'Elsa	1.54	48	Non-DEA ED
5	Rapolano Terme	Rugani	1.54	33	Private
7	Rapolano Terme	Casa di Cura Frate Sole	1.03	46	Private
1	Reggello	AOU Careggi	21.82	35	DEA II level
2	Reggello	AOU Meyer	17.01	35	Paed. DEA II
3	Reggello	Ospedale Serristori	15.64	12	Disadvant. area
4	Reggello	Ospedale Bagno a Ripoli	10.65	18	DEA I level
5	Reggello	Ospedale Piero Palagi - I.O.T.	7.22	26	Other
6	Reggello	Casa di Cura Val Di Sieve	6.01	19	Private
7	Reggello	Ospedale del Valdarno	4.64	19	Non-DEA ED
8	Reggello	Ospedale Torregalli	2.41	28	DEA I level
9	Reggello	Casa di Cura Frate Sole	1.89	13	Private
10	Reggello	AOU Senese	1.72	57	DEA II level
11	Reggello	AOU Pisana	1.37	83	DEA II level
12	Reggello	Ospedale S. Maria Nuova Firenze	1.2	28	Non-DEA ED
1	Rignano Sull'Arno	AOU Careggi	23.34	27	DEA II level
2	Rignano Sull'Arno	AOU Meyer	13.88	27	Paed. DEA II
3	Rignano Sull'Arno	Ospedale Serristori	11.67	14	Disadvant. area
4	Rignano Sull'Arno	Ospedale Bagno a Ripoli	10.41	10	DEA I level

5	Rignano Sull'Arno	Ospedale Piero Palagi - I.O.T.	9.15	18	Other
6	Rignano Sull'Arno	Casa di Cura Val Di Sieve	7.89	12	Private
7	Rignano Sull'Arno	Ospedale Torregalli	2.52	20	DEA I level
8	Rignano Sull'Arno	AOU Pisana	2.21	76	DEA II level
8	Rignano Sull'Arno	Ospedale del Valdarno	2.21	20	Non-DEA ED
10	Rignano Sull'Arno	AOU Senese	1.58	58	DEA II level
11	Rignano Sull'Arno	Ospedale S. Maria Nuova Firenze	1.26	21	Non-DEA ED
11	Rignano Sull'Arno	Casa di Cura Santa Rita	1.26	47	Private
1	Rio	Ospedale Civile Elbano Portoferraio	26.21	19	Non-DEA ED
1	Riparbella	AOU Pisana	25.49	40	DEA II level
1	Riparbella	Ospedale Civile di Cecina	25.49	9	Non-DEA ED
3	Riparbella	AOU Meyer	11.76	91	Paed. DEA II
3	Riparbella	Ospedale Riuniti Livorno	11.76	35	DEA I level
5	Riparbella	AOU Careggi	1.96	91	DEA II level
5	Riparbella	AOU Senese	1.96	74	DEA II level
5	Riparbella	Ospedale S.Stefano di Prato	1.96	80	DEA I level
5	Riparbella	Ospedale della Valdinievole	1.96	67	Non-DEA ED
5	Riparbella	Ospedale Volterra	1.96	31	Non-DEA ED
5	Riparbella	Ospedale Villa Marina Piombino	1.96	45	Non-DEA ED
5	Riparbella	Casa di Cura Santa Zita	1.96	55	Private
5	Riparbella	Casa di Cura San Camillo Forte dei Marmi	1.96	57	Private
5	Riparbella	Stella Maris – Calambrone	1.96	43	Other
1	Roccalbegna	Ospedale Misericordia Grosseto	46.15	41	DEA I level
2	Roccalbegna	Ospedale S. Giovanni di Dio Orbetello	11.54	56	Non-DEA ED
3	Roccalbegna	AOU Pisana	7.69	140	DEA II level
3	Roccalbegna	AOU Senese	7.69	84	DEA II level
3	Roccalbegna	Ospedale S. Andrea Massa Marittima	7.69	74	Non-DEA ED
3	Roccalbegna	Ospedale Abbazia San Salvatore	7.69	36	Disadvant. area
3	Roccalbegna	Rugani	7.69	84	Private
8	Roccalbegna	Stella Maris – Calambrone	3.85	143	Other
1	Roccastrada	Ospedale Misericordia Grosseto	41.67	27	DEA I level
2	Roccastrada	Ospedale S. Andrea Massa Marittima	13.6	27	Non-DEA ED
3	Roccastrada	AOU Senese	12.72	58	DEA II level
4	Roccastrada	AOU Meyer	6.58	107	Paed. DEA II
5	Roccastrada	AOU Pisana	3.95	99	DEA II level
6	Roccastrada	AOU Careggi	3.51	107	DEA II level
6	Roccastrada	Ospedale S. Giovanni di Dio Orbetello	3.51	59	Non-DEA ED
1	Rosignano Marittimo	Ospedale Civile di Cecina	27.89	12	Non-DEA ED
2	Rosignano Marittimo	AOU Pisana	20.02	32	DEA II level
3	Rosignano Marittimo	Ospedale Riuniti Livorno	19.61	24	DEA I level
4	Rosignano Marittimo	AOU Meyer	7.46	83	Paed. DEA II
5	Rosignano Marittimo	AOU Careggi	2.35	82	DEA II level
5	Rosignano Marittimo	Stella Maris – Calambrone	2.35	34	Other
7	Rosignano Marittimo	Ospedale delle Apuane	2.04	53	DEA I level
8	Rosignano Marittimo	Ospedale Villa Marina Piombino	1.94	48	Non-DEA ED
9	Rosignano Marittimo	Ospedale Filippo Lotti Pontedera	1.12	33	DEA I level
1	Rufina	AOU Careggi	22.77	36	DEA II level
2	Rufina	AOU Meyer	16.52	36	Paed. DEA II
3	Rufina	Casa di Cura Val Di Sieve	14.73	8	Private
4	Rufina	Ospedale Serristori	11.61	30	Disadvant. area
5	Rufina	Ospedale Piero Palagi - I.O.T.	10.71	27	Other
6	Rufina	Ospedale Bagno a Ripoli	8.04	25	DEA I level
7	Rufina	Ospedale Borgo San Lorenzo	7.59	29	Non-DEA ED
8	Rufina	Ospedale Torregalli	1.79	34	DEA I level
8	Rufina	Ospedale S. Maria Nuova Firenze	1.79	30	Non-DEA ED
10	Rufina	AOU Senese	1.34	74	DEA II level
10	Rufina	Ospedale S.Stefano di Prato	1.34	47	DEA I level
1	Sambuca Pistoiese	Ospedale San Jacopo Pistoia	33.33	31	DEA I level
2	Sambuca Pistoiese	AOU Careggi	13.33	55	DEA II level
3	Sambuca Pistoiese	Ospedale S.Stefano di Prato	6.67	40	DEA I level
4	Sambuca Pistoiese	AOU Pisana	3.33	69	DEA II level
4	Sambuca Pistoiese	Ospedale Serristori	3.33	71	Disadvant. area
4	Sambuca Pistoiese	Ospedale Piero Palagi - I.O.T.	3.33	60	Other
1	San Casciano Dei Bagni	Ospedale Riuniti della Val di Chiana Senese	33.33	29	Non-DEA ED

2	San Casciano Dei Bagni	AOU Senese	20	76	DEA II level
3	San Casciano Dei Bagni	Ospedale Abbazia San Salvatore	11.11	29	Disadvant. area
4	San Casciano Dei Bagni	AOU Meyer	4.44	94	Paed. DEA II
5	San Casciano Dei Bagni	AOU Careggi	2.22	94	DEA II level
5	San Casciano Dei Bagni	Ospedale Torregalli	2.22	87	DEA I level
5	San Casciano Dei Bagni	Ospedale Piero Palagi - I.O.T.	2.22	87	Other
1	San Casciano In Val di pesa	AOU Careggi	29.05	28	DEA II level
2	San Casciano In Val di pesa	Ospedale Piero Palagi - I.O.T.	13.07	19	Other
3	San Casciano In Val di pesa	AOU Meyer	11	28	Paed. DEA II
4	San Casciano In Val di pesa	Ospedale Bagno a Ripoli	6.64	15	DEA I level
5	San Casciano In Val di pesa	Ospedale Serristori	6.43	30	Disadvant. area
6	San Casciano In Val di pesa	Ospedale Torregalli	6.02	16	DEA I level
7	San Casciano In Val di pesa	AOU Senese	3.94	41	DEA II level
8	San Casciano In Val di pesa	Casa di Cura Villa Fiorita	3.53	34	Private
9	San Casciano In Val di pesa	Ospedale S. Maria Nuova Firenze	2.9	23	Non-DEA ED
10	San Casciano In Val di pesa	Casa di Cura Val Di Sieve	1.87	31	Private
11	San Casciano In Val di pesa	Ospedale S.Stefano di Prato	1.66	29	DEA I level
12	San Casciano In Val di pesa	Ospedale S. Giuseppe	1.45	25	DEA I level
12	San Casciano In Val di pesa	Casa di Cura Ulivella e Glicini	1.45	27	Private
14	San Casciano In Val di pesa	AOU Pisana	1.24	59	DEA II level
15	San Casciano In Val di pesa	Ospedale dell'Alta Val d'Elsa	1.04	26	Non-DEA ED
15	San Casciano In Val di pesa	Casa di Cura Leonardo	1.04	27	Private
1	San Gimignano	AOU Senese	40.63	33	DEA II level
2	San Gimignano	Ospedale dell'Alta Val d'Elsa	31.64	14	Non-DEA ED
3	San Gimignano	AOU Meyer	8.2	55	Paed. DEA II
4	San Gimignano	AOU Careggi	3.52	54	DEA II level
5	San Gimignano	Rugani	3.13	29	Private
6	San Gimignano	Casa di Cura Val Di Sieve	1.17	58	Private
1	San Giovanni Valdarno	Ospedale del Valdarno	44.11	5	Non-DEA ED
2	San Giovanni Valdarno	AOU Meyer	13.88	37	Paed. DEA II
3	San Giovanni Valdarno	AOU Careggi	11.6	36	DEA II level
4	San Giovanni Valdarno	Ospedale Area Aretina Nord	7.98	26	DEA I level
5	San Giovanni Valdarno	AOU Senese	5.13	42	DEA II level
6	San Giovanni Valdarno	Ospedale Val Tiberina	1.9	63	Disadvant. area
6	San Giovanni Valdarno	Ospedale Serristori	1.9	9	Disadvant. area
8	San Giovanni Valdarno	Casa di Cura Frate Sole	1.33	10	Private
1	San Giuliano Terme	AOU Pisana	64.94	11	DEA II level
2	San Giuliano Terme	Stella Maris – Calambrone	6.81	18	Other
3	San Giuliano Terme	AOU Meyer	4.47	59	Paed. DEA II
4	San Giuliano Terme	Istituto di Fisiologia Clinica - CNR	3.05	8	FTGM
5	San Giuliano Terme	Ospedale Filippo Lotti Pontedera	2.24	27	DEA I level
6	San Giuliano Terme	Ospedale San Luca Lucca	1.22	17	DEA I level
6	San Giuliano Terme	Casa di Cura Ville di Nozzano	1.22	14	Private
8	San Giuliano Terme	AOU Senese	1.12	97	DEA II level
8	San Giuliano Terme	Casa di Cura Santa Zita	1.12	15	Private
10	San Giuliano Terme	Ospedale Riuniti Livorno	1.02	24	DEA I level
1	San Godenzo	AOU Careggi	34.38	53	DEA II level
2	San Godenzo	Ospedale Borgo San Lorenzo	18.75	29	Non-DEA ED
3	San Godenzo	Casa di Cura Val Di Sieve	12.5	30	Private
4	San Godenzo	Ospedale Torregalli	6.25	56	DEA I level
5	San Godenzo	AOU Meyer	3.13	53	Paed. DEA II
5	San Godenzo	AOU Senese	3.13	96	DEA II level
5	San Godenzo	Ospedale S.Stefano di Prato	3.13	69	DEA I level
5	San Godenzo	Ospedale del Valdarno	3.13	58	Non-DEA ED

5	San Godenzo	Ospedale Bagno a Ripoli	3.13	47	DEA I level
5	San Godenzo	Ospedale San Jacopo Pistoia	3.13	74	DEA I level
5	San Godenzo	Stella Maris – Calambrone	3.13	116	Other
1	San Marcello Piteglio	Ospedale San Jacopo Pistoia	43.54	27	DEA I level
2	San Marcello Piteglio	AOU Careggi	11.96	52	DEA II level
3	San Marcello Piteglio	Ospedale della Valdinievole	7.18	35	Non-DEA ED
4	San Marcello Piteglio	AOU Meyer	6.22	53	Paed. DEA II
5	San Marcello Piteglio	Ospedale S.Stefano di Prato	4.78	38	DEA I level
6	San Marcello Piteglio	Casa di Cura Villa Fiorita	3.35	43	Private
7	San Marcello Piteglio	Ospedale Fucecchio	2.87	51	Other
8	San Marcello Piteglio	Casa di Cura Santa Rita	2.39	34	Private
9	San Marcello Piteglio	Ospedale Piero Palagi - I.O.T.	1.44	57	Other
1	San Miniato	Ospedale S. Giuseppe	27.16	11	DEA I level
2	San Miniato	AOU Pisana	15.19	33	DEA II level
3	San Miniato	AOU Meyer	12.87	41	Paed. DEA II
4	San Miniato	AOU Careggi	7.08	41	DEA II level
5	San Miniato	Casa di Cura Leonardo	6.05	14	Private
6	San Miniato	Ospedale Filippo Lotti Pontedera	4.12	17	DEA I level
7	San Miniato	Stella Maris – Calambrone	2.32	43	Other
8	San Miniato	AOU Senese	1.93	67	DEA II level
9	San Miniato	Ospedale Riuniti Livorno	1.8	40	DEA I level
10	San Miniato	Ospedale Piero Palagi - I.O.T.	1.42	41	Other
11	San Miniato	Istituto di Fisiologia Clinica - CNR	1.29	36	FTGM
12	San Miniato	Ospedale Volterra	1.16	46	Non-DEA ED
13	San Miniato	Ospedale Pediatrico Apuano	1.03	60	FTGM
1	San Quirico D'Orcia	AOU Senese	55.1	46	DEA II level
2	San Quirico D'Orcia	Ospedale Riuniti della Val di Chiana Senese	15.31	25	Non-DEA ED
3	San Quirico D'Orcia	Ospedale Abbazia San Salvatore	8.16	27	Disadvant. area
4	San Quirico D'Orcia	AOU Meyer	4.08	94	Paed. DEA II
5	San Quirico D'Orcia	AOU Careggi	3.06	94	DEA II level
6	San Quirico D'Orcia	Rugani	2.04	46	Private
7	San Quirico D'Orcia	AOU Pisana	1.02	130	DEA II level
7	San Quirico D'Orcia	Ospedale del Valdarno	1.02	59	Non-DEA ED
7	San Quirico D'Orcia	Ospedale dell'Alta Val d'Elsa	1.02	59	Non-DEA ED
7	San Quirico D'Orcia	San Giuseppe	1.02	51	Private
7	San Quirico D'Orcia	Stella Maris – Calambrone	1.02	140	Other
1	San Romano In Garfagnana	Ospedale S. Croce Castelnuovo Garfagnana	32.26	10	Non-DEA ED
2	San Romano In Garfagnana	AOU Pisana	16.13	71	DEA II level
3	San Romano In Garfagnana	AOU Meyer	9.68	97	Paed. DEA II
3	San Romano In Garfagnana	Ospedale San Luca Lucca	9.68	52	DEA I level
5	San Romano In Garfagnana	Ospedale S. Francesco Barga	6.45	23	Other
5	San Romano In Garfagnana	Casa di Cura M.D. Barbantini Santa Chiara	6.45	51	Private
7	San Romano In Garfagnana	AOU Senese	3.23	139	DEA II level
7	San Romano In Garfagnana	Ospedale Unico Versilia	3.23	53	DEA I level
7	San Romano In Garfagnana	Istituto di Fisiologia Clinica - CNR	3.23	68	FTGM
1	San Vincenzo	Ospedale Villa Marina Piombino	23.2	19	Non-DEA ED
2	San Vincenzo	AOU Pisana	18.56	53	DEA II level
3	San Vincenzo	Ospedale Civile di Cecina	10.82	21	Non-DEA ED
4	San Vincenzo	Ospedale Riuniti Livorno	9.28	48	DEA I level
5	San Vincenzo	AOU Meyer	7.22	104	Paed. DEA II
6	San Vincenzo	AOU Senese	4.12	92	DEA II level
7	San Vincenzo	AOU Careggi	3.61	104	DEA II level
7	San Vincenzo	Ospedale delle Apuane	3.61	75	DEA I level
9	San Vincenzo	Ospedale Filippo Lotti Pontedera	2.06	55	DEA I level
10	San Vincenzo	Casa di Cura Santa Rita	1.55	78	Private
10	San Vincenzo	Stella Maris – Calambrone	1.55	56	Other
12	San Vincenzo	Casa di Cura San Camillo Forte dei Marmi	1.03	71	Private
1	Sansepolcro	Ospedale Val Tiberina	40.53	4	Disadvant. area
2	Sansepolcro	Ospedale Area Aretina Nord	21.37	37	DEA I level

3	Sansepolcro	AOU Meyer	7.27	93	Paed. DEA II
4	Sansepolcro	AOU Careggi	3.96	93	DEA II level
5	Sansepolcro	Nuovo Ospedale Valdichiana	2.42	66	Non-DEA ED
6	Sansepolcro	AOU Senese	2.2	95	DEA II level
7	Sansepolcro	Ospedale del Valdarno	1.76	58	Non-DEA ED
1	Santa Croce Sull'Arno	Ospedale S. Giuseppe	25.91	16	DEA I level
2	Santa Croce Sull'Arno	AOU Pisana	18.65	31	DEA II level
3	Santa Croce Sull'Arno	AOU Meyer	16.84	45	Paed. DEA II
4	Santa Croce Sull'Arno	AOU Careggi	6.99	45	DEA II level
5	Santa Croce Sull'Arno	Ospedale Filippo Lotti Pontedera	3.89	16	DEA I level
6	Santa Croce Sull'Arno	Casa di Cura Leonardo	3.63	18	Private
7	Santa Croce Sull'Arno	Stella Maris – Calambrone	3.37	41	Other
8	Santa Croce Sull'Arno	AOU Senese	2.59	74	DEA II level
9	Santa Croce Sull'Arno	Ospedale Piero Palagi - I.O.T.	1.55	46	Other
9	Santa Croce Sull'Arno	Istituto di Fisiologia Clinica - CNR	1.55	34	FTGM
11	Santa Croce Sull'Arno	Ospedale Fucecchio	1.3	7	Other
12	Santa Croce Sull'Arno	Ospedale S.Stefano di Prato	1.04	39	DEA I level
12	Santa Croce Sull'Arno	Ospedale Volterra	1.04	51	Non-DEA ED
1	Santa Fiora	AOU Senese	24.07	79	DEA II level
2	Santa Fiora	Ospedale Abbazia San Salvatore	20.37	18	Disadvant. area
3	Santa Fiora	Ospedale Misericordia Grosseto	18.52	57	DEA I level
4	Santa Fiora	AOU Meyer	7.41	124	Paed. DEA II
5	Santa Fiora	AOU Careggi	5.56	123	DEA II level
6	Santa Fiora	AOU Pisana	1.85	150	DEA II level
6	Santa Fiora	Ospedale Torregalli	1.85	117	DEA I level
6	Santa Fiora	Ospedale S. Giuseppe	1.85	135	DEA I level
6	Santa Fiora	Ospedale San Jacopo Pistoia	1.85	135	DEA I level
6	Santa Fiora	Ospedale Riuniti della Val di Chiana Senese	1.85	56	Non-DEA ED
6	Santa Fiora	Ospedale S. Giovanni di Dio Orbetello	1.85	72	Non-DEA ED
1	Santa Luce	AOU Pisana	32.14	31	DEA II level
2	Santa Luce	Ospedale Civile di Cecina	23.21	17	Non-DEA ED
3	Santa Luce	Ospedale Riuniti Livorno	19.64	26	DEA I level
4	Santa Luce	Stella Maris – Calambrone	5.36	33	Other
5	Santa Luce	AOU Meyer	3.57	79	Paed. DEA II
5	Santa Luce	AOU Careggi	3.57	78	DEA II level
7	Santa Luce	Ospedale S. Giuseppe	1.79	49	DEA I level
7	Santa Luce	Ospedale San Luca Lucca	1.79	47	DEA I level
7	Santa Luce	Ospedale Villa Marina Piombino	1.79	52	Non-DEA ED
7	Santa Luce	Casa di Cura Val Di Sieve	1.79	90	Private
1	Santa Maria A Monte	AOU Pisana	29.22	25	DEA II level
2	Santa Maria A Monte	Ospedale Filippo Lotti Pontedera	26.7	11	DEA I level
3	Santa Maria A Monte	AOU Meyer	8.56	52	Paed. DEA II
4	Santa Maria A Monte	Ospedale Volterra	7.56	48	Non-DEA ED
5	Santa Maria A Monte	Stella Maris – Calambrone	6.8	36	Other
6	Santa Maria A Monte	AOU Careggi	3.53	51	DEA II level
7	Santa Maria A Monte	Ospedale S. Giuseppe	2.02	22	DEA I level
8	Santa Maria A Monte	Casa di Cura Leonardo	1.51	25	Private
9	Santa Maria A Monte	AOU Senese	1.01	78	DEA II level
9	Santa Maria A Monte	Ospedale Riuniti Livorno	1.01	35	DEA I level
9	Santa Maria A Monte	Casa di Cura Santa Zita	1.01	29	Private
1	Sarteano	AOU Senese	40.32	65	DEA II level
2	Sarteano	Ospedale Riuniti della Val di Chiana Senese	34.68	18	Non-DEA ED
3	Sarteano	AOU Meyer	2.42	83	Paed. DEA II
3	Sarteano	Ospedale Area Aretina Nord	2.42	43	DEA I level
5	Sarteano	AOU Careggi	1.61	83	DEA II level
5	Sarteano	Stella Maris – Calambrone	1.61	136	Other
1	Sassetta	AOU Meyer	25	108	Paed. DEA II
1	Sassetta	AOU Pisana	25	57	DEA II level
3	Sassetta	Ospedale Riuniti Livorno	16.67	52	DEA I level
3	Sassetta	Ospedale Civile di Cecina	16.67	24	Non-DEA ED
3	Sassetta	Ospedale Villa Marina Piombino	16.67	35	Non-DEA ED
1	Scandicci	AOU Careggi	31.03	15	DEA II level
2	Scandicci	Ospedale Torregalli	15.86	5	DEA I level
3	Scandicci	AOU Meyer	15.8	16	Paed. DEA II
4	Scandicci	Ospedale Piero Palagi - I.O.T.	10.98	13	Other
5	Scandicci	Casa di Cura Val Di Sieve	4.31	26	Private

6	Scandicci	Ospedale Bagno a Ripoli	2.73	10	DEA I level
7	Scandicci	Ospedale S. Maria Nuova Firenze	2.22	14	Non-DEA ED
8	Scandicci	Casa di Cura Villa Fiorita	1.84	22	Private
9	Scandicci	Ospedale S.Stefano di Prato	1.71	18	DEA I level
10	Scandicci	AOU Senese	1.4	52	DEA II level
1	Scansano	Ospedale Misericordia Grosseto	52	26	DEA I level
2	Scansano	AOU Senese	14	90	DEA II level
3	Scansano	Ospedale S. Giovanni di Dio Orbetello	10	37	Non-DEA ED
4	Scansano	AOU Pisana	5	126	DEA II level
5	Scansano	Ospedale S. Andrea Massa Marittima	3	60	Non-DEA ED
6	Scansano	Ospedale Riuniti Livorno	2	121	DEA I level
7	Scansano	AOU Meyer	1	150	Paed. DEA II
7	Scansano	Ospedale Torregalli	1	139	DEA I level
7	Scansano	Ospedale Bagno a Ripoli	1	133	DEA I level
7	Scansano	Ospedale Villa Marina Piombino	1	76	Non-DEA ED
7	Scansano	Rugani	1	90	Private
1	Scarlino	Ospedale Misericordia Grosseto	28.57	33	DEA I level
2	Scarlino	Ospedale S. Andrea Massa Marittima	24.18	20	Non-DEA ED
3	Scarlino	AOU Pisana	12.09	80	DEA II level
3	Scarlino	AOU Senese	12.09	75	DEA II level
5	Scarlino	AOU Meyer	3.3	122	Paed. DEA II
5	Scarlino	Ospedale Filippo Lotti Pontedera	3.3	81	DEA I level
7	Scarlino	Ospedale Villa Marina Piombino	2.2	29	Non-DEA ED
8	Scarlino	AOU Careggi	1.1	122	DEA II level
8	Scarlino	Ospedale Riuniti Livorno	1.1	75	DEA I level
8	Scarlino	Ospedale Torregalli	1.1	111	DEA I level
8	Scarlino	Ospedale Civile di Cecina	1.1	47	Non-DEA ED
8	Scarlino	Centro Chirurgico Toscano	1.1	127	Private
8	Scarlino	Casa di Cura Frate Sole	1.1	122	Private
8	Scarlino	Rugani	1.1	75	Private
8	Scarlino	Stella Maris – Calambrone	1.1	82	Other
1	Scarperia e San Piero	AOU Careggi	24.13	32	DEA II level
2	Scarperia e San Piero	Ospedale Borgo San Lorenzo	23.38	8	Non-DEA ED
3	Scarperia e San Piero	AOU Meyer	14.43	32	Paed. DEA II
4	Scarperia e San Piero	Ospedale Piero Palagi - I.O.T.	5.47	36	Other
5	Scarperia e San Piero	Ospedale Bagno a Ripoli	4.98	39	DEA I level
6	Scarperia e San Piero	Ospedale Torregalli	4.23	40	DEA I level
7	Scarperia e San Piero	Ospedale Serristori	1.74	54	Disadvant. area
7	Scarperia e San Piero	Casa di Cura Ulivella e Glicini	1.74	33	Private
9	Scarperia e San Piero	Ospedale S.Stefano di Prato	1.24	45	DEA I level
9	Scarperia e San Piero	Casa di Cura Val Di Sieve	1.24	38	Private
11	Scarperia e San Piero	Ospedale S. Maria Nuova Firenze	1	35	Non-DEA ED
11	Scarperia e San Piero	Casa di Cura Villa Fiorita	1	48	Private
1	Seggiano	AOU Senese	29.41	62	DEA II level
1	Seggiano	Ospedale Misericordia Grosseto	29.41	59	DEA I level
3	Seggiano	Ospedale Riuniti della Val di Chiana Senese	8.82	43	Non-DEA ED
4	Seggiano	Ospedale Abbazia San Salvatore	5.88	18	Disadvant. area
5	Seggiano	AOU Meyer	2.94	111	Paed. DEA II
5	Seggiano	Ospedale Area Aretina Nord	2.94	72	DEA I level
5	Seggiano	Ospedale S. Andrea Massa Marittima	2.94	80	Non-DEA ED
5	Seggiano	Ospedale S. Maria Nuova Firenze	2.94	105	Non-DEA ED
5	Seggiano	Ospedale Civile Castel del Piano	2.94	9	Disadvant. area
5	Seggiano	Ospedale Piero Palagi - I.O.T.	2.94	102	Other
1	Semproniano	Ospedale Misericordia Grosseto	32	55	DEA I level
2	Semproniano	AOU Senese	24	89	DEA II level
3	Semproniano	AOU Pisana	8	155	DEA II level
3	Semproniano	Ospedale S. Giovanni di Dio Orbetello	8	55	Non-DEA ED
5	Semproniano	AOU Careggi	4	138	DEA II level
5	Semproniano	Ospedale Torregalli	4	131	DEA I level
5	Semproniano	Ospedale Unico Versilia	4	169	DEA I level
5	Semproniano	Ospedale Abbazia San Salvatore	4	32	Disadvant. area
5	Semproniano	Ospedale Serristori	4	110	Disadvant. area
1	Seravezza	Ospedale Unico Versilia	54.25	10	DEA I level
2	Seravezza	AOU Pisana	9.86	33	DEA II level

3	Seravezza	Ospedale delle Apuane	5.48	11	DEA I level
4	Seravezza	AOU Meyer	4.66	70	Paed. DEA II
5	Seravezza	Casa di Cura San Camillo Forte dei Marmi	3.84	6	Private
6	Seravezza	Ospedale San Luca Lucca	2.47	29	DEA I level
7	Seravezza	Ospedale Pediatrico Apuano	1.92	11	FTGM
7	Seravezza	Stella Maris – Calambrone	1.92	31	Other
9	Seravezza	AOU Careggi	1.64	70	DEA II level
10	Seravezza	Casa di Cura Leonardo	1.37	61	Private
11	Seravezza	Istituto di Fisiologia Clinica - CNR	1.1	29	FTGM
11	Seravezza	Casa di Cura M.D. Barbantini Santa Chiara	1.1	27	Private
1	Serravalle Pistoiese	Ospedale San Jacopo Pistoia	40	7	DEA I level
2	Serravalle Pistoiese	AOU Meyer	12.92	31	Paed. DEA II
3	Serravalle Pistoiese	AOU Careggi	9.23	31	DEA II level
4	Serravalle Pistoiese	Ospedale della Valdinievole	6.15	23	Non-DEA ED
5	Serravalle Pistoiese	Casa di Cura Villa Fiorita	4.62	21	Private
6	Serravalle Pistoiese	Ospedale S.Stefano di Prato	3.38	17	DEA I level
7	Serravalle Pistoiese	AOU Pisana	2.77	43	DEA II level
7	Serravalle Pistoiese	Ospedale Piero Palagi - I.O.T.	2.77	37	Other
7	Serravalle Pistoiese	Casa di Cura Santa Rita	2.77	13	Private
10	Serravalle Pistoiese	Ospedale Fucecchio	2.46	24	Other
11	Serravalle Pistoiese	Stella Maris – Calambrone	2.15	47	Other
12	Serravalle Pistoiese	Casa di Cura Leonardo	1.54	24	Private
1	Sestino	Ospedale Area Aretina Nord	23.53	67	DEA I level
2	Sestino	Ospedale Val Tiberina	5.88	37	Disadvant. area
3	Sestino	Ospedale del Valdarno	2.94	89	Non-DEA ED
3	Sestino	Ospedale Civile Bibbiena	2.94	78	Disadvant. area
1	Sesto Fiorentino	AOU Careggi	51.95	10	DEA II level
2	Sesto Fiorentino	AOU Meyer	17.21	11	Paed. DEA II
3	Sesto Fiorentino	Ospedale Piero Palagi - I.O.T.	4.73	18	Other
4	Sesto Fiorentino	Ospedale S.Stefano di Prato	3.58	15	DEA I level
5	Sesto Fiorentino	Casa di Cura Villa Fiorita	2.24	19	Private
6	Sesto Fiorentino	AOU Senese	1.28	60	DEA II level
7	Sesto Fiorentino	Ospedale Serristori	1.15	33	Disadvant. area
8	Sesto Fiorentino	Ospedale Torregalli	1.09	14	DEA I level
9	Sesto Fiorentino	Ospedale Bagno a Ripoli	1.02	18	DEA I level
9	Sesto Fiorentino	Ospedale S. Maria Nuova Firenze	1.02	16	Non-DEA ED
9	Sesto Fiorentino	Casa di Cura Val Di Sieve	1.02	34	Private
1	Siena	AOU Senese	74.46	6	DEA II level
2	Siena	Ospedale dell'Alta Val d'Elsa	6.26	22	Non-DEA ED
3	Siena	AOU Meyer	4.2	68	Paed. DEA II
4	Siena	Rugani	3.04	7	Private
5	Siena	AOU Careggi	1.24	67	DEA II level
1	Signa	AOU Careggi	34.16	19	DEA II level
2	Signa	AOU Meyer	19.57	19	Paed. DEA II
3	Signa	Ospedale Torregalli	7.3	13	DEA I level
4	Signa	Ospedale Piero Palagi - I.O.T.	6.14	20	Other
5	Signa	Ospedale S.Stefano di Prato	3.98	16	DEA I level
6	Signa	Casa di Cura Val Di Sieve	3.48	32	Private
7	Signa	AOU Senese	2.32	58	DEA II level
8	Signa	Ospedale S. Giuseppe	1.49	24	DEA I level
9	Signa	Ospedale Bagno a Ripoli	1.33	16	DEA I level
10	Signa	Ospedale S. Maria Nuova Firenze	1.16	19	Non-DEA ED
11	Signa	Casa di Cura Villa Fiorita	1	20	Private
11	Signa	Casa di Cura Ulivella e Glicini	1	19	Private
11	Signa	Stella Maris – Calambrone	1	63	Other
1	Sillano Giuncugnano	Ospedale San Luca Lucca	36	65	DEA I level
2	Sillano Giuncugnano	AOU Pisana	16	83	DEA II level
3	Sillano Giuncugnano	Ospedale S. Croce Castelnuovo Garfagnana	12	23	Non-DEA ED
4	Sillano Giuncugnano	Ospedale Unico Versilia	8	62	DEA I level
5	Sillano Giuncugnano	AOU Meyer	4	110	Paed. DEA II
5	Sillano Giuncugnano	AOU Careggi	4	109	DEA II level
5	Sillano Giuncugnano	Ospedale S.Stefano di Prato	4	95	DEA I level
5	Sillano Giuncugnano	Ospedale S. Francesco Barga	4	36	Other
5	Sillano Giuncugnano	Casa di Cura Santa Zita	4	63	Private
5	Sillano Giuncugnano	Casa di Cura Santa Rita	4	79	Private
1	Sinalunga	AOU Senese	35.99	44	DEA II level

2	Sinalunga	Ospedale Riuniti della Val di Chiana Senese	30.59	15	Non-DEA ED
3	Sinalunga	AOU Meyer	6.68	68	Paed. DEA II
4	Sinalunga	Ospedale Area Aretina Nord	5.66	28	DEA I level
5	Sinalunga	AOU Careggi	2.83	67	DEA II level
6	Sinalunga	Ospedale Val Tiberina	1.54	62	Disadvant. area
7	Sinalunga	Nuovo Ospedale Valdichiana	1.03	26	Non-DEA ED
1	Sorano	Ospedale Misericordia Grosseto	24.1	71	DEA I level
2	Sorano	AOU Senese	22.89	101	DEA II level
3	Sorano	Ospedale S. Giovanni di Dio Orbetello	12.05	57	Non-DEA ED
4	Sorano	Ospedale Abbazia San Salvatore	7.23	31	Disadvant. area
5	Sorano	AOU Meyer	2.41	126	Paed. DEA II
5	Sorano	Rugani	2.41	101	Private
1	Sovicille	AOU Senese	74.54	17	DEA II level
2	Sovicille	Ospedale dell'Alta Val d'Elsa	5.09	27	Non-DEA ED
3	Sovicille	AOU Meyer	4.4	75	Paed. DEA II
4	Sovicille	Rugani	3.47	16	Private
5	Sovicille	AOU Careggi	1.39	74	DEA II level
1	Stazzema	Ospedale Unico Versilia	55.56	22	DEA I level
2	Stazzema	Stella Maris – Calambrone	6.17	43	Other
3	Stazzema	AOU Pisana	4.94	45	DEA II level
3	Stazzema	Ospedale Pediatrico Apuano	4.94	22	FTGM
5	Stazzema	AOU Meyer	3.7	82	Paed. DEA II
5	Stazzema	Ospedale delle Apuane	3.7	22	DEA I level
5	Stazzema	Ospedale San Luca Lucca	3.7	40	DEA I level
5	Stazzema	Casa di Cura San Camillo Forte dei Marmi	3.7	18	Private
9	Stazzema	Ospedale Civile Carrara	2.47	30	Other
10	Stazzema	Ospedale S. Giuseppe	1.23	71	DEA I level
10	Stazzema	Ospedale S. Croce Castelnuovo Garfagnana	1.23	28	Non-DEA ED
10	Stazzema	Casa di Cura Santa Rita	1.23	51	Private
1	Subbiano	Ospedale Area Aretina Nord	36.84	24	DEA I level
2	Subbiano	Ospedale Val Tiberina	14.21	35	Disadvant. area
3	Subbiano	Ospedale Civile Bibbiena	10	23	Disadvant. area
4	Subbiano	AOU Careggi	6.84	77	DEA II level
5	Subbiano	AOU Meyer	5.26	78	Paed. DEA II
6	Subbiano	San Giuseppe	3.68	23	Private
7	Subbiano	Centro Chirurgico Toscano	3.16	20	Private
8	Subbiano	AOU Senese	1.58	80	DEA II level
9	Subbiano	Ospedale Torregalli	1.05	70	DEA I level
9	Subbiano	Nuovo Ospedale Valdichiana	1.05	63	Non-DEA ED
1	Suvereto	Ospedale Villa Marina Piombino	34.41	25	Non-DEA ED
2	Suvereto	AOU Pisana	15.05	68	DEA II level
3	Suvereto	Ospedale Riuniti Livorno	10.75	63	DEA I level
4	Suvereto	Ospedale Civile di Cecina	5.38	35	Non-DEA ED
4	Suvereto	Ospedale S. Andrea Massa Marittima	5.38	25	Non-DEA ED
6	Suvereto	Stella Maris – Calambrone	4.3	70	Other
7	Suvereto	Ospedale Misericordia Grosseto	3.23	50	DEA I level
8	Suvereto	AOU Meyer	2.15	118	Paed. DEA II
8	Suvereto	Ospedale delle Apuane	2.15	89	DEA I level
8	Suvereto	Istituto di Fisiologia Clinica - CNR	2.15	70	FTGM
11	Suvereto	AOU Careggi	1.08	118	DEA II level
11	Suvereto	AOU Senese	1.08	77	DEA II level
11	Suvereto	Ospedale Filippo Lotti Pontedera	1.08	69	DEA I level
11	Suvereto	Ospedale Piero Palagi - I.O.T.	1.08	112	Other
11	Suvereto	Casa di Cura Leonardo	1.08	92	Private
11	Suvereto	Casa di Cura Santa Zita	1.08	82	Private
11	Suvereto	Casa di Cura Frate Sole	1.08	122	Private
11	Suvereto	Casa di Cura Val Di Sieve	1.08	124	Private
1	Talla	Ospedale Area Aretina Nord	37.93	39	DEA I level
2	Talla	Ospedale Civile Bibbiena	20.69	28	Disadvant. area
3	Talla	Ospedale Val Tiberina	10.34	55	Disadvant. area
4	Talla	AOU Careggi	3.45	84	DEA II level
4	Talla	Ospedale Piero Palagi - I.O.T.	3.45	72	Other
4	Talla	San Giuseppe	3.45	36	Private
1	Terranuova Bracciolini	Ospedale del Valdarno	39.53	7	Non-DEA ED

2	Terranuova Bracciolini	Ospedale Area Aretina Nord	13.86	25	DEA I level
3	Terranuova Bracciolini	AOU Meyer	11.8	41	Paed. DEA II
4	Terranuova Bracciolini	AOU Careggi	6.78	40	DEA II level
5	Terranuova Bracciolini	AOU Senese	4.13	46	DEA II level
6	Terranuova Bracciolini	Ospedale Piero Palagi - I.O.T.	2.95	31	Other
7	Terranuova Bracciolini	Ospedale Val Tiberina	2.65	62	Disadvant. area
8	Terranuova Bracciolini	Casa di Cura Frate Sole	1.77	14	Private
9	Terranuova Bracciolini	Nuovo Ospedale Valdichiana	1.47	51	Non-DEA ED
9	Terranuova Bracciolini	Ospedale Serristori	1.47	13	Disadvant. area
11	Terranuova Bracciolini	Centro Chirurgico Toscano	1.18	28	Private
11	Terranuova Bracciolini	Casa di Cura Val Di Sieve	1.18	31	Private
1	Terricciola	AOU Pisana	28.8	29	DEA II level
2	Terricciola	Ospedale Filippo Lotti Pontedera	20.8	18	DEA I level
3	Terricciola	Ospedale Volterra	19.2	28	Non-DEA ED
4	Terricciola	AOU Meyer	8.8	65	Paed. DEA II
5	Terricciola	Stella Maris – Calambrone	3.2	39	Other
6	Terricciola	AOU Senese	2.4	67	DEA II level
6	Terricciola	Ospedale Riuniti Livorno	2.4	35	DEA I level
6	Terricciola	Ospedale Fucecchio	2.4	32	Other
9	Terricciola	AOU Careggi	1.6	64	DEA II level
9	Terricciola	Ospedale delle Apuane	1.6	57	DEA I level
9	Terricciola	Ospedale San Luca Lucca	1.6	43	DEA I level
9	Terricciola	Istituto di Fisiologia Clinica - CNR	1.6	32	FTGM
1	Torrita Di Siena	Ospedale Riuniti della Val di Chiana Senese	36.55	9	Non-DEA ED
2	Torrita Di Siena	AOU Senese	30.67	50	DEA II level
3	Torrita Di Siena	AOU Meyer	7.14	72	Paed. DEA II
4	Torrita Di Siena	AOU Careggi	2.94	72	DEA II level
5	Torrita Di Siena	Ospedale Area Aretina Nord	2.52	32	DEA I level
1	Trequanda	AOU Senese	47.83	44	DEA II level
2	Trequanda	Ospedale Riuniti della Val di Chiana Senese	32.61	19	Non-DEA ED
3	Trequanda	AOU Careggi	4.35	78	DEA II level
3	Trequanda	Ospedale Area Aretina Nord	4.35	38	DEA I level
3	Trequanda	Ospedale Abbazia San Salvatore	4.35	44	Disadvant. area
6	Trequanda	Centro Chirurgico Toscano	2.17	41	Private
1	Tresana	Ospedale delle Apuane	13.7	23	DEA I level
1	Tresana	Ospedale Civile Carrara	13.7	30	Other
3	Tresana	AOU Pisana	9.59	56	DEA II level
4	Tresana	Ospedale Fivizzano	8.22	21	Non-DEA ED
5	Tresana	AOU Meyer	5.48	93	Paed. DEA II
6	Tresana	Ospedale Pontremoli	4.11	17	Non-DEA ED
6	Tresana	Ospedale Pediatrico Apuano	4.11	29	FTGM
8	Tresana	AOU Careggi	2.74	92	DEA II level
8	Tresana	Casa di Cura Ulivella e Glicini	2.74	92	Private
10	Tresana	AOU Senese	1.37	136	DEA II level
10	Tresana	Ospedale Riuniti Livorno	1.37	60	DEA I level
10	Tresana	Ospedale Unico Versilia	1.37	33	DEA I level
10	Tresana	Casa di Cura M.D. Barbantini Santa Chiara	1.37	50	Private
10	Tresana	Casa di Cura San Camillo Forte dei Marmi	1.37	27	Private
10	Tresana	Stella Maris – Calambrone	1.37	54	Other
1	Uzzano	Ospedale della Valdinievole	26.35	5	Non-DEA ED
2	Uzzano	AOU Careggi	13.77	41	DEA II level
3	Uzzano	Ospedale San Jacopo Pistoia	11.38	16	DEA I level
4	Uzzano	AOU Pisana	8.98	36	DEA II level
5	Uzzano	AOU Meyer	6.59	41	Paed. DEA II
6	Uzzano	Casa di Cura Santa Rita	4.79	10	Private
7	Uzzano	Ospedale S.Stefano di Prato	4.19	27	DEA I level
8	Uzzano	Ospedale Unico Versilia	2.99	35	DEA I level
9	Uzzano	Casa di Cura Leonardo	2.4	34	Private
9	Uzzano	Stella Maris – Calambrone	2.4	39	Other
11	Uzzano	Ospedale San Luca Lucca	1.8	19	DEA I level
12	Uzzano	Ospedale Piero Palagi - I.O.T.	1.2	47	Other
12	Uzzano	Istituto di Fisiologia Clinica - CNR	1.2	32	FTGM
1	Vagli Sotto	Ospedale S. Croce Castelnuovo Garfagnana	34.29	17	Non-DEA ED
2	Vagli Sotto	Ospedale San Luca Lucca	25.71	59	DEA I level

3	Vagli Sotto	AOU Pisana	17.14	78	DEA II level
4	Vagli Sotto	Ospedale S. Francesco Barga	8.57	30	Other
5	Vagli Sotto	Ospedale delle Apuane	5.71	50	DEA I level
6	Vagli Sotto	AOU Meyer	2.86	103	Paed. DEA II
6	Vagli Sotto	Ospedale Pediatrico Apuano	2.86	47	FTGM
6	Vagli Sotto	Casa di Cura San Camillo Forte dei Marmi	2.86	51	Private
1	Vaglia	AOU Careggi	45.74	17	DEA II level
2	Vaglia	AOU Meyer	19.68	17	Paed. DEA II
3	Vaglia	Ospedale Piero Palagi - I.O.T.	9.04	25	Other
4	Vaglia	Ospedale S. Maria Nuova Firenze	6.38	24	Non-DEA ED
5	Vaglia	Ospedale Bagno a Ripoli	4.26	29	DEA I level
6	Vaglia	Ospedale Torregalli	1.6	29	DEA I level
6	Vaglia	Ospedale Borgo San Lorenzo	1.6	22	Non-DEA ED
8	Vaglia	Ospedale S.Stefano di Prato	1.06	34	DEA I level
1	Vaiano	Ospedale S.Stefano di Prato	42.42	15	DEA I level
2	Vaiano	AOU Careggi	13.33	33	DEA II level
3	Vaiano	Casa di Cura Villa Fiorita	13.03	11	Private
4	Vaiano	AOU Meyer	10.61	33	Paed. DEA II
5	Vaiano	AOU Senese	1.52	76	DEA II level
5	Vaiano	Ospedale San Jacopo Pistoia	1.52	25	DEA I level
7	Vaiano	Casa di Cura Val Di Sieve	1.21	50	Private
1	Vecchiano	AOU Pisana	62.03	16	DEA II level
2	Vecchiano	Stella Maris – Calambrone	5.32	16	Other
3	Vecchiano	Ospedale Filippo Lotti Pontedera	4.3	31	DEA I level
4	Vecchiano	AOU Meyer	3.54	56	Paed. DEA II
5	Vecchiano	Ospedale San Luca Lucca	2.78	15	DEA I level
6	Vecchiano	Casa di Cura Ville di Nozzano	2.28	10	Private
7	Vecchiano	Casa di Cura Santa Zita	2.03	13	Private
8	Vecchiano	Ospedale Unico Versilia	1.77	16	DEA I level
9	Vecchiano	Ospedale delle Apuane	1.52	23	DEA I level
9	Vecchiano	Casa di Cura San Camillo Forte dei Marmi	1.52	19	Private
11	Vecchiano	Casa di Cura M.D. Barbantini Santa Chiara	1.27	13	Private
12	Vecchiano	AOU Senese	1.01	99	DEA II level
12	Vecchiano	Istituto di Fisiologia Clinica - CNR	1.01	13	FTGM
1	Vernio	Ospedale S.Stefano di Prato	41.31	30	DEA I level
2	Vernio	Casa di Cura Villa Fiorita	13.62	26	Private
3	Vernio	AOU Meyer	11.27	42	Paed. DEA II
4	Vernio	AOU Careggi	10.33	41	DEA II level
5	Vernio	Ospedale San Jacopo Pistoia	1.41	39	DEA I level
1	Viareggio	Ospedale Unico Versilia	51.88	9	DEA I level
2	Viareggio	AOU Pisana	13.4	23	DEA II level
3	Viareggio	AOU Meyer	6.23	63	Paed. DEA II
4	Viareggio	Ospedale San Luca Lucca	3.46	21	DEA I level
5	Viareggio	Stella Maris – Calambrone	3.41	22	Other
6	Viareggio	Ospedale delle Apuane	2.97	16	DEA I level
7	Viareggio	AOU Careggi	1.68	62	DEA II level
8	Viareggio	Casa di Cura San Camillo Forte dei Marmi	1.58	12	Private
9	Viareggio	AOU Senese	1.38	105	DEA II level
1	Vicchio	Ospedale Borgo San Lorenzo	34.1	11	Non-DEA ED
2	Vicchio	AOU Careggi	18.77	35	DEA II level
3	Vicchio	AOU Meyer	13.03	35	Paed. DEA II
4	Vicchio	Ospedale Piero Palagi - I.O.T.	8.05	38	Other
5	Vicchio	Ospedale Bagno a Ripoli	5.36	41	DEA I level
6	Vicchio	Ospedale Torregalli	4.21	43	DEA I level
7	Vicchio	Ospedale S. Maria Nuova Firenze	1.92	37	Non-DEA ED
8	Vicchio	Ospedale S.Stefano di Prato	1.53	54	DEA I level
1	Vicopisano	AOU Pisana	57.32	15	DEA II level
2	Vicopisano	Ospedale Filippo Lotti Pontedera	10.98	13	DEA I level
3	Vicopisano	Stella Maris – Calambrone	3.66	26	Other
4	Vicopisano	AOU Meyer	2.85	56	Paed. DEA II
4	Vicopisano	Ospedale Volterra	2.85	51	Non-DEA ED
6	Vicopisano	Ospedale Riuniti Livorno	2.44	27	DEA I level
6	Vicopisano	Ospedale San Luca Lucca	2.44	23	DEA I level
8	Vicopisano	Istituto di Fisiologia Clinica - CNR	1.22	15	FTGM

8	Vicopisano	Casa di Cura Santa Zita	1.22	24	Private
1	Villa Basilica	AOU Pisana	27.87	42	DEA II level
2	Villa Basilica	AOU Meyer	19.67	52	Paed. DEA II
3	Villa Basilica	Ospedale San Luca Lucca	18.03	24	DEA I level
4	Villa Basilica	Ospedale della Valdinievole	8.2	13	Non-DEA ED
5	Villa Basilica	Ospedale Unico Versilia	4.92	42	DEA I level
5	Villa Basilica	Ospedale S. Croce Castelnuovo Garfagnana	4.92	37	Non-DEA ED
5	Villa Basilica	Casa di Cura Santa Zita	4.92	26	Private
8	Villa Basilica	Ospedale S. Francesco Barga	3.28	30	Other
8	Villa Basilica	Stella Maris – Calambrone	3.28	46	Other
10	Villa Basilica	AOU Careggi	1.64	51	DEA II level
10	Villa Basilica	Ospedale San Jacopo Pistoia	1.64	27	DEA I level
10	Villa Basilica	Casa di Cura Santa Rita	1.64	21	Private
1	Villa Collemantina	Ospedale S. Croce Castelnuovo Garfagnana	25.53	9	Non-DEA ED
2	Villa Collemantina	Ospedale San Luca Lucca	14.89	52	DEA I level
3	Villa Collemantina	AOU Meyer	10.64	96	Paed. DEA II
3	Villa Collemantina	Ospedale Unico Versilia	10.64	54	DEA I level
5	Villa Collemantina	AOU Pisana	8.51	71	DEA II level
5	Villa Collemantina	Ospedale S. Francesco Barga	8.51	23	Other
7	Villa Collemantina	Ospedale Riuniti Livorno	4.26	80	DEA I level
7	Villa Collemantina	Casa di Cura Santa Rita	4.26	65	Private
9	Villa Collemantina	Ospedale delle Apuane	2.13	48	DEA I level
9	Villa Collemantina	Casa di Cura San Camillo Forte dei Marmi	2.13	50	Private
9	Villa Collemantina	Stella Maris – Calambrone	2.13	74	Other
1	Villafranca In Lunigiana	Ospedale delle Apuane	17.09	26	DEA I level
2	Villafranca In Lunigiana	Ospedale Pontremoli	15.38	14	Non-DEA ED
3	Villafranca In Lunigiana	Ospedale Fivizzano	7.69	24	Non-DEA ED
4	Villafranca In Lunigiana	AOU Pisana	5.98	59	DEA II level
4	Villafranca In Lunigiana	Ospedale Civile Carrara	5.98	33	Other
6	Villafranca In Lunigiana	Istituto di Fisiologia Clinica - CNR	5.13	55	FTGM
7	Villafranca In Lunigiana	Ospedale Pediatrico Apuano	3.42	32	FTGM
8	Villafranca In Lunigiana	AOU Meyer	1.71	96	Paed. DEA II
8	Villafranca In Lunigiana	Casa di Cura M.D. Barbantini Santa Chiara	1.71	53	Private
8	Villafranca In Lunigiana	Casa di Cura Santa Rita	1.71	65	Private
1	Vinci	Ospedale S. Giuseppe	36.09	6	DEA I level
2	Vinci	AOU Careggi	18.16	36	DEA II level
3	Vinci	AOU Meyer	11.72	37	Paed. DEA II
4	Vinci	Casa di Cura Leonardo	8.28	5	Private
5	Vinci	AOU Pisana	6.21	43	DEA II level
6	Vinci	Ospedale Piero Palagi - I.O.T.	4.14	36	Other
7	Vinci	Ospedale Fucecchio	1.61	15	Other
8	Vinci	AOU Senese	1.38	67	DEA II level
8	Vinci	Ospedale Riuniti Livorno	1.38	50	DEA I level
10	Vinci	Ospedale S. Stefano di Prato	1.15	27	DEA I level
1	Volterra	Ospedale Volterra	38.59	6	Non-DEA ED
2	Volterra	AOU Pisana	16.3	53	DEA II level
3	Volterra	Ospedale Filippo Lotti Pontedera	9.78	40	DEA I level
4	Volterra	AOU Meyer	6.25	74	Paed. DEA II
5	Volterra	AOU Senese	4.89	49	DEA II level
6	Volterra	Ospedale Riuniti Livorno	2.45	57	DEA I level
6	Volterra	Ospedale Civile di Cecina	2.45	32	Non-DEA ED
8	Volterra	AOU Careggi	1.63	73	DEA II level
8	Volterra	Stella Maris – Calambrone	1.63	62	Other
10	Volterra	Ospedale San Luca Lucca	1.36	67	DEA I level
1	Zeri	Ospedale Pontremoli	20	18	Non-DEA ED
2	Zeri	AOU Careggi	6.67	112	DEA II level
2	Zeri	Ospedale delle Apuane	6.67	43	DEA I level
2	Zeri	Ospedale Civile Carrara	6.67	50	Other
5	Zeri	AOU Pisana	3.33	75	DEA II level
5	Zeri	Istituto di Fisiologia Clinica - CNR	3.33	71	FTGM
5	Zeri	Casa di Cura Santa Rita	3.33	82	Private