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The Florentine Medical Guild in the Early Modern Era: Structures, Sources, and a Proposal for a Digital Census

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ABSTRACT

This analysis examines archival sources related to the Arte dei Medici e Speziali – the Florentine guild that encompassed healthcare professionals – and its associated Collegio Medico. Although many records are missing, the surviving documentation still offers valuable insight into the guild's regulatory functions in licensing, professional oversight, and continuing education. The study focuses on key sources, including statutes, membership registers, disciplinary records, and examination archives held at the State Archives of Florence and the University Biomedical Library. Particular attention is paid to the guild and examination registers (the latter recently digitised), which together offer a detailed account on the qualifications, restrictions, and careers of healthcare practitioners under the Medici Grand Duchy. The paper proposes a methodological framework for constructing a comprehensive digital census of these professionals, encouraging interdisciplinary research. A searchable and annotated database would significantly enhance the study of medical, surgical, and midwifery practices in early modern Tuscany, supporting historians and scholars in related fields.

Keywords: Florentine Medical Guild - Healthcare Regulation - Digital Humanities - Renaissance Florence

Introduction

In Florence, physicians, surgeons, and apothecaries coexisted within a single guild that was internally subdivided into several institutions[1]. The guild fulfilled a regulatory role, by supervising licensing examinations, issuing professional authorizations, supervising practitioners, and enforcing disciplinary measures. In addition, a *Collegio Medico* performed scientific and academic functions and was responsible for continuing professional development by organising public debates and anatomical dissections, and the conferment of academic degrees[2].

This study first examines the state of archival sources related to the Florentine Guild (the *Arte dei Medici e Speziali* of Florence, hereinafter Arte) in the early modern period (from 1400 to the late 1700s). It highlights notable gaps in the documentation. Due to these absences, previous research has often relied on indirect or fragmentary sources that, despite their limitations, provide valuable insights.

Secondly, the paper proposes a methodological framework for researchers from various disciplines who encounter health professionals from the Medici Grand Duchy during the early modern era, in their studies. Specifically, it suggests using these sources to construct a complete census of practitioners based on membership lists, that have recently been partially digitised, with the potential to be expanded into a digital database.

1. The Florentine Medical Guild

The Florentine Collegio Medico, an internal organ of the Arte since the 14th century, is marked by historiographical gaps and limited documentation. Recent studies highlight its continuous evolution and increasing political connections[3]. The guild and the college functioned as a "defensive barrier" aimed at restoring the professional reputation tarnished by the Black Death of 1348[4].

According to the statutes of 1314, physicians and surgeons had to pass an exam to obtain a licence to practise in Florence and the surrounding territories. Originally, a twelve-member commission supervised the process, which was later reduced to four examiners – at least one of whom was a surgeon – all of whom were citizens. Passing the exam and paying the fee allowed candidates to enrol in the Arte; practising without an authorisation was severely punished. A case from 1628 concerning an unlicensed physician shows that fines could be exceptionally heavy, but were sometimes reduced, indicating a degree of customary leniency[5].

From the mid-14th century onward, the Collegio Medico held public disputations and dissections twice yearly, maintaining its scientific and academic responsibilities in accordance with its statutes[6].

Under the rule of Duke Cosimo I de' Medici, the reforms in the 16th century reaffirmed the longstanding requirement that medical licences be granted by four examin-

ers, chosen by lot every four months from among the guild's membership. These rules were reiterated in 1560, 1593, and 1644, standardising regional licensing practices until the 18th century[7].

In the same years, Cosimo personally promoted the revision of the Ricettario Fiorentino, the first Italian pharmacopoeia (first published in 1499), making it mandatory for all apothecaries to adhere to the recipes it contained in their preparations, as well as to organise their laboratories according to its prescriptions[8]. Regular inspections of apothecaries' laboratories at fixed intervals were also mandated. It has been suggested that written records existed, possibly also serving as evidence[9]; however, these early modern inspection reports have not survived, unlike the material preserved from the late eighteenth century onwards[10].

The examinations consisted of discussing medical or surgical cases (depending on the candidate's specialisation) selected by lot. The Collegio issued licences specifying any limitations to practise. Candidates were often required to return at a later date or to complete further courses or hospital internships, as in the case of the medical and surgical school at Santa Maria Nuova in Florence[11], before resitting the examination[12].

Graduates also had to undergo an internship and probationary period. In 1590, for instance, Giovampiero Ligniani was conditionally licenced, pending the presentation of his degree certificate and completion of six months of practice under the supervision of more experienced physicians[13].

It often required practical hospital experience in addition to academic qualifications – asserting the primacy of corporate authority over university degrees (during that period, usually obtained at Pisa)[14].

2. Case study: Petitions and personal relations as grounds for exceptions to the rules

Two prominent types of sources concerning the regulation of health professions emerge from the documents preserved in the *Memoriali e Negozi* (Memorials and Administrative Records) of the Arte[15]: on one hand, official requests from the Guild to the Grand Duke seeking authorisation to sanction unlicensed practitioners; on the other, individual petitions for pardon or for permission to practise without examination.

The first category typically involved the Guild's Consuls reporting violations of statutory regulations, with the Grand Duke consistently supporting the proposed penalties. In contrast, the second category is more varied and revealing, comprising requests to annul specific penalties, secure full professional access without examination, or obtain exemptions unrelated to any prior sanction.

Ducal clemency was granted with notable regularity, especially where poverty, ignorance of the law, or intervention from trusted physicians played a role[16].

Cases like that of Ludovico from Cantagallo – pardoned for treating syphilis under a doctor's supervision – and Michele Cheller – a German barber-surgeon, punished for

abandoning his patients but later allowed to practise in a limited capacity – illustrate the balance between enforcement and pragmatic leniency[17].

More sporadic but significant are cases involving special licences, typically justified by either demonstrated medical competence or close ties to the court. These privileges were often reserved for individuals whose services had directly benefited the Grand Duke or his household, as in the case of Giovanni, a soldier granted permission to treat ringworm, or Michelangelo Cappelletti, a galley surgeon who, despite lacking academic credentials, obtained permission to prescribe oral remedies for specific illnesses.

Most striking is the case of Gioacchino Ebersperg, whose reputation and personal trust from the Duke earned him a broad exemption from interference by the College of Physicians, even extending to a designated assistant[18].

These examples show that exceptions to professional regulations often depended on personal connections and patronage networks. While the Medici administration maintained a consistent policy of controlling unauthorised medical practice from Cosimo I through to Ferdinando I, a pragmatic approach often prevailed, particularly in peripheral areas and in interactions with foreign or itinerant practitioners[19].

Indeed, many sources note that patients enjoyed broad freedom in choosing whom to consult for treatment[20]. For example, in 1591, Marcantonio Guicciardini requested permission to treat certain conditions described as "important and mortal" and "acute and malignant fevers" using remedies considered "very simple"[21].

In response, the Arte stated and reaffirmed that it was the patient's right to be treated "by whoever is available, even if not approved, provided that the patient declares their intention through a direct request, or by having someone request on their behalf, to the Arte, to be allowed to receive treatment [...] such a licence is granted indiscriminately because it is sometimes found that unskilled persons in medicine possess some useful secret for certain particular ailments; the use and experience of which the law has not wished to forbid in those who continue to entrust themselves to their hands"[22].

Empirical practitioners without formal credentials often failed to gain institutional recognition. However, the fact that patients could freely choose their healers – and that the state occasionally endorsed such remedies – shows a pragmatic appreciation for experiential knowledge in healthcare.

3. Mapping the sources

The documentation produced by the corporation has followed a non-linear trajectory and is currently divided between two main repository centres:

1. State Archives of Florence;
2. University Biomedical Library.

State Archives of Florence

The State Archives contains a specific fond dedicated to the Arte, where most of the documentation is preserved, beginning with the oldest documents dating back to the 13th century. We will concentrate on the analysis of certain specific categories of sources.

Statutes

The first category of relevant documents includes the *Statuti* (Statutes)[23].
These provide an overview of the internal organisation of the Arte, its functions, and the official positions it established.

Guild Registers

The second type of document examined in this analysis is the register of members belonging to the Guild, who were registered upon payment of their dues.
The first medieval registers contain crucial information about the earliest periods and include the names of professionals working both in the city and in the countryside, covering the years 1297–1386[24]. Until the end of the 16th century, this source represents the only available list of practitioners from that period. For the following years – from 1408 to about 1780 – the registers are divided into two separate series, one for the city[25] and one for the countryside[26]. Therefore, it is necessary to consult both sets of records if the place of residence or profession is unknown. Only three unified registers, covering both city and countryside for the years 1683–1778, constitute a unique exception in the modern era and overlap chronologically with the others[27].

Decisions and Sentences

The third type of documentation includes the *Partiti e sentenze* (Decisions and Sentences), a potential crucial source but only partially surviving.
In fact, a substantial series of these documents is only available from 1698 to 1770, while for the previous period only one volume has survived, covering the years 1472–1475[28]. Thus, the Arte's decisions often have to be gleaned from indirect sources (indirectly reporting regulations and resolutions) or from collections of printed laws.

Memoriali e Negozi

An example of these indirect sources is the *Memoriali e Negozi*, which are not preserved in a dedicated archive, but in those of the Hospital of Santa Maria Nuova (also in the Florence State Archives)[29].
Nonetheless, they form an integral part of the guilds' historical documentation.
This material is heterogeneous in nature: disciplinary proceedings against unlicensed practitioners, requests for special licences granted as exceptions to the rules, and peti-

tions seeking appointments "nel posto di" (i.e. to replace) deceased physicians and surgeons.
This series of documents has already been partially used and should be prioritised in future research, as it offers valuable information on various aspects, such as:

1. Analysing the Grand Dukes' attitudes towards the diversity of medical practitioners[30];
2. Reconstructing the development of regulations and their approval, through references to previous or customary norms[31];
3. Outlining the agency of female healthcare practitioners[32];
4. Demonstrating the early adoption of hospital practice in the first attempts at pharmacological experimentation and in basic surgical training[33].

For completeness, material relating to the Arte can also be found in the Manuscripts collection of the State Archives of Florence. These are two registers that allow the reconstruction of the names of those who have "seduto" (sat, i.e. served) on the consular magistracy: lists of the Arte's Consuls from the mid-14th to the mid-17th century[34].

University Biomedical Library

Examinations Records

Finally, the University Biomedical Library, within the *Fondo del Collegio Medico Fiorentino*, preserves the *Registri di matricola* (Examinations Records), starting from 1560 to 1809[35].
This type of source details all the examinations records of aspiring practitioners who, if successful, were authorised to engage in the profession with any limits or restrictions established by the examiners: for example, a field limited to surgery (so-called "half-surgery") or only empirical medicinal remedies.
These registers were digitised by the University of Florence as part of the broader university project *"Impronte digitali"*, launched in 2010 and further developed in subsequent years[36]. The project aimed to promote and enhance the historical and archival materials held by the university libraries. As a result, the 13 oldest registration records are now accessible to researchers[37].
Each register is preceded by an alphabetical index (sometimes ordered by first name, other times by surname), listing the names of candidates who sat for the qualifying examination, together with the page number corresponding to the relevant examinations records. Changes in the composition of the commission are recorded every six months, followed by the examination sessions and their respective dates.
These records offer valuable personal data, including place of origin, academic background, patronymic, and the professional category to which the candidate belonged (physician, surgeon, practical healer, and, from the late eighteenth century, midwife),

as well as the medical-surgical practices they were authorised to perform, or any restrictions imposed by the Examiners.

4. A professional census from historical records

Among the documentation presented in section 3, the analysis will focus on the Guild Registers (State Archives of Florence) and the Examinations Records (Biomedical Library), for which a summary and synoptic overview table is provided as both a synthesis and a guide (Table 1).

Tab. 1

Type/Archive	State Archives of Florence		University Biomedical Library	
Guild Register: city/countryside	3+3 units	1297-1386, 1683-1778		
Registers for the city only	11 units	1408-1781		
Registers for the countryside only	13 units	1408-1769		
Examination Records			13 units	1560-1809

Although these sources are preserved in separate institutions, they are closely interconnected. Comparing them provides valuable insights.

The Guild Registers housed in the State Archives of Florence include all professional categories enrolled in the corporation, with a wide variety of professions beyond physicians, surgeons, and apothecaries: merchants, barbers, saddlers, hatters, etc. This means the records contain abundant information, making it necessary to extract only entries relating to medical professionals. Each register includes an alphabetical index with a reference to the name of practitioners and the corresponding record number.

However, as noted above, they are geographically divided between licences granted to practise in the city and those in the countryside; it is therefore necessary to consult both sets.

Even if they present a chronological gap at the end of the 14th century, they cover the entire chronological span of the guild's existence, including the medieval and early modern periods. For many centuries, they remain the sole surviving record. Although restored, these documents have not been digitised and must still be consulted in person.

The Examinations Registers, present at the Biomedical Library, contain more detailed qualitative information on each practitioner but survive only from 1560 onwards, following the health reforms introduced by Cosimo I de' Medici. However, the registers have been digitised.

It is therefore essential to integrate both sources in order to reconstruct the complete biographical profile of each practitioner: name, surname, patronymic, authorised therapeutic practices, and any restrictions imposed.

Several practical examples illustrate this point.
Giovanfrancesco Pichi, son of Bernardino, from San Sepolcro, was authorised as a physician after passing his exam on 15 July 1591 ("Adì 15 detto"), as recorded in the examinations records. A letter "f." in the margin identifies him as a "medico fisico" (physician), and the chronological number of exam was the twelfth of the semester for that group of Examiners. The commission, "having gathered together and completed the required procedures and reached a decision according to the regulations", approved him "as a physician and doctor of medicine in full accordance with the rules"[38].
On the same day, the guild registration records report the same information, adding the registration fee he was required to pay[39].
A few weeks earlier, Orazio Pennetti, son of Jacopo, from Florence, passed his examination as a "medico cerusico" (*surgeon*) on 4 July of the same year. Following the standard introductory formula, the record states that the candidate was authorised to practise "with full surgery and the usual limitations" as established by regulation (with no additional restrictions), "and with authorisation from a physician to perform bloodletting from any vein". A marginal note "c." indicates a surgical qualification, and the entry was the tenth in that semester[40].
In the Guild register, the same personal details are recorded, with the additional note that he was also required to pay the registration fee for his brother Lelio[41], who had been "matricolato" (formally admitted to the corporation) as a barber in October 1581[42].
A final example highlights issues related to name variants or incomplete personal information.
Giovanagnolo Ugolini, son of Matteo, from Santa Sofia in the Apennines of Romagna, was "matricolato", according to the examinations register, as a "medico con tutta la cerusia" (*surgeon*, "with full surgery") on 7 August 1601[43].
In the Guild's register, however, in the index at the beginning of the volume, his name is mistakenly abbreviated as "Gio.pagolo" (i.e., Giovanpagolo), without a surname but including his place of origin[44]. On the corresponding page, the entry records "Giovanagnolo", but the surname is replaced with ellipsis marks[45]. The practitioner's true identity becomes clear only when this record is cross-referenced with the examinations register.
From the examples presented above, it is clear that we are dealing with documents that could be systematically integrated into a database constructed from the information contained in the two archival fonds. Such a project could receive public funding for its development. While current digitisation efforts by the University of Florence have proven extremely valuable, the examples presented clearly illustrate how much a digital database could enhance the unification and systematic organisation of information drawn from the archival sources under examination. Translating a historical source into structured data is not simply a matter of filling in tables[46].
The proposed census aims to build a digital database with an empirical, source-oriented approach. The database, conceived in relational form, will be structured to en-

able connections not only between guild records and examinations, but also between medical practitioners and examiners, places, dates, and family members. The core fields will include, among others: first name, surname, patronymic, place of origin, date of examination, date of registration, professional category, type of authorisation, any restrictions on practice, fees paid, and precise source references. Alongside these, the system will include open and interpretative fields for recording contextual information, such as reasons for rejection, re-examinations, marginal comments, missing data, or compiler's notes. In an era where physical access to archives is increasingly constrained, the creation of well-designed digital surrogates – carefully transcribed, annotated, and relationally structured – has become a crucial step in ensuring continuity and depth in historical research.

The platform should support complex searches. It should allow filtering practitioners by geographical area, chronological range, specialization, examination outcome, or restrictions. It could also include visualisation tools to show the spatial and temporal distribution of licences, identify family networks, and map educational and professional trajectories.

This initial phase of database construction could subsequently be followed by its expansion through the digital reproduction of the records – the latter having already been carried out for the Biomedical Library, and the transcription of documents (not yet available), potentially using AI-based automatic transcription software.

This would allow researchers in applied historical sciences to cross-reference data relating to individuals such as physicians, surgeons, midwives, or practitioners active in the Tuscan region during the early modern period.

Large Language Models (LLM) could significantly enhance the utility of these historical sources. By leveraging natural language processing, an LLM could assist in normalising name variants, identifying missing information, and resolving inconsistencies across registers. For instance, cases like Giovanagnolo Ugolini, whose name appears differently in the guild and examinations records, could be automatically flagged for verification, while suggested standardisations could reduce manual cross-referencing effort.

Moreover, an LLM could facilitate exploratory queries and generate preliminary analyses across the entire dataset. This would allow researchers to formulate hypotheses rapidly, guide targeted archival consultation, and accelerate the creation of a comprehensive, annotated, and relationally structured database. In this sense, LLM act as both amplifiers and mediators of historical knowledge, bridging gaps between fragmented primary sources and enabling deeper, data-driven interpretations.

Conclusion

Answering what may seem like a simple question – "Who could practise medicine, how, and where in early modern Tuscany?" – is today far more achievable than it was in the past.

This paper has shown how the Arte dei Medici e Speziali functioned not only as a professional body but also as a powerful regulatory institution, overseeing licensing procedures, professional conduct, and continuing education. Through an integrated reading of archival collections held at the Florence State Archives and the University Biomedical Library, it is now possible to trace with precision the careers of physicians, surgeons, apothecaries, and later also midwives – highlighting their training paths, geographical origins, and areas of practice.

Thanks to the systematic recovery, analysis, and (where available) digitisation of key archival sources such as guild and examination documents, researchers are now in a position to reconstruct, with increasing precision, the professional profiles, competencies, and geographical distribution of healthcare practitioners active under the Medici Grand Duchy.

Moreover, the proposed methodological framework for a digital census demonstrates strong potential for future interdisciplinary research. By creating a searchable, structured database, researchers can not only support historical enquiry but also open new perspectives in the fields of digital humanities and medical history.

In conclusion, what was once an elusive picture, scattered across fragmented and at times inaccessible sources, can now be reconstructed in a coherent and accessible form. This new visibility of early modern medical practice in Tuscany is both a scholarly achievement and a call to further invest in the digitisation and integration of archival heritage.

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"books of the local apothecaries." This suggests that, in exceptional cases, maximum penalties might have been imposed. In Orlandini's case, the fine would have amounted to five thousand scudi but was ultimately reduced to two hundred. It is also recalled that in 1610, Cosimo II de' Medici reduced a similar penalty from four thousand scudi to three hundred. The document implies the existence of precedents for such practices, possibly based on customary application rather than formal statutory rules. State Archives of Florence (hereafter ASFI), Hospital of Santa Maria Nuova (hereafter OSMN), 200, c. 49. The source had already been referenced in Baldanzi F, Corporazione e professionisti della medicina nella Firenze di fine Cinquecento: regolamentazione, scontri ed eccezioni. In: Zurlini F, Vesprini A, Scendoni P (eds), Storiografia Medica in Europa nel Novecento. Dalla Medicina di Precisione alla visione olistica. Padova: Cluep; 2023. pp. 105-117, here p. 108.

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36. De Lucchi S, Loconsolo M, Impronte digitali. Biblioteche oggi 2016;34:30-42. De Lucchi S, L'esperienza di digitalizzazione delle collezioni librarie del Sistema Bibliotecario dell'Università di Firenze: Impronte digitali. DigItalia 2022;17(2):107-117.
37. https://onesearch.unifi.it/discovery/collectionDiscovery?vid=39SBART_UFI:39UFI_V1&collectionId=81216459770003299 (Accessed 7 August 2025).
38. Biomedical Library – University of Florence, Registri del Collegio Medico "A" (1560-1595), c. 166v: "N° 12 f. Adì 15 detto. Item insieme ragunati, servate le cose da osservarsi et ottenuto il partito secondo gli ordini approvarono Maestro Giovanfrancesco di Bernardino Pichi dal Borgo a San Sypolchro per medico et doctor fisico in tutto et per tutto secondo gli ordini".
39. ASFI, AMS, 23, c. 120r.
40. Biomedical Library – University of Florence, Registri del Collegio Medico "A" (1560-1595), c. 166v: "C. 10. Adì 4 di Luglio 1591. Item come di sopra ragunati, servate le cose da osservarsi et tratto li casi secondo gli ordini et ottenuto il partito secondo gli ordini, approvarono Maestro Oratio di Jacopo Pennetti fiorentino per medico cerusicho con tutta la cerusia et con le solite limitationi et con licentia del fisicho di poter cavar sangue per tutte le vene e tutto per ogni miglior modo et secondo gli ordini". Although less common, there were university-trained physicians who also obtained surgical licensure and subsequently practiced as surgeons. Among the most recent case studies clarifying the different types of surgeons, see Savoia P, Cosmesi e chirurgia. Bellezza, dolore e medicina nell'Italia moderna. Milano: Editrice Bibliografica; 2017. On the Spanish context: Wilson Bowers K, Renaissance Surgeons. Learning and Expertise in the Age of Print. London: Routledge; 2023.
41. ASFI, AMS, 13, c. 282v: "Debba paghare […] perché ha ricognoscuta la matricola di Lelio Pennetti suo fratello carnale matricolato nella presente Arte sotto il dì 25 d'ottobre 1581".
42. ASFI, AMS, 13, c. 178r: "Lelio di Jacopo d'Antonio Pennecchi (anzi Pennetti) fiorentino barbiere detto dì si scrisse et matricolò et si sottopose et si oblighò et giurò […] delli Statuti della presente Arte". Even in the initial alphabetical index, the correct surname "Pennetti" is added above the incorrect one "Pennecchi".
43. Biomedical Library – University of Florence, Registri del Collegio Medico "B" (1595-1638), c. 25r: "Adì 7 di Agosto 1601. Li sudetti signori Examinatori […] osservato et ottenuto il partito secondo li ordini approvarono Maestro Giovanagnolo di Matteo Ugolini da Santa Soffia di Romagna et Domenico di Maestro Giuliano di Piero Signi da Pescia habita in Firenze per medici cerusici con tutta la cerusia et con le solite limitationi".
44. ASFI, AMS, 13, Index, c. 24: "Giovanpagolo di Matteo da Santa Soffia__321".
45. Ibid, c. 321r: "Adì 7 detto. Maestro Giovagnolo di Matteo di … da Santa Soffia di Romagna cerusico detto dì si scrisse, matricolò, sottopose et si obbligò alla presente Arte secondo gli ordini rogans".

46. Scott SS, Majdik ZP, Clark D, Methods for extracting relational data from unstructured texts prior to network visualization in humanities research. J Open Humanit Data 2020;6(1):8. A practical application in the historical sciences is offered in: Spina S, Historical Network Analysis and Her tools for a digital methodological historical approach to the Biscari Archive of Catania. Um Digit;6(14):163-181. In this context, the University of Bologna's MemoBo project, "The Bolognese Memorials and their Cataloguing (1265–1452)", also offers a remarkable example: https://site.unibo.it/memobo/en/project (Accessed 7 August 2025).

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