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**The North–South Healthcare Divide in Italy: Socio-Economic and
Capacity Determinants of Perceived Access in the Post-Pandemic
Context**

By

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This work is dedicated to my family, who have always supported me, stood by me, and helped me become the person I am today. I would also like to express my sincere gratitude to my thesis advisor, Professor Valentina Beretta, for her continuous guidance, valuable advice, and support throughout this process.

Abstract

Attualmente, l'accesso al sistema sanitario in Italia presenta differenze significative tra le diverse regioni. Numerosi studi, in particolare quelli relativi al periodo pandemico, hanno reso tali disuguaglianze ancora più evidenti. Alcune regioni sono riuscite ad affrontare la pandemia in modo più efficace e a garantire una maggiore continuità dei servizi sanitari, mentre altre hanno incontrato notevoli difficoltà sia dal punto di vista economico sia in termini di capacità istituzionale. Questa situazione suggerisce che le politiche volte a ridurre le disuguaglianze nel Paese non abbiano prodotto gli stessi risultati in tutte le regioni. Sebbene i dati regionali forniscano un quadro generale, le esperienze individuali rendono la situazione più complessa. Anche nelle regioni considerate più solide dal punto di vista strutturale, alcune persone riferiscono lunghi tempi di attesa e difficoltà nell'ottenere appuntamenti. Al contrario, alcune persone che vivono in regioni strutturalmente più deboli riportano esperienze più positive nell'accesso al sistema sanitario italiano. Ciò indica che l'accesso all'assistenza sanitaria non può essere spiegato esclusivamente attraverso gli indicatori di capacità regionale e che devono essere prese in considerazione anche le dimensioni percettive e individuali. Pertanto, l'analisi congiunta degli indicatori regionali e delle percezioni individuali può fornire una comprensione più completa del funzionamento effettivo dell'accesso all'assistenza sanitaria in Italia. Questo studio utilizza dati ufficiali relativi agli anni della pandemia e al periodo successivo. L'analisi si concentra sulla relazione tra le condizioni economiche e sociali regionali, la capacità del sistema sanitario e l'accesso alle cure. A integrazione dei dati regionali, è stato condotto un breve questionario per comprendere come le persone sperimentino l'accesso ai servizi sanitari nella vita quotidiana. Il confronto tra queste due fonti consente di chiarire in che modo le condizioni strutturali si riflettano nelle percezioni individuali. Lo studio affronta tre principali domande di ricerca: se l'accesso percepito all'assistenza sanitaria differisca tra il Nord e il Sud Italia, in che

modo tale andamento sia collegato al contesto socio-economico regionale e se sia associato a differenze nella capacità del sistema sanitario. Al questionario hanno partecipato 120 persone provenienti dall'Italia settentrionale, centrale e meridionale. I risultati mostrano che gli intervistati del Sud hanno generalmente riportato un accesso meno favorevole rispetto a quelli del Nord, in particolare per quanto riguarda la facilità di ottenere un appuntamento e la probabilità di posticipare o rinunciare alle cure. Questo andamento è risultato nel complesso coerente con le differenze regionali nella capacità del sistema sanitario e nelle condizioni socio-economiche, sebbene non sia emerso in modo uniforme per tutti gli indicatori considerati. Inoltre, l'item relativo all'accesso durante la pandemia di COVID-19 ha mostrato un andamento opposto. Questi risultati suggeriscono che le disuguaglianze regionali nell'accesso all'assistenza sanitaria in Italia debbano essere interpretate come un fenomeno multidimensionale, piuttosto che come una divisione unica e uniforme.

Parole chiave: accesso all'assistenza sanitaria; disuguaglianze regionali; divario Nord-Sud; Italia; capacità del sistema sanitario; accesso percepito

Abstract

Today, access to the healthcare system in Italy shows noticeable differences across regions. Many studies, particularly those focusing on the pandemic period, have made these inequalities more apparent. Some regions were able to navigate the pandemic more effectively and maintain their health services more consistently. Others faced serious difficulties both economically and in terms of institutional capacity. This situation suggests that policies aimed at reducing inequality in the country have not produced the same results across regions. Although regional data provides a general overview, individuals' experiences make the picture more complex. Even in regions considered strong, some people report long waiting times and difficulties in obtaining appointments at those times. However, some people living in structurally weaker regions report more positive experiences with access to the healthcare system in Italy. This indicates that access to healthcare cannot be explained solely by regional capacity indicators, and that perceptual and individual dimensions should also be considered. Therefore, evaluating both regional indicators and individual perceptions together can provide a more comprehensive understanding of how healthcare access actually functions in Italy. This study uses official data from the pandemic years and the period that followed. The study focuses on the relationship between regional economic and social conditions, healthcare system capacity, and access to care. To complement the regional data, a short survey was conducted to understand how people experience access in everyday life. Comparing these two sources helps to clarify how structural conditions are reflected in individual perceptions. The study addresses three main questions: whether perceived access to healthcare differs between Northern and Southern Italy, how this pattern relates to the regional socio-economic context, and whether it is associated with differences in healthcare capacity. The survey collected responses from 120 individuals across Northern, Central and Southern Italy. The results show that respondents in the South generally reported less favourable access than those in the North, particularly regarding the ease of

obtaining an appointment and the likelihood of delaying or avoiding care. This pattern was broadly consistent with regional differences in healthcare capacity and socio-economic conditions, although it was not uniform across every measure considered, and the item concerning access during the COVID-19 pandemic showed the opposite pattern. These findings suggest that regional healthcare inequality in Italy should be understood as a multidimensional phenomenon rather than a single, uniform divide.

Keywords: healthcare access; regional inequalities; North-South divide; Italy; healthcare capacity; perceived access

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Chapter 1 Introduction

1.1 Overview

Italy has one of the largest public healthcare systems in Europe, built on the principle of universal access to care (Signorelli et al., 2020). The system is designed to ensure that all individuals can receive healthcare services regardless of their socio-economic status. Despite this objective, regional disparities in access persist, particularly between northern and southern Italy (Bruzzi et al., 2022). In addition to differences in access, variations in service quality and healthcare infrastructure have been observed over time. These disparities are widely discussed in both academic research and policy debates and continue to raise concerns about the system's overall equity. The COVID-19 pandemic placed significant pressure on the Italian healthcare system and exposed several underlying structural weaknesses. As highlighted in the literature, the response to the pandemic required rapid organizational adjustments and revealed important challenges in coordination, prevention, and service delivery (Torri et al., 2020). While the crisis affected the entire country, its impact was not uniform across regions. In particular, areas with lower levels of healthcare capacity faced greater difficulties in responding to the sudden increase in demand. Northern regions generally benefit from more developed hospital infrastructure, a higher availability of specialist healthcare staff, and more advanced digital health services. In contrast, southern regions often face more limited resources and weaker service provision (Di Ciaula et al., 2020). These differences became more visible during the pandemic, reinforcing existing concerns about regional inequality. At the same time, access to healthcare is not only determined by the availability of services but is also shaped by how individuals perceive their ability to obtain care when needed. Perceived access plays a key role because it can influence healthcare-seeking behavior, trust in healthcare institutions, and the

overall use of services. Individuals who expect difficulties in accessing care may delay or avoid seeking treatment, even when services are formally available. This shows that formal access does not always translate into effective use of healthcare. Previous research highlights that individual perceptions, expectations, and socio-economic conditions all contribute to how healthcare needs are fulfilled across different contexts (Antošová et al., 2022). For this reason, analyzing perceived access is essential for a more complete understanding of inequalities within the healthcare system. This thesis focuses on the north–south divide in healthcare access in Italy in the post-pandemic context. It examines how differences in socio-economic conditions and healthcare system capacity are reflected in how individuals perceive access to care. To do this, the study combines both secondary and primary data. This approach makes it possible to look at the issue from more than one perspective. Secondary data is taken from official sources such as the Italian Ministry of Health and ISTAT. These sources provide detailed regional information on healthcare capacity, infrastructure, and socio-economic conditions (ISTAT, 2019; Ministero della Salute, 2019–2023). The data is used to identify structural differences between regions and to support the interpretation of observed inequalities. The analysis focuses on the period between 2019 and 2023. This allows a comparison between the situation before the pandemic, the crisis itself, and the recovery phase that followed. Looking at these stages together helps to better understand how the system changed over time. By combining objective indicators with individual perceptions, the study aims to show not only how the system is structured but also how it is experienced in practice. In this way, the research contributes to the discussion on how the Italian healthcare system can become more equitable, inclusive, and resilient in the long term.

1.2 Motivation

The main motivation of this thesis is to examine regional healthcare inequalities in Italy from a more recent perspective. Differences between northern and southern regions have been widely documented, particularly regarding access to healthcare services and waiting times (Landi et al., 2018). Despite a universal healthcare system, these disparities persist and continue to raise concerns about equity. The COVID-19 pandemic made these differences more visible. During this period, pressure on healthcare systems increased significantly, and public trust in institutions became an important factor in how individuals responded to the crisis. Research shows that the pandemic reshaped trust in public institutions, influencing how people interact with healthcare systems and how they evaluate their effectiveness (Falcone et al., 2020). These changes highlight the need to better understand not only the system's structure but also how it is perceived by individuals. Most existing studies focus on objective indicators such as healthcare resources, infrastructure, and service availability. While these are important, they do not fully explain how access is experienced in practice. Previous research suggests that barriers to access, including organizational and socioeconomic factors, can limit healthcare use even when services are available (Matranga & Maniscalco, 2022). This indicates that analyzing perceived access is essential for understanding how inequalities affect real behavior. At the same time, regional differences in socioeconomic conditions play a significant role. Factors such as income, education, and labor structures can influence both the spread of health risks and access to healthcare services (Buja et al., 2020). In Italy, these differences are particularly evident across regions and contribute to long-standing inequalities in public service provision. Another key motivation of this study is to bring together different types of data to provide a more complete analysis. By combining secondary data on healthcare capacity and socioeconomic conditions with primary data collected through a survey, the study aims to connect structural differences with individual perceptions. This approach allows the research to go beyond

traditional analyses and better understand how inequalities are experienced in everyday life. Finally, healthcare access is closely linked to broader issues of social sustainability. Ensuring equal access to healthcare services is not only a policy objective but also a key element of social welfare and quality of life. For this reason, analyzing whether the changes and investments implemented after the pandemic have contributed to reducing regional inequalities is an important motivation for this research. The findings may support the development of more targeted policies aimed at improving fairness, inclusiveness, and long-term resilience in the Italian healthcare system

1.3 Research Aim and Questions

The main aim of this study is to examine differences in the perception of access to healthcare between the Northern and Southern regions of Italy at the regional level. The analysis focuses on the period from 2019 to 2023, covering both the years before and after the COVID-19 pandemic. Regional differences in healthcare resources and service organization have long been a topic of debate in discussions of the Italian healthcare system (Landi et al., 2018). Several studies have shown that how people perceive access to healthcare depends on various factors. In the Italian context, research suggests that patients' experiences with healthcare services often shape these perceptions. For example, aspects such as waiting times or communication with healthcare professionals can influence how individuals evaluate the accessibility of healthcare services (Messina et al., 2014; De Rosis & Barsanti, 2016). The COVID-19 pandemic also highlighted the role of healthcare system capacity. During the outbreak, some regions experienced a sharp increase in hospitalizations, which placed considerable pressure on hospitals and intensive care units (Trentini et al., 2022). This situation highlighted how both socioeconomic conditions and healthcare system capacity may influence how people experience and evaluate access to healthcare.

Based on these considerations, the present study addresses the following research questions:

RQ1 – What kind of differences exist between Northern and Southern Italy in terms of perceived access to healthcare in the period after the pandemic?

RQ2 – What is the socio-economic context of Northern and Southern Italy in terms of income, education, and employment, and how might this context help explain the differences in perceived healthcare access identified in this study?

RQ3 – How is healthcare system capacity (such as hospital infrastructure, number of healthcare staff, and waiting times) associated with the perception of access to healthcare?

1.4 Contribution of the Study

This thesis is expected to contribute to the existing literature and ongoing discussions on healthcare access in Italy. One of its main contributions is that it does not approach access to healthcare only through structural indicators such as infrastructure or system capacity, but also considers how individuals perceive their ability to access services. This perspective is important, since patient experience and satisfaction are often used to better understand how healthcare systems function beyond formal indicators (Donatini, 2020). By including perceived access, the study provides a more complete view of how healthcare services are actually experienced. Another contribution of the study lies in its focus on the post-pandemic period. Most earlier studies have examined inequalities using data from before the COVID-19 crisis, while more recent research suggests that the pandemic has changed both system performance and regional dynamics (Maino & Betti, 2026). For this reason, analysing the period after the pandemic allows for a more up-to-date understanding of how inequalities have evolved and whether recent changes have had any impact. In addition, the study considers socio-economic factors together with healthcare system capacity. These two dimensions are often analysed separately, but recent research highlights that resource allocation and access to healthcare are closely linked to underlying socio-economic conditions (Fantozzi et al., 2025). Looking at these elements together makes it easier to understand how structural differences between regions are reflected in access to services. Finally, by combining primary and secondary data, the study offers a more integrated perspective. Secondary data helps to identify regional differences at the structural level, while primary data provides insight into how these differences are perceived by individuals. Bringing these two perspectives together allows for a more realistic interpretation of healthcare access in Italy. In this way, the findings may support future policy discussions aimed at improving fairness, inclusiveness, and long-term sustainability within the healthcare system.

1.5 Structure of the Thesis

This thesis is organised into seven chapters. The first chapter introduces the general framework of the study. It presents an overview of the topic, outlines the motivation behind the research, and defines the research aim and research questions. It also explains the expected contribution of the study. The second chapter provides the literature review. It focuses on regional healthcare inequalities in Italy, with particular attention to the north–south divide. It also examines the relationship between socio-economic conditions and access to healthcare, as well as the role of healthcare system capacity and perceived access in the post-pandemic context. The third chapter describes the context of the study and the data sources used. It presents the main socio-economic and healthcare capacity indicators and provides background information on the post-pandemic period. It also explains the survey used to measure perceived access to healthcare. The fourth chapter outlines the methodology. It describes the research design, the variables included in the analysis, the data collection process, and the analytical approach. The fifth chapter presents the findings. It analyses regional indicators, survey results, and the relationship between objective data and perception-based measures. It also compares the differences between northern and southern regions. The sixth chapter discusses the findings. It interprets the results and considers their implications for regional healthcare policies, with particular attention to the post-pandemic period. It also discusses the main limitations of the study. The final chapter concludes the study. It summarises the main findings, highlights the contributions of the research, and provides recommendations for policy and future studies.

Chapter 2 Literature Review

2.1 Overview

Access to healthcare and regional inequalities in Italy have long been an important area of debate in the fields of public policy, health economics, and social policy. Especially in countries that have adopted a universal healthcare model, although the principle of equality is established at the legal and institutional level as one of the core foundations of the system, regional differences can still emerge in practice. The fact that healthcare services are organized at the national level does not necessarily mean that every region has the same capacity, the same level of service, or the same degree of access. As Betti et al. (2023) also point out, one of the main challenges faced by the Italian healthcare system is improving the level of quality and equity across regions. Inequalities in access to health services cannot be explained only by differences in income or education. Disparities may also emerge at the geographical and regional level. Such regional differences are often linked to structural factors, including the distribution of public investments, infrastructure capacity, the availability of healthcare personnel, and local governance practices. Disparities tend to become more visible in systems that operate under a central framework but are decentralized in practice. One example of this can be seen in the organization of specific health services. For example, Italian regions adopt different organizational models in the provision of emergency services. Lombardy, for instance, has traditionally operated under a more centralized structure, with a single authority coordinating emergency care across the region, whereas many other regions rely on more decentralized arrangements in which local health authorities manage services independently (de Belvis et al., 2022). In this context, the Italian National Health Service represents a notable example.

Although the system aims to ensure universal coverage at the national level, the planning and delivery of services are largely carried out at the regional level. As a result, differences in implementation and performance can be observed across regions. The literature frequently highlights significant disparities between Northern and Southern Italy in terms of health infrastructure, financial capacity, and service provision. According to Bruzzi et al. (2022), during the 1990s reform debate, a major concern was that regionalization in a country historically characterized by a strong North–South economic and social divide could lead to the development of highly differentiated regional systems. In certain areas of healthcare, these inequalities become even more visible. For example, although the development of palliative care services is relatively recent, nationwide evidence suggests that their availability and accessibility vary significantly across Italian regions (Benini et al., 2024). Despite the introduction of national regulations aimed at strengthening these services, their capacity and effective delivery continue to differ at the regional level. This indicates that healthcare provision is shaped not only by formal legal frameworks but also by the administrative capacity of local authorities and the financial resources available within each region. Beyond specific service areas, regional inequalities are not limited solely to differences in service capacity. They are also closely linked to the distribution of public resources and the structure of regional governance. Several studies indicate that Northern regions generally benefit from stronger healthcare infrastructure, while certain types of services in Southern regions remain more limited in capacity (Benassi et al., 2025). Such differences make the interaction between the structural characteristics of the healthcare system and regional socio-economic conditions more visible. Recent studies underline that regional inequalities should not be assessed only through objective indicators, but also by taking into account individuals' experiences and perceptions of healthcare services. In this respect, Adinolfi (2014) highlights the contrast between the official principles of the Italian National Health Service and its actual performance, particularly with

respect to patient perceptions and regional disparities. This perspective suggests that access to healthcare is not a one-dimensional concept but involves both structural conditions and personal experiences. Within this literature framework, this chapter will first examine regional healthcare inequalities in Italy. It will then discuss the North–South divide and explore the relationship between socio-economic conditions, healthcare system capacity, and access to healthcare services. Finally, recent debates that have emerged in the post-pandemic period will be addressed in order to establish the theoretical foundation of this thesis. In this way, the chapter aims to provide a structured background that will support the empirical analysis presented in the following sections.

2.2 Regional Healthcare Inequalities in Italy

According to Ricciardi and Tarricone (2021), the National Health System (Servizio Sanitario Nazionale, or SSN) was established in 1978, marking the beginning of Italy's modern healthcare system. This universal, tax-funded model aims to provide healthcare to every citizen and to guarantee equal access to healthcare services for everyone in society. Although the overall structure and financing are defined at the national level, the responsibility for organizing and managing services lies largely with the regions. As a result, regional authorities play a key role in the administration and delivery of publicly funded healthcare (France et al., 2005). There are three primary administrative levels in the Italian healthcare system: national, regional, and local. At the national level, the Ministry of Health regulates the general framework of the system, specifies the range of basic healthcare services, and creates general guidelines for resource distribution among regions. All regions are required to offer the "Levels of Basic Healthcare Services" (Livelli Essenziali di Assistenza, or LEA), a service package defined within this framework. At the regional level, healthcare services are largely planned and financed by regional authorities. Each region is responsible for managing its own health budget, organizing local health institutions, and setting services based on regional needs. This allows healthcare services to adapt to local conditions. However, it can also lead to differences between regions in terms of service quality and access to healthcare. At the local level, healthcare services are provided by local health authorities (Aziende Sanitarie Locali – ASL) and public hospitals (Ferré et al., 2014). These institutions provide care directly to the people living in their area. Healthcare services can also be provided by private facilities that operate under agreements with the public system, although the majority of services are delivered by public institutions. Thus, the situation has resulted in a system where public and private providers

operate together within the Beveridge model (Ferré et al., 2014). The regional structure of the healthcare system allows for a more direct response to local needs. At the same time, it has led to observable disparities in infrastructure, funding, and service quality across regions. Stronger economic regions have typically allowed for greater healthcare investment and improved service capacity. On the other hand, areas with fewer resources have experienced more capacity and access limitations (France et al., 2005). For this reason, despite the fact that the Italian healthcare system is based on universal coverage, regional disparities have remained a significant issue in the literature.

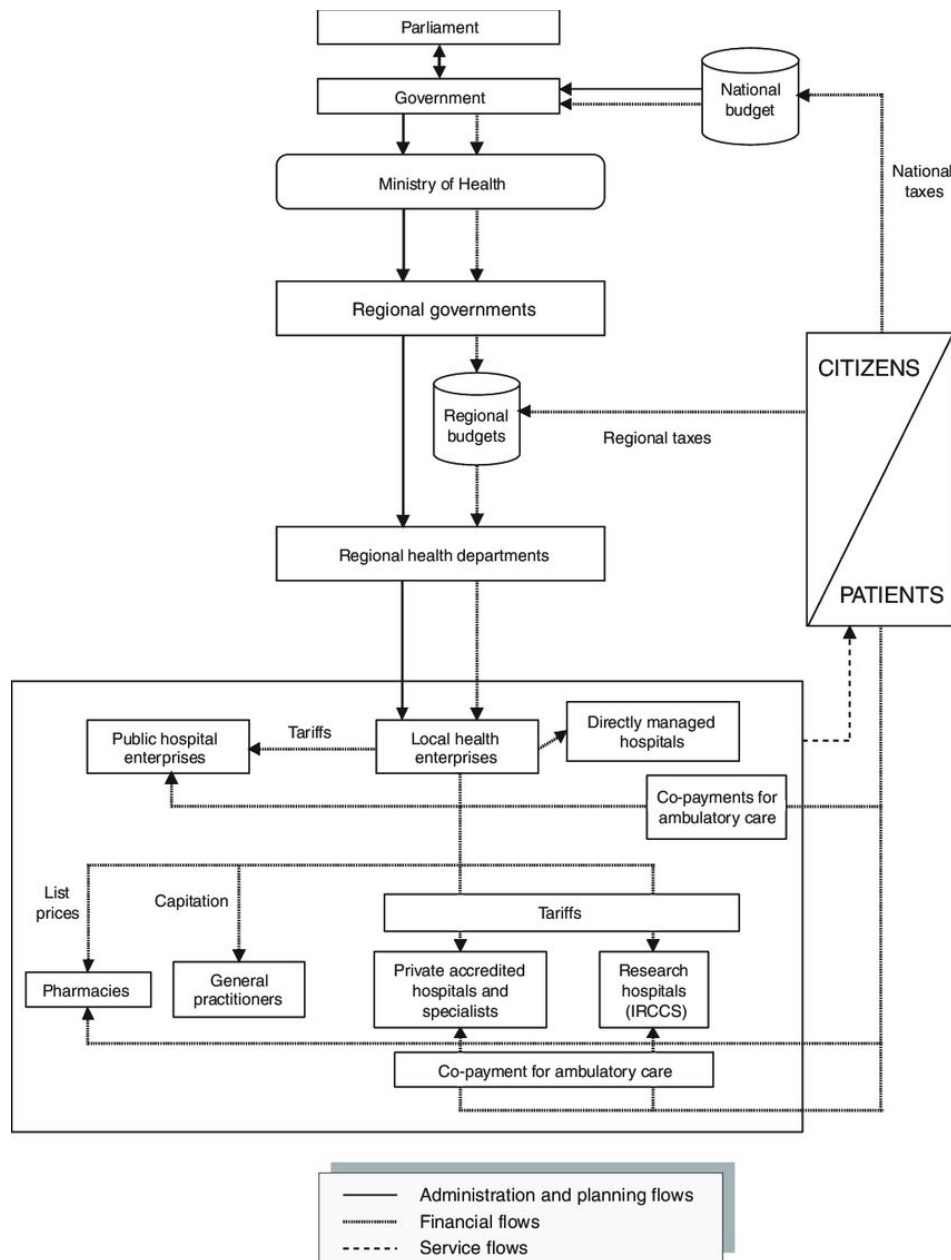


Figure 1 – Overview of the Italian healthcare system. Source: Ferré et al. (2014, p. 18).

2.3 The North–South Divide in the Italian Healthcare System

Italy has long experienced economic differences between the North and the South. The North, especially regions such as Lombardy, contributes a much larger share to the national economy, while the South accounts for a smaller share of GDP. These differences are linked to long-term gaps in employment, productivity, and regional development. Over the years, several policies

have aimed to reduce these regional gaps. Also, the inequalities between the North and the South have persisted and remain a significant feature of Italy's economic and social structure (Asso, 2023). According to Viñuela Jiménez et al. (2025), these regional gaps are not only relevant to income levels but also to other socioeconomic indicators. They also reflect differences in infrastructure, institutional strength, and access to basic services. In other words, economic disparities tend to shape how public services function in different parts of the country. Lower public investment and a lack of administrative capacity are common issues in areas with a lower economic level. In Italy, the majority of healthcare is managed at the regional level. Therefore, these regional economic differences are also reflected in the distribution of healthcare resources across the country. Even though the SSN is intended to guarantee equal access to healthcare, different regions do not have equal access to facilities and medical supplies. Southern regions have historically had fewer hospital beds and more limited access to advanced medical technologies compared to northern regions (France et al., 2005). For example, data reported by the Italian National Institute of Statistics indicate that the number of hospital beds available to the population was noticeably lower in southern regions, where capacity remained below the levels observed in northern areas (Istituto Centrale di Statistica, 2005). Similar disparities in access to diagnostic technologies were noted, with equipment like CT and MRI scanners being more readily available in northern regions. Those are essential for early diagnosis and specialized treatment. Limited infrastructure and medical capacity in some southern regions led patients to seek treatment elsewhere, as specialized services were not always available locally. This resulted in a large patient migration from southern regions to central and northern Italy, where healthcare systems were generally better equipped, as France (1997) discusses. This pattern continued in the following years, as a large number of patients still received hospital treatment outside their region of residence, many of them travelling from southern regions to economically stronger northern regions such as Lombardy and Emilia-

Romagna (Fiorini et al., 2002). This trend highlights how regional economic and structural inequalities have also translated into unequal access to healthcare services within the Italian healthcare system. Another important point is that the uneven distribution of medical professionals across the nation is a significant contributor to regional disparities in healthcare access. Seeing a doctor is typically the first step in obtaining diagnostic procedures or additional medical treatment. According to Mangano (2010), the availability of doctors can substantially affect how often people benefit from healthcare services, and general practitioners serve as gatekeepers in the Italian healthcare system, meaning that patients often need to see a family physician before being referred for specialized care. Therefore, the simplicity with which patients can access the healthcare system and receive the necessary treatments may be impacted by this structure and regional differences in the number of physicians available. Moreover, changes in the organization of the Italian healthcare system have also affected how healthcare services are used across regions. During the 1990s, several reforms were introduced to reduce unnecessary hospital admissions and to encourage other forms of care, such as outpatient treatment and day-care services. As a result, the role of primary care and specialist consultations gradually became more important within the system, while hospital admission rates started to decline (Mangano, 2010). Overall, these structural and institutional differences demonstrate how regional inequalities can shape both the availability and the use of healthcare services in Italy. Despite the universal principles of the SSN, territorial disparities continue to influence healthcare access, service capacity, and patient mobility across regions. For this reason, the North–South divide remains a key issue in understanding how healthcare resources and services are distributed within the Italian healthcare system.

2.4 Socio-Economic Conditions and Health Access

Socio-economic conditions are widely recognized as a significant determinant of individuals' access to and utilization of healthcare services. In Italy, as in numerous other developed nations, individuals with higher incomes and strong social resources typically face fewer challenges when accessing medical care. Research has shown that factors such as income level, education,

and social environment can shape both the opportunities individuals have to use healthcare services and the way they interact with the health system (Braggion, Campostrini, & Bertin, 2015). The idea of social determinants of health is often used to explain these differences. People's health can be affected in many ways by their social and economic situations. For example, they could change whether people get preventive care, how often they see a doctor, or how easy it is for them to find health information. As Braggion et al. (2015) point out, inequalities in healthcare access cannot be understood solely by examining the healthcare system; they are also closely connected to broader social and economic structures that shape individuals' living conditions and resources. These socioeconomic differences are also reflected in regional poverty levels across the country (see Figure 2).

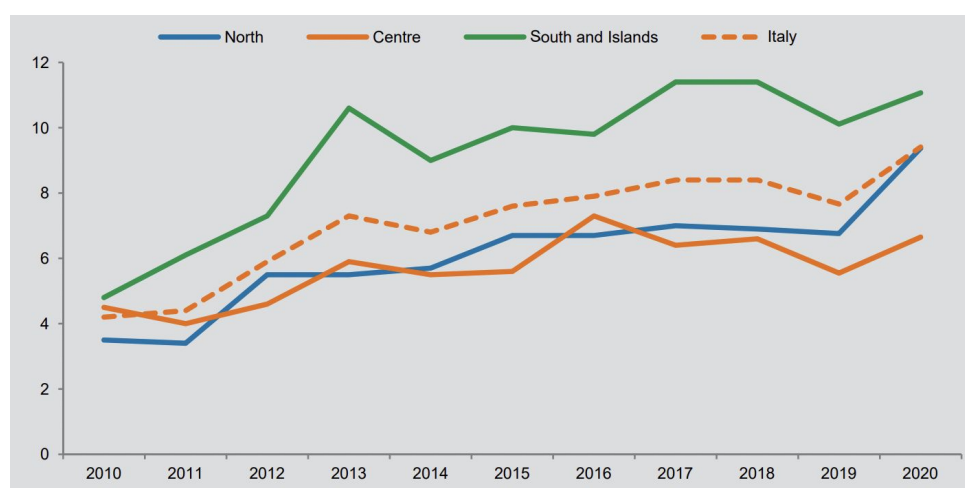


Figure 2 – People living in absolute poverty by geographic area in Italy, 2010–2020. Source: ISTAT (2020, p. 23).

As illustrated in Figure 2, the share of people living in absolute poverty is consistently higher in the South and Islands than in other parts of Italy. Waiting times have also been discussed as an important factor affecting access to healthcare, alongside these structural factors. In publicly funded healthcare systems, long waiting times are a barrier to accessing care, particularly for individuals with limited means. Landi et al. (2018) note that long waits for medical care can

make some patients less likely to receive treatment or to seek alternatives outside the public system. Thus, differences in waiting times also reflect general socioeconomic inequalities in access to and use of healthcare services. Income differences are often discussed in relation to health outcomes. In the Italian context, several studies have examined whether unequal income distribution is associated with differences in mortality. For instance, Materia et al. (2005) report that provinces with lower average income tend to show higher mortality levels. That means economic conditions may influence population health differently across regions. Even in a universal healthcare system, socioeconomic differences can still influence how health services are used. In Italy, individuals with higher socioeconomic status often make greater use of specialist care and diagnostic services. By contrast, visits to general practitioners are more common among people with lower socioeconomic status. This pattern suggests that income and social resources can still shape how different groups access healthcare services (Glorioso & Subramanian, 2014). Income disparities are not the only factor influencing access to healthcare. Education is also crucial, as it affects people's health knowledge, awareness of preventive services, and capacity to utilize the healthcare system. Research on the Italian healthcare system indicates that individuals with different educational backgrounds may interact with the system differently. Specifically, individuals with higher levels of education are generally more inclined to seek specialized care. Conversely, those with less education may have different patterns of healthcare utilization. These differences show that people's decisions regarding calling medical help and navigating the healthcare system can be influenced by their education level (Masseria & Giannoni, 2010). Another dimension of inequality concerns groups that may face additional barriers to obtaining healthcare. Migrants are often described in the literature as a particularly vulnerable population in this regard. Even though Italy provides universal healthcare coverage, access to services is not always equal across all groups. Difficulties may arise from several factors, including language barriers, limited familiarity with the healthcare system, and complex

administrative procedures, which can delay or discourage the use of medical services, as highlighted by Di Napoli et al. (2022). Cultural differences and financial constraints may further reduce the use of preventive services or routine medical visits. In some cases, these barriers lead migrants to rely more frequently on emergency care or to experience avoidable hospitalizations compared with the native population (Di Napoli et al., 2022). Overall, these studies indicate that access to healthcare is affected by several social and economic factors. Researchers have examined how these factors are used and how they influence healthcare services across various groups in the Italian context. Although universal health insurance supports the Italian National Health Service, it does not always guarantee equal access for everyone. According to previous studies (Masseria & Giannoni, 2010; Di Napoli et al., 2022), inequalities in socioeconomic status, education, and migration background continue to affect people's interaction with the healthcare system and their search for medical assistance. For this reason, understanding how social conditions shape access to healthcare remains an important issue in the Italian healthcare system.

2.5 Healthcare System Capacity

Healthcare system capacity can also shape how easily people obtain medical care. In Italy, healthcare services are provided through the National Health Service (Servizio Sanitario Nazionale, SSN), established in 1978, which guarantees universal coverage for citizens and

legal foreign residents. Despite this universal structure, the system is highly decentralized, with regional authorities playing a major role in organizing and delivering healthcare services. As noted by De Belvis et al. (2024), this decentralized organization can lead to differences in the availability of healthcare resources and services across regions. In practice, this may affect waiting times, local service availability, and the overall ease with which patients can access care within the public system (De Belvis et al., 2024). A key component of healthcare system capacity is the availability of health professionals. In Italy, the overall number of physicians is slightly above the European Union average. In 2021, the country had around 410 practising doctors per 100,000 inhabitants, compared with the EU average of 407. However, the situation is different for nursing staff, where Italy reports significantly lower numbers than the EU average. In the same year, Italy had approximately 621 nurses per 100,000 inhabitants, compared with 770 across the EU. These differences indicate that workforce capacity within the Italian health system is uneven and may affect the provision of healthcare services (De Belvis et al., 2024). As illustrated in Figure 3, Italy is close to the EU average in terms of physician density, but falls below it for the number of practising nurses.

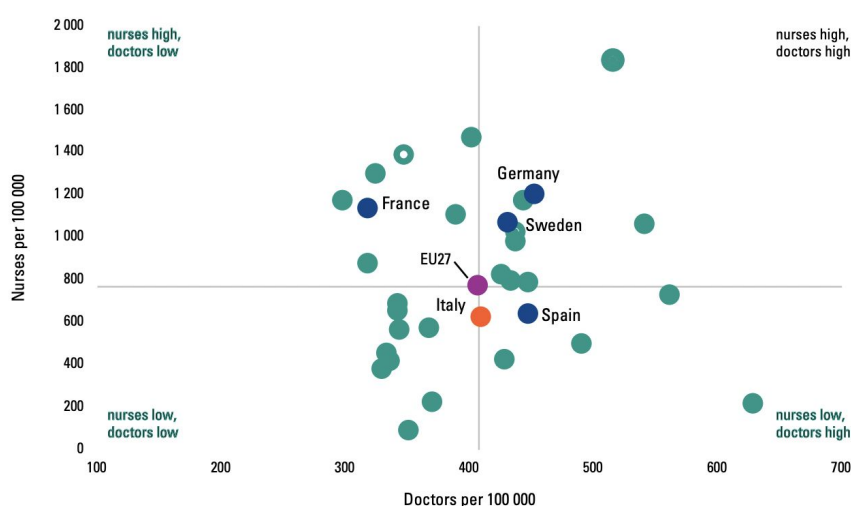


Figure 3 – Practising physicians and nurses per 100,000 population in EU countries (latest available data).

Source: De Belvis et al. (2024), based on Eurostat data.

Another important element of healthcare system capacity is hospital infrastructure. Even before the COVID-19 pandemic, Italy had a relatively low number of hospital beds compared with many other European countries. In 2019, there were about 3.2 hospital beds per 1,000 inhabitants, roughly two-thirds of the EU average (European Commission, 2023). During the first year of the pandemic, hospital activity changed significantly. Hospital admissions dropped by more than 18% in 2020 as non-urgent procedures were postponed and resources were redirected toward managing the health emergency. At the same time, efforts were made to increase intensive care capacity. The number of ICU beds rose to about 11.8 per 100,000 inhabitants, representing an increase of more than 35% compared with the previous year (European Commission, 2023). These developments illustrate how crucial hospital capacity became during the pandemic, as healthcare systems faced sudden increases in demand for medical services. In such situations, healthcare systems may experience considerable pressure as the demand for care rises rapidly. Evidence from Italy, particularly during the outbreak in Lombardy, shows how sudden surges in hospitalizations placed significant strain on hospital resources and intensive care units (Trentini et al., 2022). Such developments illustrate how a healthcare system's capacity can shape the delivery and access of services. When hospitals operate with limited infrastructure or face sudden increases in demand, delays in treatment and longer waiting times may occur. In this sense, healthcare capacity is closely related to the accessibility of medical services, as the availability of beds, medical staff, and equipment can determine how quickly patients receive care.

2.6 Perceived Access and Post-Pandemic Implications

The perception of access to healthcare is not only related to the formal availability of services. It also concerns how patients experience and evaluate the care they receive. In recent years, patient satisfaction has become a significant indicator of how individuals perceive the quality and accessibility of healthcare services. Evidence from Italy suggests that patients' prior experiences with the healthcare system and their satisfaction with physicians can influence how they interact with healthcare services and how they evaluate the care provided (De Rosis &

Barsanti, 2016). Studies on hospital care also show that the patient perspective matters. In Italian emergency departments, satisfaction appears to be influenced by practical factors, including waiting times, communication with staff, and the organization of care (Messina et al., 2014). More recent Italian research points in a similar direction, showing that patients do not judge healthcare quality solely on clinical outcomes. Their views are also shaped by staff behaviour, how clearly information is communicated, and how hospital services are managed overall (Alibrandi et al., 2023). In recent years, more attention has focused on how patients experience healthcare services. Looking only at formal indicators, such as the number of hospitals or medical staff, does not always show how accessible care really is for patients. For this reason, some studies have begun examining patient complaints and feedback as an additional way to identify weaknesses in healthcare systems. For example, research analysing communications sent by patients to healthcare organizations shows that many complaints are related not only to medical treatment itself but also to difficulties accessing services, communication problems with professionals, and organizational aspects of care (Venuleo et al., 2024). These experiences can therefore provide useful insights into how healthcare systems function in everyday practice. The COVID-19 pandemic further changed how people evaluated healthcare services. During the first phase of the pandemic in Italy, many individuals expressed appreciation for the public health system's support during the emergency. At the same time, however, several practical difficulties were reported. Some patients reported difficulties contacting their general practitioner during the pandemic, while others mentioned delays or limited availability of certain healthcare services (Vitale et al., 2022). These situations affected how people experienced the healthcare system in practice. In periods of crisis, access to care may become more difficult, which can influence how patients evaluate the responsiveness of healthcare services. Previous studies have often focused on individual aspects of healthcare access, such as regional disparities, socioeconomic conditions, or the capacity of healthcare

systems. However, fewer studies have examined how these factors interact to shape people's perceptions of access to healthcare across Italian regions, especially after the pandemic. Therefore, understanding perceived access in healthcare can help explain how structural inequalities within the system are experienced by individuals.

Chapter 3 Context and Data Sources

3.1 Overview

This chapter presents the context of the study and explains the data sources used in the analysis. The objective is to examine healthcare access in Italy by combining structural indicators with individuals' perceptions. To achieve this, the study relies on both secondary and primary data

sources, allowing for a more comprehensive understanding of healthcare accessibility. The secondary data used in this study is mainly obtained from official statistics published by the Italian Ministry of Health, specifically the *Direzione Generale della Digitalizzazione, del Sistema Informativo Sanitario e della Statistica – Ufficio di Statistica* (Ministero della Salute, 2019–2023). These datasets provide detailed regional information on healthcare system capacity, including hospital bed availability and healthcare personnel. Indicators such as hospital beds and healthcare workforce are commonly used in the literature to assess the capacity and performance of healthcare systems (Mbau et al., 2022). In addition to healthcare system data, this study also considers regional socioeconomic conditions. Differences in income levels, employment opportunities, and overall economic development can shape how individuals access healthcare services and how often they use them. Previous studies on Italy show that these factors can create barriers to access, leading to inequalities in healthcare utilization across regions (Matranga & Maniscalco, 2022). For this reason, selected ISTAT indicators are used to provide a general background on regional economic differences. These indicators are not analyzed in depth but are included to support the interpretation of regional disparities observed in healthcare access (ISTAT, 2019). The analysis focuses on the period between 2019 and 2023. This time frame is important because it allows the study to look at how healthcare access evolved before, during, and after the COVID-19 pandemic. In particular, the pandemic period brought significant challenges for healthcare systems, as increased demand and resource constraints made it more difficult for individuals to access care and led to longer waiting times (Pujolar et al., 2022). At the same time, these effects were not experienced equally across regions. Existing research shows that the pandemic often reinforced pre-existing differences in healthcare use and access, with some regions being more affected than others (Frey et al., 2024). Considering these dynamics is essential in order to understand whether regional inequalities observed today are new developments or extensions of earlier structural

differences. While secondary data provides an objective view of the healthcare system, it does not fully capture how individuals experience access to care. Primary data is therefore collected through an online survey conducted as part of this research. Survey-based approaches are widely used to explore how individuals perceive healthcare services, including aspects such as quality, accessibility, and overall experience. These perception-based measures are particularly important, as they reflect how people evaluate the services they receive in their local context (Spezia et al., 2025). The study follows a comparative approach, focusing on differences across Northern, Central, and Southern Italy. Regional patterns are examined by bringing together healthcare capacity indicators and survey responses on perceived access. This makes it possible to explore whether areas with higher levels of healthcare resources are also perceived as more accessible by individuals. Rather than relying on a single type of data, the analysis combines structural indicators with individual perceptions in order to provide a more complete view of healthcare access. The following sections describe these data sources in detail and explain how they are used to support the overall analysis of regional differences.

3.2 Regional Socio-Economic Indicators

Regional differences in healthcare access in Italy cannot be understood by looking only at the healthcare system itself. The broader economic and social environment also shapes how individuals access and use healthcare services, since unequal access to resources and opportunities can directly influence people's ability to benefit from available services (Rydzewski, 2025). Therefore, this study considers a small set of socio-economic indicators to provide additional context for the analysis. One of the main indicators included is GDP per

capita at the regional level. This measure is commonly used to reflect the economic strength of a region and, as discussed by Rydzewski (2025), differences in access to digital infrastructure and technology can create productivity gaps that are closely linked to overall economic performance. Regions with stronger economic structures tend to provide better living conditions, which can reduce barriers to healthcare access. In this sense, GDP per capita does not only capture income differences but also reflects broader structural advantages that may influence how easily individuals can access healthcare services (Jagrič et al., 2022). Building on this, regional economic patterns in Italy also show that growth and labour market dynamics are not evenly distributed across the country. Data from ISTAT (2019) indicates that employment growth has been consistently stronger in northern regions, particularly in the north east, where it reached around 1.2%, while the centre and especially the south experienced much more limited increases, in some cases close to 0.1%. This uneven development reflects a long-standing structural divide, where economic opportunities remain more concentrated in the north, while southern regions continue to face more constrained labour market conditions (ISTAT, 2019). A similar pattern can be observed when looking at GDP trends. Although overall national growth remained relatively modest, regional differences were still clearly visible. According to ISTAT (2019), the north east recorded the strongest performance, with GDP growth of approximately 0.5%, whereas southern regions showed slower progress, with values closer to 0.2%. These differences are not only short-term variations, but also point to more persistent gaps in economic activity and productivity across regions. In this sense, economic performance can influence the environment in which healthcare systems operate, affecting both the availability of resources and the conditions under which services are provided (ISTAT, 2019). In addition to income and employment, education also plays an important role in shaping health outcomes and access to care. Individuals with higher levels of education tend to have better overall health and longer life expectancy, and are generally more likely to engage in preventive behaviours and

make informed decisions regarding healthcare, as discussed by Raghupathi and Raghupathi (2020). This suggests that education does not only affect economic opportunities, but also influences how individuals interact with healthcare systems and make use of available services (Raghupathi and Raghupathi, 2020). At the same time, labour market conditions can directly affect healthcare use, especially during periods of crisis. Evidence shows that individuals who experience job loss are more likely to delay or avoid seeking medical care, often due to financial uncertainty or changing priorities. For example, Ksinan Jiskrova et al. (2021) find that during the COVID-19 period, individuals who lost their jobs reported lower use of healthcare services and higher levels of postponed care. This highlights how economic vulnerability can translate into reduced access to healthcare, reinforcing the importance of considering socio economic conditions when interpreting regional differences in perceived access (Ksinan Jiskrova et al., 2021).

3.3 Healthcare Capacity Indicators

Healthcare capacity is usually discussed as the ability of a system to respond to patient needs, but in practice it depends on several elements working together. It is not only a question of how many resources exist, but also how they are distributed and used across regions. In the literature, capacity is generally described through a combination of infrastructure and workforce, including hospital beds, medical equipment, and healthcare professionals (Halásková and Bednář, 2021). These components define how much care can be delivered at a given moment

and how evenly it is available within a country (Halásková and Bednář, 2021). The importance of these elements became much clearer during the COVID-19 pandemic. Health systems were suddenly exposed to a level of demand that exceeded normal operating conditions. Countries reacted by expanding hospital capacity, increasing intensive care units, and reorganizing services to deal with emergency needs. In many cases, healthcare workers were moved across departments and additional staff were temporarily introduced. These adjustments were necessary to sustain the system under pressure (Winkelmann et al., 2022). At the same time, the crisis made existing differences more visible. Regions that already had stronger infrastructure and workforce were able to adapt more quickly, while others faced more severe limitations in maintaining access to care (Winkelmann et al., 2022). Among the different indicators used to capture capacity, the number of hospital beds remains one of the most direct. It provides a clear picture of how physical resources are distributed and allows comparisons across regions. In the Italian context, this distribution is not uniform, and northern regions generally show higher levels of bed availability compared to central and southern areas (Leogrande et al., 2023). This pattern reflects deeper structural differences, since regions with stronger economic conditions tend to sustain higher levels of healthcare infrastructure (Leogrande et al., 2023). At the same time, variations over time suggest that bed availability is influenced by policy decisions and resource allocation, rather than being a fixed characteristic of the system. However, infrastructure alone does not fully explain access. The role of healthcare professionals is equally important, since services cannot function without adequate staffing. Even where facilities are available, access can remain limited if there are not enough doctors or nurses to provide care. Primary care plays a particularly important role in this context. The availability and organization of general practitioners influence how individuals enter the system and how quickly they can receive initial treatment. Differences in local organization, working hours, and service coverage can therefore create variations in access, even within the same national

framework (Diglio et al., 2025). This shows that capacity is not only about quantity, but also about how services are organized and delivered (Diglio et al., 2025). Workforce conditions also affect the quality and effectiveness of care. Research shows that higher workloads and lower staffing levels are associated with worse patient outcomes. When the number of patients per nurse increases, the ability to monitor patients and provide timely care tends to decrease. On the other hand, better working environments are linked to higher patient satisfaction and lower risks in hospital settings (Catania et al., 2024). This indicates that capacity should not be interpreted only in numerical terms, since the way resources are managed directly influences system performance (Catania et al., 2024). Another dimension that reflects capacity is waiting time. From the patient perspective, waiting time is often the most visible indicator of access. Long delays usually suggest that demand exceeds available resources. In Italy, waiting times vary across regions and have been widely discussed in relation to transparency and communication with patients. Differences in how waiting time information is provided also affect how these delays are experienced and understood (De Rosis et al., 2020). For this reason, waiting time can be seen as an indirect measure of capacity, linking the availability of resources to the actual experience of accessing care (De Rosis et al., 2020). All together, these indicators show that healthcare capacity is a multi-dimensional concept. It cannot be reduced to a single variable, since infrastructure, workforce, and system organization all interact in shaping access to care. By considering these elements together, it becomes possible to better understand why access differs across regions and how these differences are experienced within the Italian healthcare system.

3.4 Post-Pandemic Background (2019–2023)

The period between 2019 and 2023 is important because it captures a clear break in how healthcare systems were functioning before and after the pandemic. What changed was not only the level of demand, but also how systems were able to respond to it in real time. During the first phase of COVID-19, health systems across Europe were pushed beyond their normal operating

conditions, and this made existing weaknesses much more visible (Lupu & Tiganasu, 2022). In particular, the sudden increase in hospitalisations and intensive care needs created a level of pressure that many systems were not fully prepared to handle, especially in regions where resources were already limited (Berger et al., 2022). At the same time, even where emergency measures were introduced, such as increasing ICU beds or reallocating staff, these adjustments did not fully eliminate structural differences between countries and regions, but rather exposed them more clearly (Lupu & Tiganasu, 2022). Another aspect that became very visible during this period was the disruption in access to healthcare services. Many individuals postponed or completely avoided medical visits, not only because of system overload, but also due to fear of infection and mobility restrictions. Evidence from Italy shows that a significant share of the population experienced delays in scheduled treatments or chose not to seek care at all, even when needed (Gualano et al., 2021). This situation did not affect everyone in the same way. More vulnerable groups, especially those with chronic conditions, were more likely to experience interruptions in care, which suggests that the pandemic did not create inequalities from scratch but intensified existing ones (Gualano et al., 2021). In this sense, the impact of COVID-19 goes beyond the immediate health crisis and extends to how access to care is perceived and experienced by different groups. The Italian case is particularly relevant in understanding the early dynamics of the pandemic in Europe. Italy was one of the first countries to be severely affected, and this was linked not only to epidemiological factors but also to territorial and structural characteristics, including population density, mobility patterns and regional organisation of services (Murgante et al., 2020). These factors influenced how quickly the virus spread and how healthcare systems responded at the local level. As a result, differences between regions were not only present but became more pronounced during the crisis, reinforcing the idea that access to healthcare cannot be analysed without considering broader regional conditions. Looking at the later phase of the period, attention gradually shifted from

emergency response to recovery and system strengthening. At the European level, the pandemic triggered large-scale financial and policy interventions aimed at supporting both economic and healthcare system recovery (de Leverano, 2020). These initiatives recognised that the impact of the crisis was not limited to short-term disruptions but required longer-term structural adjustments. In the Italian context, this translated into the National Recovery and Resilience Plan, which places a strong emphasis on improving healthcare infrastructure, digitalisation and territorial care services (Filippini & Vinceti, 2021). The plan explicitly addresses some of the weaknesses that became evident during the pandemic, including fragmentation between regions and limited integration between different levels of care. At the same time, it also aims to reduce disparities in access by strengthening community-based services and improving coordination within the system (Filippini & Vinceti, 2021). In general, the time period looked at in this study shows a change from a fairly stable situation before the pandemic to a time of extreme stress, and then a slow recovery. What stands out about these stages is that the pandemic did not affect all areas in the same way. In fact, it often made existing differences more obvious instead of lessening them. This is why it is important to look at both the conditions before the pandemic and the changes that happened after it to understand how people are getting healthcare now. The primary data collection instrument used in this study, an online survey measuring perceived access to healthcare, is described in detail in Section 4.2.

Chapter 4 Methodology

4.1 Overview

This chapter explains the methodology used to examine healthcare access and regional differences in Italy. The study uses both primary and secondary data because the availability of healthcare resources does not necessarily show how people experience access to those services. Official indicators can provide information about the capacity of the healthcare system, while survey responses offer a different perspective by showing how individuals evaluate access in their daily lives. Patient-reported experiences can therefore add information that is not always visible through administrative or structural indicators alone (World Health Organization, 2025). In this study, primary data were collected through the survey on perceived healthcare access. The questions cover general access to healthcare, obtaining medical appointments, waiting times, satisfaction, and experiences during and after the COVID-19 pandemic. Secondary data were obtained from the Ministero della Salute and ISTAT. These sources provide information on healthcare capacity, including hospital beds, doctors and nurses, as well as socio-economic conditions across different areas of Italy. The healthcare capacity data cover the period from 2019 to 2023. This period was selected to observe changes before, during and after the pandemic. When the capacity indicators are considered together with the survey responses, 2023 is used as the reference year because it is the most recent year included in the healthcare dataset. The 2019–2023 data are considered separately to show how healthcare capacity changed over time. One issue that needs particular attention is that the two types of data are measured at different levels. Survey responses come from individual participants, whereas healthcare capacity and socio-economic indicators describe regional conditions. Relationships found at the regional level cannot automatically be assumed to apply to individuals (Wakefield, 2008). This issue is also relevant in health inequalities research, particularly when regional socio-economic indicators are used to represent characteristics that were not measured directly for individual respondents (Shih et al., 2023). For this reason, the regional indicators in this study are not treated as personal characteristics of the respondents. This distinction also affects

how the three research questions are analysed. RQ1 focuses on differences in perceived healthcare access between Northern and Southern Italy. RQ2 considers socio-economic conditions as part of the regional context because individual income, education and employment information was not collected in the survey. RQ3 looks at the relationship between perceived access and healthcare capacity, while taking into account that beds, doctors and nurses are measured at the macro-regional level. The statistical methods used in the study were selected according to these differences in the data and are explained in the following sections. The chapter then presents the variables, the data collection and preparation process, and the analytical approach used in the study.

4.2 Research Design

This study uses a quantitative research design based on both primary and secondary data. The secondary data come from the Ministero della Salute and ISTAT and provide information on

healthcare capacity and socio-economic conditions across Northern, Central and Southern Italy (Ministero della Salute, 2019–2023; ISTAT, 2019). The primary data were collected through an online survey and focus on how individuals perceive access to healthcare services in their area. The two sources provide different types of information. The survey measures individual perceptions and experiences, while the secondary data describe healthcare capacity and socio-economic conditions at the regional level. Using them together makes it possible to examine perceived access alongside the broader regional conditions in which respondents live. However, it is important to distinguish between these two levels of data. Survey responses are collected from individual participants, while the healthcare and socio-economic indicators are available at the macro-regional level. For this reason, regional indicators cannot be treated as individual characteristics of each respondent. This distinction was taken into account when selecting the statistical analyses described in Section 4.5. The questionnaire was prepared in English and distributed through Google Forms to individuals living in Italy. It was designed to capture different aspects of perceived healthcare access. Access cannot be evaluated only in terms of formal coverage, since factors such as waiting times, perceived quality and practical barriers may limit the effective use of available healthcare services (Palm et al., 2021). The questionnaire begins with basic information on the respondent's area of residence, distinguishing between Northern, Central and Southern Italy. This classification allows perceived access to be examined across the three macro-regions. The following questions focus on healthcare use, including whether respondents had used public healthcare services during the previous twelve months and the type of service most recently used. The main part of the questionnaire examines perceived access to healthcare. Respondents evaluate the ease of accessing healthcare services and obtaining a medical appointment using five-point response scales. Satisfaction with healthcare services and perceived waiting times are also measured. Patient-reported evaluations can capture aspects of healthcare experience that are not directly

observable through administrative indicators (De Rosis et al., 2020). Waiting time was included because it is widely recognised as an important factor affecting both healthcare access and patient satisfaction (Santos-Jaén et al., 2022). The survey also examines healthcare-related behaviour. Respondents were asked whether they had delayed or avoided healthcare because of waiting times. This measure is relevant because difficulties in obtaining timely care may influence not only perceptions of healthcare services but also decisions about whether and when to seek treatment (Santos-Jaén et al., 2022). The final part of the questionnaire includes questions related to the pandemic and post-pandemic period. Respondents compare current healthcare access with their experience during the COVID-19 period and indicate whether they believe that the healthcare system in their region has recovered. Additional questions examine whether respondents perceive access to be better in Northern than in Southern Italy and whether they consider healthcare resources in their region sufficient. In this way, the survey provides an individual-level perspective on the regional differences examined in the study. The secondary data cover the period from 2019 to 2023. These data are used in Chapter 5 to examine changes in healthcare capacity before, during and after the COVID-19 pandemic. When the regional capacity indicators are linked to the survey data, 2023 is used as the reference year because it is the most recent year available in the healthcare dataset. Each respondent is therefore linked to the 2023 capacity indicators of their macro-region. The study consequently includes two related analytical components. The 2019–2023 secondary data are used for a descriptive trend analysis of regional healthcare capacity, while the survey provides a cross-sectional analysis of perceived healthcare access. The study examines differences and associations between these measures but does not attempt to establish causal relationships.

4.3 Variables and Measures

The dependent variables of the study are the perceived access measures collected through the survey. These include four five-point evaluative items, namely Access_Ease, Appointment_Ease, Satisfaction, and Access_During_COVID, where higher values represent a more positive evaluation, together with a five-point Waiting_Time item, where higher values represent a longer perceived waiting time. These items are treated as ordinal measures rather than as interval or continuous measures, consistent with standard practice for single Likert-type survey items (Mircioiu & Atkinson, 2017). Because each of these variables is measured through a single item rather than a multi-item scale, conventional internal consistency statistics such as Cronbach's alpha are not applicable here; this is fairly common in patient-reported experience research, where individual items are often used to capture specific, clearly defined aspects of a respondent's experience rather than a broader latent construct (De Rosis et al., 2020). The survey also includes a set of categorical variables that describe respondents' experiences and views in more detail: Delayed_or_Avoided_Care, Resources_Sufficient, System_Recovery, North_vs_South_Access and Access_Compared_to_COVID. Delayed_or_Avoided_Care is a binary Yes or No variable. Resources_Sufficient and North_vs_South_Access are recorded with a Yes, No or Not sure response option, while System_Recovery uses four categories: Yes, Partially, No, or Not sure. Access_Compared_to_COVID includes an additional category for respondents who did not use healthcare services during the period in question, so it is treated as a purely categorical variable rather than an ordinal one, unlike the others. For the supplementary correlation analysis described in Section 4.5, System_Recovery, Resources_Sufficient, Delayed_or_Avoided_Care and Waiting_Time were additionally recoded into numeric ordinal variables, for example coding System_Recovery as 1 for No, 2 for Partially and 3 for Yes, with Not sure treated as missing. This recoding was not applied to Access_Compared_to_COVID, since its response categories do not form a single ordered scale. The main independent variable used to address RQ1 is the respondent's macro-region of residence, coded as Northern, Central

or Southern Italy based on the region reported in the survey. To address RQ3, three healthcare capacity indicators for 2023 are used: the number of hospital beds, doctors and nurses per 1,000 inhabitants, obtained from the Ministero della Salute. These indicators are assigned to each respondent according to their macro-region of residence, since they are only available at the regional level and not for individual respondents. Finally, to provide the socio-economic context relevant to RQ2, this study uses regional GDP per capita, employment rate and tertiary education attainment from ISTAT, also assigned by macro-region. These three indicators are not all drawn from the same year: GDP per capita and the employment rate refer to 2023, while tertiary education attainment refers to 2022, the most recent year for which a complete three-way North, Centre and South breakdown was available at the time of writing, as documented in the accompanying ISTAT source data. As explained in Section 4.5, these socio-economic indicators are treated as contextual background rather than as variables to be statistically linked to individual survey responses, consistent with the framing already introduced in Section 3.2

4.4 Data Collection

The secondary data used in this study were obtained directly from the official publications of the Ministero della Salute and ISTAT, covering the years 2019 to 2023, as described in Chapter 3. The primary data were collected through the online survey introduced in Section 4.2, distributed through Google Forms and targeting individuals living in Italy, as described there. A total of 143 responses were collected. Before the analysis, the raw dataset was checked for data quality issues. This process identified 23 responses that were identical to other records across all fifteen survey variables. These records were treated as duplicates and removed before the analysis. The final cleaned sample therefore consisted of 120 respondents: 65 from Northern Italy, 50 from Southern Italy, and 5 from Central Italy. Because the Central Italy subsample is too small to support a reliable statistical comparison, as explained in Section 4.5, the North-South inferential analyses reported in Chapter 5, namely the Mann-Whitney U tests, the chi-square tests and the Spearman correlations, were conducted on the subset of 115 respondents from Northern and Southern Italy, while the full cleaned sample of 120 is used wherever Central Italy is included for descriptive purposes. Once the survey data had been cleaned, each respondent was assigned the healthcare capacity and socio-economic indicators corresponding to their reported macro-region. The Ministero della Salute and ISTAT sources report Northern Italy as two separate sub-areas, Nord-Ovest and Nord-Est, so the North-level indicator used in this study is the simple average of these two sub-areas, which allows it to align with the three-way North, Centre and South classification used in the survey. Central Italy corresponds directly to the Centro classification used by ISTAT, while Southern Italy corresponds to the Mezzogiorno classification, which combines the southern regions and the islands. This merging procedure produced a single dataset in which every respondent's ordinal and categorical survey responses sit alongside the capacity and socio-economic indicators for their macro-region, and this merged dataset was used for all subsequent analyses.

4.5 Analytical Approach

All statistical analyses were conducted in JASP, an open-source statistical software built on R that produces output tables in APA format (Love et al., 2019). To address RQ1, differences in perceived access between Northern and Southern Italy were tested using the Mann-Whitney U test for the five ordinal perception variables, and chi-square tests of independence, based on contingency tables cross-tabulating macro-region against each response category, for the remaining categorical variables. The Mann-Whitney U test was preferred over the independent-samples t-test for one main reason: the dependent variables are measured on five-point ordinal scales rather than continuous scales, and there is no reason to assume the responses follow a normal distribution. This choice follows methodological guidance on the analysis of Likert-type survey data more generally (Mircioiu & Atkinson, 2017). Effect sizes for the Mann-Whitney comparisons are reported as rank-biserial correlations, together with their 95 per cent confidence intervals, so that the size and precision of each difference can be judged and not just its statistical significance, in line with current recommendations for reporting effect sizes alongside nonparametric tests rather than p-values alone (Peres, 2026). Central Italy was excluded from these particular group comparisons, since its subsample of only 5 respondents is too small to support a reliable statistical test, although it is still used descriptively elsewhere in the analysis. A conventional significance threshold of $p < .05$ was applied throughout, and exact p-values are reported in Chapter 5 rather than only significance stars. To address RQ3, Spearman correlations were calculated between the perceived access variables, including the numerically recoded System_Recovery, Resources_Sufficient, Delayed_or_Avoided_Care and Waiting_Time variables described in Section 4.3, and the three healthcare capacity indicators. As with the Mann-Whitney U test, Spearman's rho was chosen over Pearson's r because the variables involved are ordinal or not normally distributed, so a rank-based measure of association gives a more defensible estimate of how strongly two variables move together (Mircioiu & Atkinson, 2017); only Spearman's rho is reported in Chapter 5, even where JASP

also produced Pearson's r alongside it. Because the three capacity indicators vary at the level of the macro-region rather than the individual, these correlations are best treated as exploratory associations rather than as fully independent, individual-level evidence, a point developed further in Section 6.5. RQ2 required a different approach altogether. Because the survey did not collect individual-level income, education or employment information, the ISTAT socio-economic indicators could only be linked to respondents at the level of the macro-region, not the individual. Statistically correlating a variable that takes only three distinct values, one per macro-region, with 115 or 120 individual survey responses risks overstating the strength and independence of the resulting relationship. This is a recognised limitation of using aggregate, area-level data as a substitute for individual-level measures, and it is one that health disparities researchers have been increasingly explicit about (Shih et al., 2023). For this reason, the socio-economic indicators are instead presented descriptively in Chapter 5, and used, alongside the literature already discussed in Section 3.2, to help interpret the differences identified under RQ1 and RQ3 in Chapter 6.

Chapter 5 Findings

5.1 Overview

This chapter presents the main findings obtained from the regional indicators and the survey data described in Chapters 3 and 4. The results are organised so that the broader regional context is presented first, followed by the differences observed among survey respondents, before the two are brought together. Regional health disparities in Italy have been shown to contribute substantially to socioeconomic health disparities more broadly, and separating regional from individual-level evidence, rather than treating the two as equivalent, has been identified as an important step in this line of research (Franzini & Giannoni, 2010). This order also follows the distinction that shaped the methodology in Chapter 4: healthcare capacity and socio-economic conditions are regional-level indicators, while perceived access is an individual-level measure collected through the survey, and studies that treat these two levels as interchangeable risk concluding that neither source can fully support on its own (Wakefield, 2008). The chapter begins with the regional indicators obtained from the Ministero della Salute and ISTAT. Healthcare capacity is examined through hospital beds, doctors and nurses per 1,000 inhabitants, including how these figures changed between 2019 and 2023 (Ministero della Salute, 2019–2023), a period in which regional characteristics have been found to explain a meaningful share of unmet medical needs across several European healthcare systems, including Italy, even after individual factors such as age and education are taken into account (Luongo, 2016). The socio-economic indicators, namely GDP per capita, the employment rate and tertiary education attainment, are then presented to give a wider picture of the conditions in which Northern, Central and Southern Italy operate (ISTAT, 2019). These indicators are reported descriptively, as regional context rather than as characteristics of individual respondents, since the survey did not collect information on the income, employment or education of the people who completed it. This distinction was already introduced in Section 4.3

and is maintained throughout the chapter. The survey findings are presented next. These cover how respondents evaluated ease of access, ease of obtaining a medical appointment, satisfaction with healthcare services and access during the COVID-19 period, together with waiting times, delayed or avoided care, the perceived sufficiency of healthcare resources and views on whether the healthcare system has recovered since the pandemic. The cleaned sample used in this chapter includes 120 respondents. The North–South comparisons, however, are based on 115 respondents, since Central Italy was not included in the direct comparison between the two macro-regions, for the reasons already explained in Section 4.5. The statistical results are then reported according to the type of variable involved. Mann-Whitney U tests are used for the five ordinal measures of perceived access, since single Likert-type items of this kind should not be treated as continuous measures with an assumed normal distribution (Mircioiu & Atkinson, 2017), and chi-square tests of independence are used for the categorical survey variables, following the same rationale set out in Section 4.5. Spearman correlations are reported between the perceived access variables and the 2023 healthcare capacity indicators; because these capacity indicators vary only at the level of the macro-region rather than the individual, using aggregate, area-level measures to represent conditions that were not collected directly from respondents is a recognised limitation in health disparities research more broadly, and the resulting correlations are therefore treated as exploratory associations rather than individual-level evidence (Shih, Bradley, & Yabroff, 2023). Taken together, these results are used to examine the research questions from more than one angle rather than from a single measure of access. The chapter therefore proceeds from the regional patterns, to the survey findings, to the relationship between healthcare capacity and perceived access, and finally to the differences observed between Northern and Southern Italy.

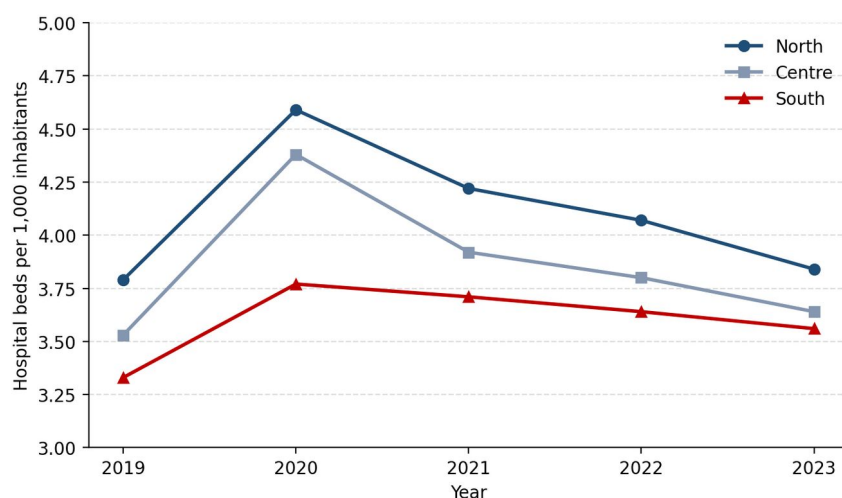
5.2 Regional Indicator Patterns

This section presents the regional healthcare capacity and socio-economic indicators introduced in Chapter 3. The analysis draws on data from the Ministero della Salute and ISTAT and is presented at the macro-regional level, distinguishing between Northern, Central and Southern Italy. The indicators in this section are examined descriptively and are not assigned to individual survey respondents. Their relationship with the survey findings is considered separately in Section 5.4.

Figure 4 shows the number of hospital beds per 1,000 inhabitants in Northern, Central and Southern Italy between 2019 and 2023 (Ministero della Salute, 2019–2023). Hospital bed capacity increased in all three macro-regions in 2020 and subsequently declined between 2021 and 2023. Despite this common pattern, Northern Italy recorded the highest number of beds per 1,000 inhabitants in every year observed, followed by Central and Southern Italy. The difference between the North and the South became smaller over the period, decreasing from 0.46 beds per 1,000 inhabitants in 2019 to 0.28 in 2023. Nevertheless, the regional ordering remained unchanged throughout the five years.

Figure 4

Hospital beds per 1,000 inhabitants by macro-region, 2019–2023



Source: Author's elaboration based on data from Ministero della Salute (2019–2023).

For the comparison with the survey data, 2023 was used as the reference year because it is the most recent year included in the healthcare capacity dataset. Table 1 therefore brings together the three capacity indicators used in the subsequent analysis: hospital beds, doctors and nurses per 1,000 inhabitants. The regional pattern was not identical across all three indicators. Hospital beds were highest in the North (3.84) and lowest in the South (3.56). Doctors per 1,000 inhabitants were slightly higher in the Centre (2.08) than in the North (2.01), while the South again recorded the lowest value (1.91). The largest difference was observed for nursing staff, with 5.61 nurses per 1,000 inhabitants in the North compared with 4.51 in the South.

Table 1.

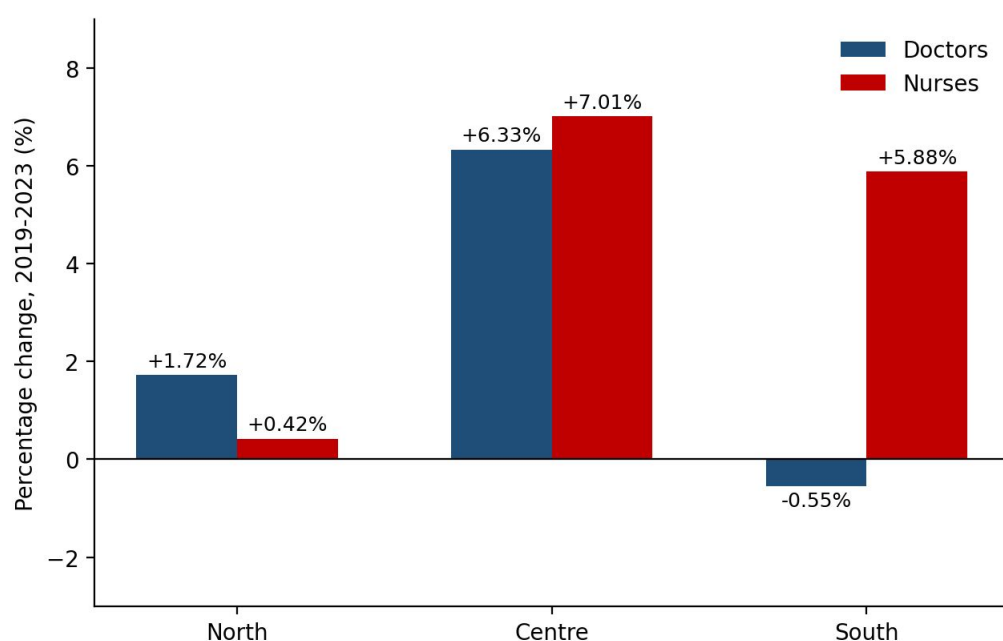
Healthcare capacity indicators per 1,000 inhabitants by macro-region, 2023

Indicator	North	Centre	South
Hospital beds per 1,000	3.84	3.64	3.56
Doctors per 1,000	2.01	2.08	1.91
Nurses per 1,000	5.61	5.35	4.51

Source: Ministero della Salute (2019-2023).

Figure 5

Percentage change in SSN doctors and nurses by macro-region, 2019-2023



Note. Percentage changes are calculated from absolute regional headcounts of doctors and nurses employed within the SSN in 2019 and 2023. Author's elaboration based on Agenas (2025).

Figure 5 shows the percentage change in the number of doctors and nurses employed within the SSN between 2019 and 2023, based on regional headcounts reported by Agenas (2025). Unlike the per-capita indicators presented in Table 1, this figure shows changes in absolute workforce numbers and therefore does not account for changes in regional population. The number of doctors increased slightly in the North (+1.72%) and more substantially in the Centre (+6.33%), while a small decline was observed in the South (-0.55%). The number of nurses increased in all three macro-regions, with the largest increase in the Centre (+7.01%), followed by the South (+5.88%). The North showed only a small increase (+0.42%).

Table 2 presents the socio-economic indicators used to provide the regional context for RQ2. As explained in Section 4.5, these indicators are not interpreted as characteristics of individual survey respondents. Instead, they describe broader differences in the socio-economic conditions of the three macro-regions. GDP per capita and the employment rate refer to 2023, while tertiary education attainment refers to 2022, which was the most recent year for which the dataset used in this study contained a complete North–Centre–South breakdown. The differences are particularly pronounced for GDP per capita and employment. GDP per capita was €43,600 in the North and €38,600 in the Centre, compared with €23,900 in the South. A similar pattern appears in employment rates, which reached 69.4% in the North and 65.9% in the Centre but 48.2% in the South. Tertiary education shows a somewhat different pattern. The Centre recorded the highest proportion at 24.3%, followed by the North at 21.2% and the South at 16.8%. Therefore, although the precise ordering of the North and Centre differs across indicators, the South records the lowest value for all three socio-economic measures included in the analysis.

Table 2.

Regional socio-economic indicators by macro-region

Indicator	North	Centre	South
GDP per capita, 2023 (EUR)	43,600	38,600	23,900
Employment rate, 2023 (%)	69.4	65.9	48.2
Tertiary education, 2022 (%)	21.2	24.3	16.8

Sources: ISTAT (2025) for GDP per capita; Il Sole 24 ORE (2024), citing ISTAT labour force data, for the employment rate; ISTAT (2023) for tertiary education attainment.

Taken together, the indicators show persistent differences in both healthcare capacity and socio-economic conditions across the three macro-regions. However, the patterns are not uniform across every measure. These differences are considered alongside the survey results in Section 5.4.

5.3 Survey Results on Perceived Access

This section presents the descriptive results of the survey described in Section 4.2. The cleaned sample consists of 120 respondents: 65 from Northern Italy, 50 from Southern Italy, and 5 from Central Italy. Because the Central Italy subsample is too small for reliable comparison, as explained in Section 4.4, the results below focus on the North and South and are therefore based on the 115 respondents included in the comparative analysis. Table 3 presents the mean scores for the four five-point evaluative items measuring perceived access, appointment ease, satisfaction and access during the COVID-19 period. To ensure a consistent direction of interpretation, the COVID-19 access item, which was originally scored so that higher values indicated greater difficulty (1 = very easy, 5 = very difficult), was reverse-coded so that higher scores consistently indicate a more favourable perception, in line with the other three items. Across the three measures relating to current healthcare experiences, respondents in Southern Italy reported lower scores than respondents in Northern Italy. The largest differences were observed for ease of access and ease of obtaining a medical appointment. Access ease had a mean score of 3.18 (SD = 1.26) in the North compared with 1.76 (SD = 0.69) in the South. Appointment ease showed a similar difference, with a mean of 3.00 (SD = 1.29) in the North and 1.70 (SD = 0.86) in the South. Satisfaction was also higher among respondents in the North (M = 3.06, SD = 1.04) than in the South (M = 2.48, SD = 0.93). By contrast, on the COVID-19 access item, respondents in the South reported a somewhat more favourable score (M = 3.18, SD = 1.02) than respondents in the North (M = 2.69, SD = 0.88), the only one of the four evaluative measures in which the South scored higher than the North.

Table 3*Perceived healthcare access scores by macro-region*

Measure	North (n = 65), M (SD)	South (n = 50), M (SD)
Ease of healthcare access	3.18 (1.26)	1.76 (0.69)
Ease of obtaining an appointment	3.00 (1.29)	1.70 (0.86)
Satisfaction with healthcare services	3.06 (1.04)	2.48 (0.93)
Access during the COVID-19 period (reverse-coded)	2.69 (0.88)	3.18 (1.02)

Note. Scores range from 1 to 5, with higher scores indicating a more favourable perception. The COVID-19 access item was reverse-coded from the original survey scale (1 = very easy, 5 = very difficult) to ensure consistent scale direction. Author's elaboration based on survey data.

Table 4 presents three additional indicators of respondents' experiences with healthcare services. Long or very long waiting times were reported by 64.0% of respondents in the South, compared with 46.2% in the North. A larger difference was observed for delayed or avoided care: 88.0% of Southern respondents reported having delayed or avoided healthcare because of waiting times, compared with 52.3% of Northern respondents. Perceptions of healthcare resources also differed between the two groups. More than half of respondents in the South (56.0%) considered the healthcare resources in their region insufficient, compared with 23.1% of respondents in the North.

Table 4*Selected healthcare experiences by macro-region*

Survey response	North (n = 65), %	South (n = 50), %
Long or very long waiting time	46.2	64.0
Delayed or avoided care: Yes	52.3	88.0
Healthcare resources sufficient: No	23.1	56.0

Note. Percentages are calculated within each macro-region. Author's elaboration based on survey data.

Overall, the descriptive results show a broadly consistent North-South pattern, with one notable exception. Respondents in Southern Italy reported less favourable scores for current ease of access, appointment ease and satisfaction, as well as less favourable experiences in relation to waiting times, delayed or avoided care, and the perceived sufficiency of healthcare resources. The exception was perceived access during the COVID-19 pandemic itself, where respondents in the South reported a somewhat more favourable score than respondents in the North. These descriptive differences are examined statistically in Section 5.5. Section 5.4 first considers how the survey findings relate to the regional healthcare capacity and socio-economic patterns presented in Section 5.2.

5.4 Comparison Between Objective Indicators and Perceptions

This section brings together the regional indicators presented in Section 5.2 and the survey findings presented in Section 5.3, examining whether the objective differences in healthcare capacity across macro-regions correspond to the differences in perceived access reported by survey respondents. As explained in Section 4.5, the capacity indicators vary only at the level of the macro-region rather than the individual, so the correlations reported in this section are treated as exploratory associations rather than as individual-level evidence. Table 5 reports Spearman correlations between the three current-access evaluative measures and the 2023 healthcare capacity indicators presented in Section 5.2. All nine correlations were positive and statistically significant. The strongest associations were observed for ease of healthcare access, which was associated with hospital beds ($\rho = .549$), doctors ($\rho = .558$) and nurses ($\rho = .549$) per 1,000 inhabitants. Ease of obtaining an appointment showed a similar pattern, with correlations ranging from .492 to .502. Satisfaction showed weaker, although still statistically significant, associations with all three capacity indicators ($\rho = .265$ -.288).

Table 5

Spearman correlations between perceived access and healthcare capacity indicators, 2023

Measure	Beds per 1,000	Doctors per 1,000	Nurses per 1,000
Ease of healthcare access	.549***	.558***	.549***
Ease of obtaining an appointment	.492***	.502***	.492***
Satisfaction with healthcare services	.265**	.288**	.265**

Note. Values are Spearman's ρ . ** $p < .01$. *** $p < .001$. Correlations are interpreted as exploratory because the capacity indicators are measured at the macro-regional level. Author's elaboration based on survey and Ministero della Salute data.

The socio-economic indicators presented in Section 5.2, namely GDP per capita, the employment rate and tertiary education attainment, are not included in Table 5. As explained in Section 4.5, these indicators were assigned by macro-region rather than collected from individual respondents, and are used descriptively as regional context rather than tested against the survey measures. Their relationship to the patterns identified in this chapter is instead considered in Chapter 6. The results therefore show that higher values for the three healthcare capacity indicators were associated with more favourable current perceptions of healthcare access in the survey. Given the macro-regional nature of the capacity indicators, these findings should be understood as exploratory rather than as evidence of an individual-level or causal relationship. The broader relationship between healthcare capacity, socio-economic context and perceived access is considered in Chapter 6. The statistical significance of the North-South differences identified in the survey is examined next in Section 5.5.

5.5 North–South Differences

This section reports the inferential statistical tests used to assess whether the descriptive differences presented in Section 5.3 are statistically significant. As explained in Section 4.5, Mann-Whitney U tests were used for the five ordinal survey variables, and chi-square tests of independence were used for the remaining categorical variables, comparing Northern Italy ($n = 65$) and Southern Italy ($n = 50$); Central Italy was excluded from these comparisons for the reasons set out in Section 4.4. Table 6 reports the results of the Mann-Whitney U tests. Four of the five variables showed a statistically significant difference between the North and the South. The largest effects were observed for ease of healthcare access and ease of obtaining an appointment, while smaller effects were found for satisfaction and access during the COVID-19 period. The COVID-19 access item is reported here on its original scale, on which higher scores indicate greater difficulty. As explained in Section 5.3, respondents in the South reported lower difficulty, and therefore a more favourable experience, than those in the North on this item. Waiting time was the only variable for which no statistically significant North-South difference was found ($U = 1398$, $p = .184$).

Table 6*Mann-Whitney U test results comparing Northern and Southern Italy*

Measure	U	p	Rank-biserial r
Ease of healthcare access	2656	< .001	-.635
Ease of obtaining an appointment	2545	< .001	-.566
Satisfaction with healthcare services	2121	.003	-.305
Access during the COVID-19 period	2056	.009	-.265
Waiting time	1398	.184	.140

Note. Rank-biserial correlations for ease of access, appointment ease, satisfaction and the COVID-19 access item are reported on the original survey scales. For the COVID-19 access item, a negative value indicates that the North reported greater difficulty than the South, consistent with the reverse-coded interpretation presented in Section 5.3. Author's elaboration based on survey data.

Table 7 reports the results of the chi-square tests for the remaining categorical variables. All five variables showed a statistically significant association with macro-region.

Table 7

Chi-square test results comparing Northern and Southern Italy

Variable	χ^2	df	p
Perceived system recovery	50.52	3	< .001
Access compared to the COVID-19 period	38.61	3	< .001
Perceived sufficiency of resources	17.17	2	< .001
Delayed or avoided care	16.50	1	< .001
Perceived North-South difference in access	12.18	2	.002

Note. Author's elaboration based on survey data.

Taken together, the results in this section show that most of the differences observed descriptively in Section 5.3 were also statistically significant. Across the ten comparisons reported in Tables 6 and 7, nine showed statistically significant differences between Northern and Southern Italy. Waiting time was the only exception ($U = 1398$, $p = .184$). These findings, together with the associations between perceived access and healthcare capacity reported in Section 5.4, are discussed further in Chapter 6.

Chapter 6 Discussion

6.1 Overview

The findings presented in Chapter 5 paint a mixed but, on the whole, fairly clear picture of regional differences in healthcare access in Italy. The Italian National Health Service is built on a principle of universal coverage, yet the results of this study suggest that access is not experienced uniformly across the country. Differences emerged both in the regional healthcare indicators examined in Section 5.2 and in the responses collected through the survey in Sections 5.3 to 5.5. Respondents living in Southern Italy generally reported more difficulty accessing healthcare than those living in the North, a pattern especially pronounced for ease of access, ease of obtaining a medical appointment, delayed or avoided care, and perceptions of whether local healthcare resources were sufficient. These findings cannot be read in isolation from the broader regional structure of the Italian healthcare system. Since the regionalisation reforms of the 1990s, individual regions have held substantial autonomy over how they organise and deliver care within broad national guidelines, and this decentralised structure has also been associated with persistent differences in healthcare organisation and performance across Italian regions (Toth, 2014). Territorial inequality in healthcare utilisation has been documented repeatedly in the Italian context; barriers such as long waiting lists for specialist services have been shown to fall disproportionately on residents of the South, even after accounting for other individual characteristics (Matranga & Maniscalco, 2022). Seen against this backdrop, the results of the present study are not a new discovery so much as a further layer of evidence added to a divide that has already been traced through administrative, economic and healthcare-utilisation data. What this study contributes is a perception-based perspective on that same divide, drawn directly from the people living within each macro-region rather than from

institutional records alone. At the same time, a simple North-South split does not fully capture what the data show. The regional capacity indicators reported in Chapter 5 reveal a more layered picture than a single storyline of "the North does better" would suggest. Northern Italy recorded a higher number of hospital beds and nurses per 1,000 inhabitants in 2023, yet it was the Centre, not the North, that recorded the highest number of doctors per 1,000 inhabitants that same year. The workforce analysis added a further complication: change between 2019 and 2023 was not uniform either. The number of doctors grew in the North and the Centre but fell slightly in the South, whereas the number of nurses grew more strongly in the Centre and the South than in the North. Taken together, these figures suggest that regional healthcare inequality in Italy cannot be reduced to any single measure of capacity; personnel availability, hospital infrastructure and the way resources are organised on the ground all need to be read alongside one another, not treated as interchangeable proxies for the same underlying condition. The survey results also complicate this picture. Most of the North-South differences identified descriptively in Section 5.3 were confirmed statistically in Section 5.5: ease of healthcare access, appointment ease and satisfaction all differed significantly between the two macro-regions, as did several of the categorical measures concerning respondents' experiences and views of the system. Not every result told the same story, however. Waiting time appeared less favourable among Southern respondents when the data were examined descriptively, yet this difference did not reach statistical significance in the Mann-Whitney comparison reported in Table 6, a somewhat counterintuitive result given how central waiting time tends to be in patients' own accounts of what makes a health system feel accessible (Santos-Jaén et al., 2022). The item concerning access during the COVID-19 pandemic behaved differently again, with Southern respondents reporting a somewhat more favourable experience than their Northern counterparts, the only measure among the four evaluative items for which this was the case. Regional disparities in healthcare capacity during the pandemic itself, including uneven growth in intensive care

provision between North and South, have been documented elsewhere (Gallina & Caini, 2021), which makes this specific reversal in the present data worth noting rather than dismissing as noise. These findings are important because they show that the regional pattern was not uniform across all dimensions of access. Waiting time and the COVID-19 item therefore need to be interpreted separately from the more consistent differences observed for current access, appointment ease and satisfaction. The relationship between healthcare capacity and perceived access is also relevant here. The exploratory correlations reported in Section 5.4 pointed to a positive association between regional capacity indicators and the main current-access measures: respondents living in macro-regions with greater healthcare capacity tended, on the whole, to report more favourable perceptions of access. Some caution is needed, since these capacity measures are defined at the macro-regional level rather than for each individual respondent, and a small number of macro-regional values cannot carry the same evidential weight as fully independent, individual-level data (Shih et al., 2023). Even so, when this pattern is read alongside the descriptive regional comparisons and the North-South tests reported earlier in the chapter, it provides further evidence of an association between regional healthcare capacity and how access is perceived by respondents. The socio-economic dimension of the study calls for a different interpretation. As explained in Chapter 4, the survey did not collect individual-level data on respondents' income, education or employment, so it is not possible to establish statistically whether an individual's own socio-economic position shaped their perception of healthcare access. What the regional indicators do show is that the broader economic and employment conditions of Northern, Central and Southern Italy differ substantially, differences that align with the wider literature on how regional socio-economic disadvantage in Italy is linked to poorer self-reported health even independently of healthcare provision itself (Franzini & Giannoni, 2010). For this reason, these indicators are used in the sections that follow as contextual evidence rather than as individual-level explanatory variables, a distinction that

matters when RQ2 is discussed later in the chapter. Against this background, the purpose of this chapter is not to repeat the statistical results already reported in Chapter 5, but to consider what those results mean for the study of regional healthcare inequality in Italy more broadly. Section 6.2 interprets the findings in relation to each of the three research questions in turn, situating them within the literature introduced above and in Chapters 2 and 3. Section 6.3 turns to the implications of these findings for regional health policy, with particular attention to the gap between healthcare capacity and perceived access. Section 6.4 closes the chapter by returning to the post-pandemic context that motivated the study in the first place, asking what the findings suggest about the state of regional healthcare access in Italy in the years following the disruption caused by COVID-19.

6.2 Interpretation of Findings

6.2.1 Regional Differences in Perceived Healthcare Access (RQ1)

The clearest result to emerge from Chapter 5 is that respondents in Southern Italy reported a less favourable experience of healthcare access than respondents in the North, and that this difference held across most of the measures the survey collected rather than appearing on just one or two items. This overall pattern was also supported by most of the inferential comparisons reported in Section 5.5. This is, on its own terms, not a surprising result. What matters more is what it adds to, and where it departs from, what was already known. The largest effects in the whole chapter were found for ease of access and ease of obtaining a medical appointment, with rank-biserial correlations of $-.63$ and $-.57$ respectively, both comfortably in the range conventionally treated as large. These two items are also the most direct measures of access in the survey: they ask, in effect, whether the system can be reached and used at all, rather than how the experience felt once inside it. Appointment ease in particular sits close to a well-documented barrier in the Italian literature. Long waiting lists for specialist appointments have been shown to fall disproportionately on residents of the South even after controlling for individual-level factors such as income and health need (Matranga & Maniscalco, 2022), and the present result, a large, statistically significant North-South gap in how easy respondents found it to obtain an appointment at all, sits comfortably alongside that earlier finding rather than departing from it. Satisfaction with healthcare services also differed significantly between the two macro-regions, though the effect was more moderate (rank-biserial correlation of $-.30$). Read together, these three current-access items suggest that the North-South difference in this study is concentrated most heavily at the point of trying to reach and use the system, with the gap narrowing somewhat, though not disappearing, once respondents evaluate the experience as a whole through satisfaction. The most striking single finding, however, is the gap in delayed or

avoided care: 88.0% of Southern respondents reported having put off or gone without healthcare because of waiting times, against 52.3% in the North. This is not simply a difference in how satisfied people felt with a service they still used; it describes a behaviour, a decision not to seek care at all. Comparable evidence exists, though it comes from an earlier period. Cavalieri (2013), using 2006 data, found that self-reported unmet medical needs followed a clear North-South gradient across Italian regions, with barriers related to cost, transportation and long waiting lists among the reported reasons for unmet need. Petrelli et al. (2019) extended this picture across the years examined in their 2004-2015 analysis, showing that forgone medical examinations and treatments remained geographically and socio-economically patterned well beyond the period Cavalieri studied. Read together with the present survey, these three points, 2006, the 2004-2015 period examined by Petrelli et al., and now a post-pandemic sample collected in 2026, suggest that the willingness of Southern residents to forgo care rather than pursue it has not been a one-off finding tied to a single dataset or a single economic moment. That said, the three studies do not use the same measure, the same sampling frame, or the same population, so this should be read as a recurring pattern across different snapshots of the same underlying divide rather than as evidence of an unbroken, twenty-year trend. What the present study adds to this line of work is a direct, individually reported measure of the behaviour itself, collected specifically in relation to waiting times, rather than an unmet-need indicator derived from a broader household survey not designed around healthcare access as its central topic. Waiting time itself, however, produced the most counterintuitive result in the chapter. Descriptively, a long or very long wait was reported by 64.0% of Southern respondents against 46.2% in the North, yet this difference did not reach statistical significance in the Mann-Whitney comparison ($U = 1,398$, $p = .184$). At first glance this appears to sit awkwardly next to the delayed-care finding just discussed, since waiting time is often treated in the literature as one of the more direct drivers of exactly that kind of avoidance behaviour (Santos-Jaén et al., 2022;

De Rosis et al., 2020). The absence of statistical significance should therefore be interpreted cautiously, particularly given the descriptive difference observed between the two groups. The difference between the two results suggests that the relationship between reported waiting time and delayed or avoided care may not be straightforward. Other barriers, such as cost, distance or confidence in local services, may also contribute to decisions to postpone or forgo care. This non-significant result is nevertheless important to retain, as it indicates that the regional pattern in perceived access is not uniform across every related measure. The item concerning access during the COVID-19 pandemic ran in the opposite direction from every other evaluative measure: once reverse-coded for consistency, Southern respondents reported a somewhat more favourable score than Northern respondents ($M = 3.18$ versus $M = 2.69$), the only one of the four current-access items for which this occurred. One possible interpretation is that respondents' recollections reflect differences in regional pandemic conditions and emergency responses (Gallina & Caini, 2021). However, the present data cannot establish why this reversal occurred, and this question is returned to in Section 6.4. Taken as a whole, this section supports a cautious but reasonably confident answer to RQ1. Perceived healthcare access in Southern Italy is, on balance, worse than in the North, and this is visible most strongly in ease of access and appointment ease, and in whether people report actually delaying or avoiding care altogether, a pattern that sits alongside decades of Italian research on regionalised, unevenly performing health services (Toth, 2014; Matranga & Maniscalco, 2022). At the same time, the picture is not uniform: waiting time did not behave as expected, and the COVID-19 item reversed the usual direction entirely. The exceptions observed for waiting time and the COVID-19 item therefore qualify, rather than overturn, the broader North-South pattern. They suggest that regional differences in perceived access are multidimensional and do not operate in the same way across every aspect of healthcare experience.

6.2.2 Socio-Economic Context and Perceived Healthcare Access (RQ2)

RQ2 cannot be answered in the same way as RQ1 and RQ3. As explained in Chapter 4, the survey did not collect individual-level income, education or employment data, so it is not possible to test statistically whether a respondent's own socio-economic circumstances shaped their perception of healthcare access. What can be examined is whether the regional socio-economic context reported in Section 5.2 aligns with the regional pattern of perceived access identified in Sections 5.3 and 5.5. The three socio-economic indicators considered here do not tell an entirely uniform story. GDP per capita was highest in the North (€43,600), followed by the Centre (€38,600) and the South (€23,900), and the employment rate followed the same ordering (69.4%, 65.9% and 48.2% respectively). Tertiary education attainment did not follow the same North-Centre-South ordering as GDP and employment: the Centre recorded the highest proportion (24.3%), ahead of the North (21.2%), although the South again recorded the lowest value (16.8%). Despite this exception, the South recorded the least favourable value on all three indicators, the same macro-region that reported the least favourable perceived access throughout Chapter 5. GDP per capita is the most direct of the three indicators, and the pattern it shows is consistent with a wider and very recent literature connecting regional economic disadvantage to poorer health-related outcomes in Italy. A large-scale analysis of the burden of disease across Italian regions between 2000 and 2021 described considerable and persistent regional disparities in health outcomes, highlighting demographic differences, uneven health service quality and economic inequality as contributing factors, with the South consistently among the most disadvantaged areas (Naghavi et al., 2025). Regional differences in health outcomes in Italy have also been linked to differences in institutional quality, suggesting that the territorial context in which healthcare is delivered matters alongside the characteristics of the healthcare system itself (Antonelli & Marini, 2025). The South's position as the macro-region with both the lowest GDP per capita and the least favourable perceived access is therefore not an

isolated finding; it sits within a broader, previously documented pattern of regional economic disadvantage coinciding with worse health-related conditions more generally. This is an association rather than a demonstrated mechanism: the present design cannot establish that lower regional income caused the access differences reported in Chapter 5, only that the two coincide geographically. The employment rate points in a similar direction, and it is here that a plausible, though unconfirmed, link to the survey's own findings can be drawn. Petrelli et al. (2019) found that financial insecurity was repeatedly associated with a greater likelihood of forgoing medical care in Italy, with the probability of reporting unmet need rising in step with the risk of poverty across the period from 2004 to 2015. Cavalieri (2013), similarly, found a clear geographical gradient in unmet medical need within Italy's universal healthcare system, with economic barriers particularly prominent among respondents in the South. Against this background, the very large gap in delayed or avoided care reported in Section 5.3, 88.0% of Southern respondents against 52.3% of Northern respondents, is worth reading alongside the 21-percentage-point employment gap between the two macro-regions. Waiting time was identified in Section 5.3 as the reason respondents were asked to consider when reporting delayed or avoided care, and the two variables should not be assumed to be interchangeable. It remains plausible that regional economic disadvantage compounds organisational barriers such as waiting times, making the same wait harder to absorb where employment and household finances are more precarious, but the present data offer no way to disentangle the two. Tertiary education attainment adds a different dimension to this picture. Unlike GDP per capita and employment, it did not follow a North-Centre-South ordering: the Centre recorded the highest level, although the South again recorded the lowest. A recent nationwide cohort study of avoidable mortality in Italy found that both individual education level and macro-area of residence were independently associated with mortality outcomes, with the South-Islands area and lower education consistently linked to worse results (Petrelli et al., 2024). Lower

educational attainment has also been linked more generally to poorer health literacy, and in turn to less effective use of healthcare services, including lower uptake of preventive care and greater difficulty navigating the health system (Berkman et al., 2011). The fact that tertiary education follows a different regional ordering from GDP and employment is nevertheless important: it shows that the socio-economic context considered in this study is not one-dimensional. However, because individual educational attainment was not linked to individual access responses, and because the Central subsample was too small for reliable comparative inference, the present data cannot determine whether regional differences in educational attainment contributed to the observed North-South gap in perceived access. Read alongside RQ1 and RQ3, these findings point toward a broader interpretation than any one indicator can support on its own. RQ1 established that respondents in the South reported less favourable perceived access across most measures considered. RQ3 showed that this pattern aligned, imperfectly, with regional healthcare capacity, which any single indicator only partially explained. The socio-economic evidence considered here adds a third, similarly imperfect layer: the South recorded the lowest GDP per capita, employment rate and tertiary education attainment, while also reporting the least favourable perceived access. However, the ordering of the North and Centre was not consistent across the three socio-economic indicators. Rather than describing a single, uniform territorial divide, the combined evidence from this chapter is more consistent with regional healthcare inequality occurring within a wider, and only partly aligned, territorial context of unequal economic conditions, employment opportunities, educational attainment and healthcare capacity. RQ2 can therefore be answered only at the contextual, rather than the individual, level. The macro-region with the least favourable perceived access, the South, also had the lowest GDP per capita and employment rate, and this pattern is consistent with existing evidence linking regional socio-economic disadvantage to barriers to healthcare access in Italy. Tertiary education did not follow the same North-Centre-South

ordering as GDP and employment, although the South again recorded the lowest value; this qualifies rather than undermines the overall conclusion, indicating that the socio-economic context of the North-South divide is itself uneven, not that the divide is absent. The present study cannot establish that respondents' own individual socio-economic circumstances caused their reported access experiences; it can establish that the regional conditions in which those experiences were reported were, on most measures, less favourable in the South than elsewhere in Italy.

6.2.3 Healthcare Capacity and Perceived Access (RQ3)

Section 5.4 reported positive and statistically significant correlations between the three healthcare capacity indicators, hospital beds, doctors and nurses per 1,000 inhabitants, and the current-access measures collected through the survey. The strength of these associations was not uniform, however, and the pattern of variation is itself informative. Ease of access and appointment ease correlated with all three capacity indicators at levels between .49 and .56, while satisfaction correlated more weakly, at .27 to .29. Capacity, in other words, tracked more closely with whether respondents could reach and use the system than with how satisfied they felt once they had. This distinction fits with a broader pattern in the literature on healthcare access and satisfaction. The number of practising doctors and hospital beds has been associated with self-reported unmet need for medical examination and care in cross-country research, one of the more concrete, mechanical measures of access available (Gutium & Gojaeva, 2023). Accessibility and satisfaction have, by contrast, been treated as related but genuinely distinct multidimensional concepts, each shaped by a different mix of underlying factors rather than by a single common cause (Cabrera-Barona et al., 2017). Systematic reviews of patient satisfaction have identified multiple determinants, with healthcare service quality and the interpersonal aspects of care among the most important (Batbaatar et al., 2017); staffing levels themselves

have also been shown to shape the practical, functional side of care delivery, such as the amount of direct interaction available between clinical staff and patients, more directly than they shape overall satisfaction (Bridges et al., 2019; Kvist et al., 2014). A respondent might obtain an appointment without particular difficulty and still come away dissatisfied because of how a consultation was communicated, how continuous their care felt, or whether their expectations, shaped by prior experience or by comparison with other regions, were met. Structural capacity, by contrast, bears more directly on the mechanics of access itself, which may explain why it aligns more closely with appointment ease than with the broader, more evaluative judgement captured by satisfaction. The 2019-2023 trend data reported in Section 5.2 add a further, more specific layer to this picture. The gap in hospital beds per 1,000 inhabitants between the North and the South narrowed over the period, from 0.46 in 2019 to 0.28 in 2023. Despite this narrowing in bed capacity, a substantial North-South difference in perceived access was still observed in the 2026 survey. The two findings cannot establish whether perceptions themselves converged over time, since comparable perception data were not available for earlier years. They do, however, suggest that a narrower gap in one capacity indicator does not necessarily eliminate regional differences in how access is experienced. This is consistent with evidence that fiscal decentralisation in the Italian SSN has been associated with differences in the availability of staff and hospital beds, with stronger effects observed in poorer areas (Rotulo et al., 2022). Read against that evidence, a narrowing bed gap may reflect one specific policy or funding adjustment rather than a broader convergence in regional healthcare capacity as a whole. Doctors and nurses per 1,000 inhabitants complicate the picture further, and in different ways. Doctors were highest in the Centre, not the North, in 2023, and the percentage change in the number of doctors employed within the SSN between 2019 and 2023 was negative in the South (-0.55%) while it grew fastest in the Centre (+6.33%). Regional differences in medical education and postgraduate training capacity have also been documented in Italy, alongside

broader concerns about the alignment of workforce planning with healthcare needs (Mazzucco et al., 2019); the workforce figures reported here are consistent with that documented imbalance. Nurses per 1,000 inhabitants told a different story again: the percentage increase in the Southern nursing workforce between 2019 and 2023 (+5.88%) was in fact larger than the increase in the North (+0.42%). This growth should not, however, be confused with convergence in workforce availability. Despite this faster growth, the South still recorded substantially fewer nurses per 1,000 inhabitants than the North in 2023 (4.51 against 5.61); a larger percentage increase from a lower starting point closes very little of an absolute gap of this size. Taken together, beds, doctors and nurses do not move in lockstep. If the regional divide reflected a uniform shortage across all forms of healthcare capacity, a more consistent pattern across all three indicators might be expected; instead, each indicator shows its own regional pattern. This suggests that Southern healthcare disadvantage cannot be reduced to a uniform shortage across all forms of capacity. Rather, different dimensions of healthcare capacity appear to follow partly different regional patterns. This has a direct bearing on how the correlations reported in Section 5.4 should be read. Because the capacity indicators vary only at the macro-regional level, these correlations should not be interpreted as independent, individual-level associations; a small number of macro-regional values can overstate the apparent strength and generality of an association calculated across many individuals who share the same small number of macro-regional values (Shih et al., 2023). This is not a reason to disregard the pattern. The direction and relative strength of the associations, strongest for appointment ease and weakest for satisfaction, is consistent with the literature discussed above and with the more fine-grained, indicator-specific picture that emerged from the 2019-2023 trend data. It is a reason, however, to describe the relationship between capacity and perceived access as an association worth taking seriously rather than as proof that greater capacity causes better perceived access; the present design cannot rule out that both are shaped by some third regional factor, funding

decisions, organisational practice, or the socio-economic context discussed in the previous section, rather than capacity driving perception directly. RQ3 can therefore be answered cautiously in the affirmative. Greater regional healthcare capacity was associated with more favourable perceptions of access in this sample, particularly for ease of access and appointment availability, and this association was observed across all three capacity indicators and can be considered alongside the regional workforce patterns identified between 2019 and 2023. The relationship was consistently weaker for satisfaction, and it cannot be interpreted causally, since capacity was measured at the macro-regional rather than the individual level. Read alongside RQ1, the findings also suggest that the North-South divide in perceived access is not simply a mirror image of a North-South divide in resources: the North's advantage was clearest for beds and, more moderately, for nurses, but did not hold for doctors, where the Centre performed better on both the 2023 snapshot and the 2019-2023 change. That the survey's access measures nonetheless showed a fairly consistent North-South gradient, rather than one that tracked doctor availability specifically, suggests that perceived access may reflect several dimensions of healthcare capacity rather than any single workforce indicator in isolation.

6.3 Implications for Regional Health Policy

The results of this study have implications beyond documenting a gap between the North and the South. They also raise questions about the organization of Italy's healthcare system and how persistent territorial inequalities might be addressed. The founding principle of the Italian National Health Service was the principle of universal coverage (Signorelli et al., 2020), and this commitment has been central to the system since its creation more than four decades ago. The findings of this study nevertheless suggest that formal entitlement to healthcare and the practical experience of accessing it are not necessarily the same thing. Respondents in the South were formally entitled to the same publicly guaranteed healthcare services as respondents elsewhere in Italy, yet they reported markedly less favourable access, a greater likelihood of delaying or avoiding care, and a less favourable view of whether healthcare resources in their region were sufficient. Universal coverage therefore provides an important foundation for equality, but does not by itself ensure that access is experienced equally across territories. This distinction has implications for how regional performance is assessed. Betti et al. (2023) show that differences in the provision of the Livelli Essenziali di Assistenza (LEA) remain visible across Italian regions and cannot be reduced entirely to a simple North-South division. Administrative measures such as LEA performance are therefore essential, but the findings of the present study suggest that patient-reported experiences of access could provide an additional perspective on whether formal standards translate into accessible care in practice. The capacity findings reported under RQ3 also argue against a policy response built around a single measure such as increasing the number of hospital beds or doctors. Beds, doctors and nurses did not follow exactly the same regional pattern, either in their 2023 levels or in the changes observed between 2019 and 2023. The Centre, rather than the North, recorded the highest number of doctors per 1,000 inhabitants in 2023, while the Southern nursing workforce grew more rapidly than the Northern workforce over the period examined, even though the South still had considerably fewer nurses per 1,000 inhabitants in 2023. These differences matter because they

suggest that healthcare capacity is not a single resource that can be increased uniformly. Mazzucco et al. (2019) identified weaknesses in the alignment between medical education, postgraduate training and future workforce needs in Italy, illustrating the broader difficulty of planning healthcare personnel according to changing demand. In policy terms, the findings of the present study point in a similar direction. Hospital infrastructure, medical staffing and nursing capacity may need to be considered separately when regional needs are assessed, rather than treated as interchangeable components of a single measure of healthcare capacity. The particularly large difference in delayed or avoided care deserves separate attention. In the present survey, 88.0% of Southern respondents reported having delayed or avoided healthcare because of waiting times, compared with 52.3% of Northern respondents. Unlike satisfaction or general perceptions of access, this measure captures a reported behaviour: respondents indicated that care had actually been postponed or avoided. At the same time, the waiting-time measure itself did not show a statistically significant North-South difference in the Mann-Whitney comparison. This makes it difficult to argue that waiting times alone explain the much larger regional difference in delayed or avoided care. Landi et al. (2018) found that waiting times can contribute to inequalities in healthcare utilisation in Italy and that their effects are related to socio-economic conditions. From a policy perspective, this suggests that reducing waiting lists remains important, but may not be sufficient on its own. Organisational barriers can interact with the circumstances in which patients live, meaning that similar difficulties in accessing a service may not have the same consequences for every population. The findings of this study therefore support monitoring not only how long patients wait, but also whether those waits ultimately result in people postponing or abandoning care. The socio-economic evidence considered under RQ2 adds another dimension to this policy problem. The South recorded the lowest GDP per capita, employment rate and tertiary education attainment among the three macro-regions considered, while also reporting the least favourable perceived healthcare

access. Recent evidence continues to document substantial territorial inequalities in health outcomes across Italy, with economic and demographic differences forming part of the wider context in which these inequalities persist (GBD 2021 Italy Subnational Burden of Disease Collaborators, 2025). Antonelli and Marini (2025) similarly draw attention to the role of regional institutional conditions in explaining differences in health outcomes. These findings do not mean that healthcare policy can, or should, be expected to resolve regional differences in employment, income or education. Nor does the present study establish that those socio-economic differences caused the access gap observed in the survey. They do suggest, however, that healthcare interventions are implemented within very different territorial conditions. Policies intended to improve access in disadvantaged regions may therefore need to take those conditions into account rather than assuming that the same intervention will operate in the same way across every part of the country. This issue is particularly relevant because of the decentralised organisation of the Italian healthcare system. Regional autonomy allows healthcare services to be adapted to local needs, but it also creates the possibility that differences in regional resources, administrative capacity and policy choices will translate into differences in service provision. Toth (2014) places the persistent territorial differences in Italian healthcare partly within this history of regionalisation and decentralised governance. More recent evidence from Rotulo et al. (2022) also links fiscal decentralisation to differences in the availability of healthcare staff and hospital beds, particularly in economically weaker areas. At the same time, the evidence presented by Betti et al. (2023) on LEA performance is important because it shows that territorial inequality is more complicated than a simple division between a successful North and an unsuccessful South. Differences exist between regions within the same macro-area as well. The policy implication is therefore not necessarily that regional autonomy should be replaced by greater centralisation. Rather, the findings support the importance of national minimum standards and monitoring mechanisms that are sensitive enough to identify where

specific dimensions of access are falling behind, while still allowing regional policy to respond to local circumstances. The National Recovery and Resilience Plan provides an important post-pandemic context for these issues. Mission 6 has placed considerable emphasis on strengthening territorial healthcare, including through the development of *Case della Comunità* and other forms of community-based provision. Recent work by Diglio et al. (2025) has examined the geographical accessibility of the planned *Case della Comunità*, placing territorial accessibility directly within the debate surrounding the implementation of these reforms. This is particularly relevant to the findings of the present study because increasing the number of facilities does not necessarily mean that people experience access as easier. The survey was not designed as a before-and-after evaluation of Mission 6, so it cannot determine whether these investments have reduced regional inequalities. Nevertheless, the findings indicate what future evaluation could usefully examine. Alongside the number of facilities created, staff employed or services provided, monitoring could consider whether residents actually report greater ease in obtaining appointments, fewer instances of delayed or avoided care, and a more favourable experience of accessing local healthcare. In this sense, patient-reported access could complement rather than replace existing administrative measures of implementation. Taken together, these implications do not point toward a single policy intervention capable of closing the regional gap. The findings instead suggest that the inequality observed in this study is made up of several related but distinct dimensions. Healthcare capacity matters, but beds, doctors and nurses do not follow identical regional patterns. Waiting times matter, but the difference in reported waiting time alone does not explain the much larger difference in delayed or avoided care. Socio-economic disadvantage forms part of the territorial context, but the present study cannot establish a direct causal relationship between those conditions and individual experiences of access. A policy response consistent with these findings would therefore need to consider healthcare capacity, service organisation and wider territorial disadvantage together

rather than treating any one of them as a complete explanation. Just as importantly, progress should not be assessed only through the resources made available to a region. Whether those resources translate into healthcare that people can actually reach and use remains an equally important part of the question.

6.4 Post-Pandemic Considerations

The survey at the centre of this study was conducted in 2026, six years after the first Italian lockdown and roughly three years after the acute phase of the COVID-19 emergency had passed. This distance matters for how to read the findings. Several of the capacity indicators examined in Chapter 5 trace a clear pandemic shock and a partial recovery: hospital beds per 1,000 inhabitants rose sharply in all three macro-regions in 2020, as emergency capacity was expanded, and then declined steadily through 2021 to 2023 as that temporary capacity was withdrawn. Doctors and nurses employed within the SSN recovered less uniformly, growing in the Centre and, for nurses, in the South, while doctor numbers in the South alone continued to fall even after the acute phase of the pandemic had passed. None of this should be read as evidence that access problems were resolved simply because workforce numbers moved in a positive direction. National-level analysis of the Italian NHS points in the same direction: even with roughly 5% more personnel employed across the SSN than before the pandemic, overall system output had still not recovered to 2019 levels by 2023, with outpatient care down by around 8% over the same period (CERGAS-Bocconi, 2024). A rising headcount describes input to the system, not the experience of using it, and the recovery of one does not guarantee the recovery of the other. This caution applies directly to the workforce trends reported in Chapter 5: growth in the nursing workforce in the Centre and South cannot, on its own, be read as evidence that access in those regions improved to the same degree. The clearest post-pandemic puzzle in this study concerns the item on access during COVID-19 itself. Once reverse-coded for consistency with the other evaluative measures, Southern respondents reported a somewhat more favourable experience during the pandemic than Northern respondents did, the only one of the four current-access items where this occurred, even though the South reported worse access than the North on every other measure in the survey, including the pre-pandemic capacity indicators reported in Section 5.2, where the South entered the period with fewer beds and

nurses per 1,000 inhabitants than the North. This should not be read as evidence that the pandemic somehow treated the South more gently; the empirical record points the other way. One plausible interpretation is that the two waves of infection hit Italy's regions unevenly and at different points in time, so that respondents in different macro-regions may be recalling genuinely different local experiences of strain on the system. Trentini et al. (2022), for instance, documented the scale of pressure placed on intensive care capacity in Lombardy specifically during the outbreak's early waves, a pattern of acute, geographically concentrated strain that was not experienced uniformly across the country (Gallina & Caini, 2021). It remains possible, too, that this single item is picking up something closer to relief or resilience, a comparison to how bad things could have been, rather than a straightforward evaluation of access itself. The present data cannot adjudicate between these explanations, and no causal account of this reversal is offered here. A further, more basic limitation concerns the retrospective nature of the item itself. Respondents were asked in 2026 to recall how difficult it had been to access healthcare during a period that, for most of them, ended several years earlier. Recent research has shown that recollection of pandemic-era experiences is not a neutral record of what happened at the time, but is coloured by respondents' present circumstances and current attitudes, with historical narratives about the pandemic shifting depending on how people feel about it now (Sprengholz, Henkel, Böhm, & Betsch, 2023). Applied to this study, that means the COVID-19 access item may reflect, at least in part, how respondents currently feel about their region's healthcare system rather than a precise memory of conditions in 2020 or 2021. This is worth stating plainly as a limitation, not smoothed over: it is one of the more plausible, mundane explanations for the reversal discussed above, alongside the genuinely uneven regional pandemic experience just described. The gap in delayed or avoided care documented in Chapter 5, 88.0% of Southern respondents against 52.3% of Northern respondents, sits naturally within the post-pandemic literature on care backlogs. Postponement and cancellation of non-urgent

treatment was a near-universal response to the pandemic across Italian regions, but the recovery from that backlog does not appear to have been shared equally. A multicentre study covering four large Italian regions found that the recovery of elective and oncological surgery volumes after the initial lockdown was not evenly distributed across social groups, with less advantaged patients less likely to benefit from the return to pre-pandemic activity levels (Di Girolamo et al., 2024). More recent national data continue to describe a similar pattern: unmet healthcare needs in Italy remain more concentrated among lower-income individuals than the EU average, and hospital activity nationally was still trending below pre-pandemic levels several years into the recovery (OECD/European Observatory on Health Systems and Policies, 2025). Waiting time itself, however, did not differ significantly between the North and the South in the present sample, which is a genuine complication rather than a footnote. If backlog alone explained the gap in delayed or avoided care, a comparably large regional difference in reported waiting time might be expected; its absence here suggests that the decision to delay or avoid care in the post-pandemic period is shaped by more than queue length, a point consistent with the wider evidence that waiting time interacts with, rather than substitutes for, other socio-economic and organisational barriers (Landi, Ivaldi, & Testi, 2018). Italy's principal post-pandemic healthcare investment, the Case della Comunità funded under Mission 6 of the National Recovery and Resilience Plan, was introduced explicitly to strengthen territorial care in the aftermath of COVID-19. Recent assessments suggest it has begun to improve the geographical accessibility of primary care (Diglio et al., 2025), as already discussed in Section 6.3. Its relevance here is narrower: it represents the specific policy mechanism through which the post-pandemic capacity changes traced in this chapter, and the persistent access gaps that accompanied them, are meant to be addressed going forward. Since the present survey captures a single point in time after the programme's initial rollout, it cannot show whether the investment has narrowed the gaps identified here; it can only establish what those gaps looked like at this stage of the

recovery. Overall, the findings discussed in this section resist a simple pandemic-centred narrative. COVID-19 did not create the North-South divide in perceived healthcare access documented throughout this thesis; the disparities in capacity, workforce and socio-economic context discussed in Sections 6.2 and 6.3 have deeper roots than the pandemic itself. What the pandemic did was interact with an already unequal system, straining different regions in different ways and at different times, and the recovery that has followed appears, on the evidence gathered here, to be similarly uneven rather than uniform. A regional healthcare system that entered the pandemic unequal should not be expected to emerge from it equal, and the findings of this study are broadly consistent with that more modest, and more realistic, expectation.

6.5 Limitations

Several limitations should be considered when interpreting the results of this study. First, the final cleaned sample consisted of 120 respondents, of whom 115 were included in the North-South comparisons. Only five respondents were from Central Italy. This number was too small for reliable inferential analysis. For this reason, the main statistical comparisons focus on Northern and Southern Italy, while Central Italy is included only in the descriptive results. A second limitation concerns the level at which the healthcare capacity indicators are measured. Hospital beds, doctors, and nurses are measured at the macro-regional level, while perceived access is measured at the individual level. Respondents from the same macro-region therefore share the same capacity values. The correlations used for RQ3 should therefore be interpreted as exploratory associations between regional capacity and individual perceptions. They should not be interpreted as evidence of an individual-level association (Shih, Bradley, & Yabroff, 2023). The survey was conducted online through Google Forms, based on voluntary participation. The sample was therefore self-selected and not randomly selected from the Italian population. This limits the generalizability of the findings (Andrade, 2020). Respondents also had to sign in using a Google account, although email addresses were not collected as part of the research data set. This requirement may have deterred some people from completing the survey. In addition, the questionnaire was only available in English, which could have limited participation of those who were not comfortable answering in English. Finally, the survey responses are self-reported and reflect the experiences and perceptions of access to health care of respondents. The survey was a snapshot in time. Thus, the results can identify differences and associations but not causal relations. These limitations need to be taken into account when interpreting the findings of the study.

Chapter 7 Conclusion

7.1 Overview

This thesis set out to examine whether healthcare access in Italy is actually experienced as equal across the country, despite the SSN's founding commitment to universal coverage. Existing research had already established that Italian regions differ substantially in healthcare provision and outcomes (Matranga & Maniscalco, 2022; Toth, 2014); what remained less clear was how these differences translate into the day-to-day experience of people trying to access care, particularly in the years following the COVID-19 pandemic. To address this, the study combined two types of evidence: regional healthcare capacity and socio-economic indicators covering 2019 to 2023, and a survey of perceived access to healthcare conducted in 2026 across Northern, Central and Southern Italy. Bringing these together made it possible to ask whether the regional patterns observed in the indicators were also reflected in respondents' experiences of accessing healthcare. The overall picture that emerged is one of a real but uneven divide. Respondents in Southern Italy consistently reported less favourable access than those in the North, a pattern that held across most of the measures examined and was broadly, though not perfectly, consistent with regional differences in healthcare capacity and socio-economic conditions. At the same time, the study did not find a simple, uniform "North good, South bad" story. Waiting time did not differ significantly between the two macro-regions, doctors per 1,000 inhabitants were highest in the Centre rather than the North, and respondents' recollections of access during COVID-19 ran in the opposite direction to every other measure in the survey. These exceptions matter as much as the main pattern: they show that regional healthcare inequality in Italy is real without being reducible to a single cause or a single geography. The remainder of this chapter draws out what these findings mean beyond the

specific results already discussed in Chapter 6. Section 7.2 summarises the study's answers to its three research questions. Section 7.3 considers the contributions this thesis makes and the recommendations that follow from them. Section 7.4 closes by identifying the questions this study could not answer and suggesting how future research might address them.

7.2 Summary of Findings

This section brings together the answers this thesis provides to its three research questions, drawing on the detailed findings and interpretation already presented in Chapters 5 and 6. Turning first to RQ1, the evidence gathered here points to a clear answer: yes, a substantial North-South difference in perceived healthcare access was identified. Respondents in Southern Italy reported less favourable experiences than those in the North across most of the measures collected. The largest effects were found for ease of access and ease of obtaining a medical appointment, indicating that the divide is concentrated most heavily at the point of reaching and using the system, rather than being spread evenly and weakly across every aspect of the experience. This pattern is consistent with a broader Italian literature describing persistent, regionally organised barriers to healthcare use (Toth, 2014; Matranga & Maniscalco, 2022). The starkest single finding was behavioural rather than evaluative: 88.0% of Southern respondents reported having delayed or avoided care, compared with 52.3% in the North, a gap consistent with earlier Italian evidence on regional barriers to healthcare utilisation more specifically (Cavalieri, 2013). This pattern was not, however, uniform across every measure considered. Waiting time did not differ significantly between the North and the South, and respondents' recollections of access during the COVID-19 pandemic ran in the opposite direction to every other evaluative item, with the South reporting a more favourable experience. RQ1 is therefore best answered with two parts held together: the North-South divide in perceived access is real and substantial, but it is not a uniform divide that appears identically on every dimension of the healthcare experience examined in this study. RQ2 could only be answered at the contextual rather than the individual level, since the survey did not collect individual-level income, education or employment data. The regional evidence is nonetheless informative, and it is worth being precise about what it does and does not show. The socio-economic indicators used here describe conditions in 2022 and 2023, while the survey capturing

perceived access was conducted in 2026; the two are therefore treated as broadly overlapping regional context rather than as measurements taken at the same moment. The South recorded the lowest GDP per capita and the lowest employment rate of the three macro-regions, while also being the macro-region in which respondents reported the least favourable perceived access in the comparative analysis. Tertiary education attainment broke this pattern, with the Centre recording the highest value, which shows that the socio-economic disadvantage evident in the South is not reducible to a single, uniform gradient across every indicator. What can be said, cautiously, is that the regional socio-economic environment in which poorer perceived access was reported was also systematically less favourable in the South, a pattern consistent with a wider body of evidence linking territorial economic disadvantage to poorer health-related outcomes in Italy (Naghavi et al., 2025). This falls short of demonstrating that respondents' own socio-economic circumstances shaped their reported access, and no such claim is made here. For RQ3, greater regional healthcare capacity was associated with more favourable perceived access in this sample, though the relationship cannot be interpreted causally. Beds, doctors and nurses per 1,000 inhabitants all correlated positively with the current-access measures, most strongly with ease of access and appointment ease, and more weakly with satisfaction. Capacity itself, however, was not a single, uniform advantage running from North to South, nor did its change over time move in one direction. The gap in hospital beds per 1,000 inhabitants between the North and the South narrowed from 0.46 in 2019 to 0.28 in 2023. Despite this narrowing in bed capacity, a substantial North-South difference in perceived access was still observed in the 2026 survey. Without comparable perception data from earlier years, however, it is not possible to determine whether the perceived-access gap itself narrowed over the same period. The Centre, not the North, recorded the highest number of doctors per 1,000 inhabitants in 2023, and the South's nursing workforce grew faster than the North's between 2019 and 2023, even as it remained smaller in absolute terms, a pattern of regional divergence documented more broadly

in the Italian health financing literature (Rotulo et al., 2022). Because the capacity indicators were assigned at the macro-regional rather than the individual level, these associations are appropriately read as exploratory rather than as evidence of an individual-level or causal relationship between capacity and access. Taken as a whole, Italy's North-South healthcare divide is visible not only in administrative indicators but also in how access is actually experienced by the people living within each macro-region. This is the central finding of the thesis. The divide is, at the same time, genuinely multidimensional rather than singular. Perceived access, healthcare capacity and socio-economic conditions broadly align geographically, particularly in the disadvantage consistently observed in the South, yet none of the three moves in perfect step with the others: the Centre outperforms the North on doctors and on tertiary education, waiting time shows no significant regional difference, narrower capacity gaps do not necessarily correspond to the absence of substantial differences in perceived access, and the pandemic-era item reverses the usual direction entirely. A study reporting only the aligned parts of this picture would tell a simpler story than the evidence actually supports. What this thesis offers instead is a more accurate one: a regional divide that is real, consequential, and worth addressing, but not so tidy that it can be reduced to a single number, a single cause, or a single line drawn across the map of Italy.

7.3 Contributions and Recommendations

Previous research has documented Italy's North-South healthcare divide primarily through institutional, economic and utilisation indicators, establishing that regions differ substantially in resources, organisation and outcomes (Toth, 2014; Matranga & Maniscalco, 2022). This thesis adds a patient-reported perspective to that body of evidence, and considers it alongside regional capacity and socio-economic conditions in the specific context of the post-pandemic period. The contribution is not the discovery of a North-South divide, which was already well established, but the demonstration that this divide is also visible, and in places behaves differently, when the question shifts from what resources a region has to whether the people living there feel they can actually reach and use them. This distinction between resource availability and experienced accessibility runs through the thesis's most useful findings. Two regions can hold identical rankings on administrative capacity indicators and still differ in how residents describe getting an appointment or deciding whether care is worth pursuing at all; conversely, this study found instances where capacity and perception did not move together. Doctors per 1,000 inhabitants were highest in the Centre rather than the North, yet this did not translate into a Centre-favourable pattern in the perceived-access measures. Waiting time showed no significant North-South difference, even as delayed or avoided care showed one of the largest gaps in the entire study. Findings of this kind are only visible when capacity data and patient-reported experience are examined side by side, which is precisely what existing frameworks for monitoring health system performance increasingly recommend rather than relying on administrative counts alone (World Health Organization, 2025). Methodologically, the thesis's contribution lies in combining two levels of evidence that are not often brought together in the same analysis: regional secondary data spanning 2019 to 2023, and individual survey data collected in 2026. This combination made it possible to see where regional structural conditions and people's reported experiences aligned, and where they diverged. It

does not establish causality, and it should not be read as doing so; the capacity indicators are assigned at the macro-regional level, and the associations reported in Chapter 5 are exploratory rather than individual-level evidence. What this approach does offer is a more complete picture than either level of evidence could provide alone, and a template that other researchers working on regional health inequality could reasonably extend to other countries with comparably decentralised systems. These contributions point toward several practical recommendations, each grounded directly in a specific finding rather than in the general observation that the South fares worse than the North. The first recommendation follows from the gap between capacity and perceived access documented throughout this thesis: regional health system performance should not be assessed through administrative capacity indicators alone. Frameworks such as Italy's LEA monitoring system already track prevention, community care and hospital services at the regional level, but evidence suggests that even meeting these standards does not eliminate meaningful variation in performance between regions within the same macro-area (Betti et al., 2023). Complementing these administrative indicators with patient-reported measures of ease of access, appointment availability and delayed or avoided care would allow policymakers to see the aspects of regional inequality that capacity counts alone cannot reveal. The second recommendation follows from the finding that beds, doctors and nurses did not move together across Italy's macro-regions, either in their 2023 levels or in their 2019-2023 trajectories. A single, generic target for "more healthcare capacity" in the South is unlikely to address a divide that plays out differently across different parts of the workforce; recent research on the geographic distribution of Italy's nursing workforce has shown persistent regional inequalities in nurse availability, with more socio-economically developed regions tending to have higher nursing density (Notarnicola et al., 2025). Workforce planning would therefore benefit from being assessed indicator by indicator and profession by profession, rather than treated as a single undifferentiated capacity problem to be solved with a single lever. The third

recommendation is the one most directly grounded in this thesis's own data. The 88.0% of Southern respondents who reported delaying or avoiding care, against 52.3% in the North, is the largest single disparity identified in this study, and it did not track cleanly with reported waiting time, which showed no significant regional difference at all. This matters because Italy's most recent national effort to address access problems, the AGENAS-managed platform introduced under Law 107/2024, is built specifically around monitoring waiting times and appointment availability (D'Agostino, de Belvis, Ricciardi, Fattore, & Meda, 2025). A platform of this kind is a genuine step forward, but this thesis's findings suggest that waiting-list metrics alone would not have captured the gap that mattered most in this sample. Whether people actually postpone or abandon care altogether is a distinct outcome from how long they wait once they decide to seek it, and the two should be tracked separately rather than assuming that progress on one implies progress on the other. In sum, these recommendations point toward a single underlying principle rather than a checklist of unrelated fixes. Italy does not necessarily need identical healthcare systems in every region; regional autonomy and local adaptation are, within limits, defensible features of a decentralised system. What the evidence gathered here does suggest is a need for comparable, effectively experienced access across regions, monitored through the kind of patient-reported indicators this thesis has attempted to demonstrate the value of. Formal entitlement to universal coverage is not the same thing as equal, effective access to care, and the gap between the two is where this thesis's findings, and the recommendations that follow from them, are ultimately located.

7.4 Suggestions for Further Research

The findings of this thesis also identify several questions that could be examined more closely in future research, particularly through extensions of the design used here. Because the inferential analysis compared Northern and Southern Italy as macro-regions, with Central Italy retained descriptively due to its small subsample, it was not possible to determine whether the pattern identified here holds consistently across all 20 regions or is driven disproportionately by a smaller number of them. A larger, regionally stratified sample, capable of supporting comparisons such as Lombardy against Campania or Emilia-Romagna against Calabria, would make it possible to establish whether the North-South divide documented in this thesis is a genuinely macro-regional phenomenon or an aggregation of more localised differences that a three-way classification cannot distinguish. The most consequential limitation of this study is the absence of individual-level socio-economic data, and this is the clearest direction for future work. The present design could only show that the South's less favourable perceived access coincided geographically with a less favourable regional socio-economic context; it could not test whether an individual respondent's own income, employment or education actually predicted their reported access, nor whether region continued to matter once individual circumstances were taken into account. Regional and individual determinants of unmet need have been shown to operate differently across countries, with age and chronic illness affecting the probability of unmet need differently depending on region of residence even in Italy specifically (Brezzi & Luongo, 2016). A future survey collecting individual socio-economic variables alongside perceived access measures could apply the same kind of multilevel approach to disentangle individual and regional effects directly, rather than inferring their overlap from aggregate patterns as this thesis has had to do. A related extension concerns the healthcare capacity indicators themselves, which were assigned to respondents at the level of the macro-region rather than matched to their actual region or province of residence. Linking

each respondent's capacity indicators to their specific administrative region, rather than to a three-way North, Centre and South classification, would substantially sharpen the correlations reported in Chapter 5 and would allow a genuinely multilevel model, individual characteristics nested within regional healthcare characteristics, to be estimated. This would address directly the exploratory status this thesis has had to attach to the relationship between capacity and perceived access. The gap between delayed or avoided care and reported waiting time represents one of the most promising directions for future research. The finding that 88.0% of Southern respondents reported delaying or avoiding care, against a non-significant North-South difference in waiting time itself, suggests that a single waiting-time item cannot capture why people actually decide to forgo care. Future surveys could ask separately about waiting time, cost, distance, appointment availability, trust in local services and prior negative experiences, following an approach similar to recent research in Germany that examined delayed and forgone care as outcomes with several distinct, independently measured causes rather than a single undifferentiated barrier (Klein, Lüdecke, & von dem Knesebeck, 2025). Applying a comparable design in Italy would make it possible to identify which specific barriers actually predict delayed or avoided care in the South, rather than assuming, as a single waiting-time question forces one to, that queue length is the primary explanation. Finally, the cross-sectional design of this study, together with its reliance on a single retrospective item covering the COVID-19 period, points toward the value of repeated or longitudinal data collection. Repeat cross-sectional surveys have been used elsewhere to track how socio-economic inequalities in health shifted around a major economic shock and the policy response that followed it, without requiring the same individuals to be followed over time (Thomson, Niedzwiedz, & Katikireddi, 2018). Administering a comparable survey again in two or three years, alongside continued monitoring of the regional capacity indicators reported in Chapter 5, would make it possible to ask directly whether investments such as the Case della Comunità under Mission 6 of the

National Recovery and Resilience Plan are followed by measurable improvements in perceived access, rather than inferring this indirectly from cross-sectional data collected at a single point in the recovery. This would also reduce reliance on the kind of retrospective recall this study had to depend on for the COVID-19 item, replacing it with contemporaneous measurement as future emergencies or policy changes unfold. This thesis has established that a regional divide in perceived healthcare access exists in Italy, that it is broadly, though imperfectly, aligned with regional differences in capacity and socio-economic conditions, and that it is not uniform across every dimension of the healthcare experience. What remains for future research is to move from documenting that this divide exists to explaining more precisely why it persists, for whom it is most pronounced, and which interventions, if any, are capable of narrowing it.

References

Adinolfi, P. (2014). Barriers to reforming healthcare: The Italian case. *Health Care Analysis*, 22(1), 36-58.

Agenas (Agenzia Nazionale per i Servizi Sanitari Regionali). (2025). Il personale del Servizio Sanitario Nazionale. Dati 2023 (Edizione settembre 2025). https://www.agenas.gov.it/images/2025/personale_ssn/Rapporto_personale_ssn_2025.pdf

Alibrandi, A., Gitto, L., Limosani, M., & Mustica, P. F. (2023). Patient satisfaction and quality of hospital care. *Evaluation and Program Planning*, 97, 102251.

Andrade, C. (2020). The limitations of online surveys. *Indian Journal of Psychological Medicine*, 42(6), 575-576.

Antonelli, M. A., & Marini, G. (2025). Do institutions matter for citizens' health status? Empirical evidence from Italy. *The European Journal of Health Economics*, 26(1), 95-115.

Antošová, I., Hazuchová, N., & Stávková, J. (2022). Consumers' perceptions of health and factors influencing fulfilment of the need for healthcare in EU countries. *E+M: Ekonomie a Management*.

Asso, P. F. (2023). New perspectives on old inequalities: Italy's north–south divide. In *Inequalities, territorial politics, nationalism* (pp. 22-40). Routledge.

Batbaatar, E., Dorjdagva, J., Luvsannyam, A., Savino, M. M., & Amenta, P. (2017). Determinants of patient satisfaction: a systematic review. *Perspectives in Public Health*, 137(2), 89-101.

Benassi, F., Tomassini, C., & Di Felice, G. (2025). Spatial heterogeneities or inequalities? Health care supply and demand of the older population in Italy. *Applied Spatial Analysis and Policy*, 18(1), 44.

Benini, F., Mercante, A., Di Nunzio, S., Papa, S., & PalliPed Working Group. (2024). A nationwide study to evaluate accessibility to specialized pediatric palliative care in Italy—patients, needs, and critical issues: The PalliPed study. *Journal of Palliative Medicine*, 27(10), 1346-1353.

Berger, E., Winkelmann, J., Eckhardt, H., Nimptsch, U., Panteli, D., Reichebner, C., ... & Busse, R. (2022). A country-level analysis comparing hospital capacity and utilisation during the first COVID-19 wave across Europe. *Health Policy*, 126(5), 373-381.

Berkman, N. D., Sheridan, S. L., Donahue, K. E., Halpern, D. J., & Crotty, K. (2011). Low health literacy and health outcomes: an updated systematic review. *Annals of Internal Medicine*, 155(2), 97-107.

Betti, M., De Tommaso, C. V., & Maino, F. (2023). Health inequalities in Italy. Comparing regions among prevention, community health services and hospital assistance. *Social Development Issues*, 45(1), 61-76.

Braggion, M., Campostrini, S., & Bertin, G. (2015). Socio-economic differences in healthcare access from a welfare system perspective, Italy: 2007–2010. *Health Promotion International*, 30(3), 706-715.

Brezzi, M., & Luongo, P. (2016). Regional disparities in access to health care: a multilevel analysis in selected OECD countries. *OECD Regional Development Working Papers*, 2016/04.

Bridges, J., Griffiths, P., Oliver, E., & Pickering, R. M. (2019). Hospital nurse staffing and staff–patient interactions: an observational study. *BMJ Quality & Safety*, 28(9), 706-713.

Broccolo, G., Guerra, F., Longo, F., Palvarini, A., Ricci, A., & Rossi, F. (2024). 2024 OASI report: Observatory on Healthcare Organizations and Policies in Italy [Executive summary]. CERGAS-SDA Bocconi.

Bruzzi, S., Ivaldi, E., & Santagata, M. (2022). Measuring regional performance in the Italian NHS: Are disparities decreasing? *Social Indicators Research*, 159(3), 1057-1084.

Buja, A., Paganini, M., Cocchio, S., Scioni, M., Rebba, V., & Baldo, V. (2020). Demographic and socio-economic factors, and healthcare resource indicators associated with the rapid spread of COVID-19 in Northern Italy: An ecological study. *PLoS One*, 15(12), e0244535.

Cabrera-Barona, P., Blaschke, T., & Kienberger, S. (2017). Explaining accessibility and satisfaction related to healthcare: a mixed-methods approach. *Social Indicators Research*, 133(2), 719-739.

Catania, G., Zanini, M., Cremona, M. A., Landa, P., Musio, M. E., Watson, R., ... & Bagnasco, A. (2024). Nurses' intention to leave, nurse workload and in-hospital patient mortality in Italy: A descriptive and regression study. *Health Policy*, 143, 105032.

Cavaliere, M. (2013). Geographical variation of unmet medical needs in Italy: a multivariate logistic regression analysis. *International Journal of Health Geographics*, 12(1), 27.

D'Agostino, M., de Belvis, A. G., Ricciardi, W., Fattore, G., & Meda, F. (2025, May 28). The new national platform for monitoring waiting lists in Italy. *European Observatory on Health Systems and Policies*.

De Belvis, A. G., Meregaglia, M., Morsella, A., Adduci, A., Perilli, A., Cascini, F., ... & Scarpetti, G. (2024). Italy: health system summary, 2024.

de Leverano, A. (2020). Post COVID EU recovery: Is there room to invest in healthcare? (No. 20-14). ZEW Expert Brief.

De Rosis, S., & Barsanti, S. (2016). Patient satisfaction, e-health and the evolution of the patient-general practitioner relationship: Evidence from an Italian survey. *Health Policy*, 120(11), 1279-1292.

De Rosis, S., Cerasuolo, D., & Nuti, S. (2020). Using patient-reported measures to drive change in healthcare: the experience of the digital, continuous and systematic PREMs observatory in Italy. *BMC Health Services Research*, 20(1), 315.

De Rosis, S., Guidotti, E., Zuccarino, S., Venturi, G., & Ferré, F. (2020). Waiting time information in the Italian NHS: A citizen perspective. *Health Policy*, 124(8), 796-804.

Di Ciaula, A., Palmieri, V. O., Migliore, G., & Portincasa, P. (2020). COVID-19, internists and resilience: the north-south Italy outbreak. *European Journal of Clinical Investigation*, 50(7), e13299.

Di Girolamo, C., Onorati, R., Landriscina, T., Gnani, R., Cesaroni, G., Calandrini, E., ... & Spadea, T. (2024). Equity in the recovery of elective and oncological surgery volumes after the COVID-19 lockdown: a multicentre cohort study in Italy. *International Journal for Equity in Health*, 23(1), 57.

Di Napoli, A., Ventura, M., Spadea, T., Giorgi Rossi, P., Bartolini, L., Battisti, L., ... & Petrelli, A. (2022). Barriers to accessing primary care and appropriateness of healthcare among immigrants in Italy. *Frontiers in Public Health*, 10, 817696.

Diglio, A., Morlotti, C., Bruno, G., Cattaneo, M., Paleari, S., & Piccolo, C. (2025). Enhancing patient accessibility of primary care: the redesign of Italian territorial medicine. *Health Care Management Science*, 28(3), 527-547.

Donatini, A. (2020). The Italian health care system. *International Profiles of Health Care Systems*, 117.

Falcone, R., Colì, E., Felletti, S., Sapienza, A., Castelfranchi, C., & Paglieri, F. (2020). All we need is trust: How the COVID-19 outbreak reconfigured trust in Italian public institutions. *Frontiers in Psychology*, 11, 561747.

Fantozzi, R., Gabriele, S., & Zanardi, A. (2025). The role of socio-economic determinants in the interregional allocation of healthcare resources: Some insights from the 2023 reform in the Italian NHS. *Health Policy*, 152, 105240.

Ferré, F., De Belvis, A. G., Valeria, L., Longhi, S., Lazzari, A., Fattore, G., ... & Maresso, A. (2014). Italy: health system review. *Health Systems in Transition*, 16.

Filippini, T., & Vinceti, S. R. (2021). Italian National Recovery and Resilience Plan: a healthcare renaissance after the COVID-19 crisis? *Acta Bio Medica: Atenei Parmensis*, 92(Suppl 6), e2021463.

Fiorini, M., Mall, S., & Donatini, A. (2002). L'appropriatezza assistenziale: il ruolo dei contratti e delle tariffe. In G. Fiorentini (Ed.), *I servizi sanitari in Italia* (pp. 129-161). Il Mulino.

France, G. (1997). Cross-border flows of Italian patients within the European Union: an international trade approach. *European Journal of Public Health*, 7(suppl_3), 18-25.

France, G., Taroni, F., & Donatini, A. (2005). The Italian health-care system. *Health Economics*, 14(S1), S187-S202.

Franzini, L., & Giannoni, M. (2010). Determinants of health disparities between Italian regions. *BMC Public Health*, 10(1), 296.

Frey, A., Tilstra, A. M., & Verhagen, M. D. (2024). Inequalities in healthcare use during the COVID-19 pandemic. *Nature Communications*, 15(1), 1894.

Gallina, P., & Caini, S. (2021). North-south inequalities in healthcare response to Covid-19 in Italy. *International Journal for Quality in Health Care*, 33(3), mzab124.

Giulio de Belvis, A., Meregaglia, M., Morsella, A., Adduci, A., Perilli, A., Cascini, F., ... & Scarpetti, G. (2022). Italy: health system review (Vol. 24, No. 4). World Health Organization, Regional Office for Europe.

Glorioso, V., & Subramanian, S. V. (2014). Equity in access to health care services in Italy. *Health Services Research*, 49(3), 950-970.

Gualano, M. R., Corradi, A., Voglino, G., Bert, F., & Siliquini, R. (2021). Beyond COVID-19: a cross-sectional study in Italy exploring the covid collateral impacts on healthcare services. *Health Policy*, 125(7), 869-876.

Gutium, T., & Gojaeva, E. (2023). Determinants of unmet healthcare needs in the European Union countries. *Economy and Sociology*, (2), 45-56.

Halásková, R., & Bednář, P. (2021). Evaluation of selected indicators of health care in the context of health care systems: case of 27 European Union countries. *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, 29(3), 1-14.

ISTAT. (2019). Regional accounts 2019. https://www.istat.it/wp-content/uploads/2021/01/Regional_accounts_2019.pdf

ISTAT. (2020). Equitable and sustainable well-being in Italy: BES report 2020. Italian National Institute of Statistics. <https://www.istat.it/it/files/2021/10/BES-Report-2020.pdf>

Istituto Centrale di Statistica. (2005). DemoS: Sistema di indicatori sociali per il territorio. ISTAT.

Jagric, T., Grbenic, S. O., & Jagric, V. (2022). What drives the healthcare sector's economic impact? Evidence from European countries. *International Journal of Health Governance*, 27(1), 41-53.

Klein, J., Lüdecke, D., & von dem Knesebeck, O. (2025). Forgone and delayed care in Germany—inequalities and perceived health risk of unmet need. *International Journal for Equity in Health*, 24, 122.

Ksinan Jiskrova, G., Bobák, M., Pikhart, H., & Ksinan, A. J. (2021). Job loss and lower healthcare utilisation due to COVID-19 among older adults across 27 European countries. *Journal of Epidemiology and Community Health*, 75(11), 1078-1083.

Kvist, T., Voutilainen, A., Mäntynen, R., & Vehviläinen-Julkunen, K. (2014). The relationship between patients' perceptions of care quality and three factors: nursing staff job satisfaction, organizational characteristics and patient age. *BMC Health Services Research*, 14(1), 466.

Landi, S., Ivaldi, E., & Testi, A. (2018). Socioeconomic status and waiting times for health services: An international literature review and evidence from the Italian National Health System. *Health Policy*, 122(4), 334-351.

Leogrande, A., Alberto, C., Leogrande, D., & Anobile, F. (2023). Beds in health facilities in the Italian regions: A socio-economic approach. Available at SSRN 4577029.

Love, J., Selker, R., Marsman, M., Jamil, T., Dropmann, D., Verhagen, J., ... & Wagenmakers, E. J. (2019). JASP: Graphical statistical software for common statistical designs. *Journal of Statistical Software*, 88, 1-17.

Lupu, D., & Tiganasu, R. (2022). COVID-19 and the efficiency of health systems in Europe. *Health Economics Review*, 12(1), 14.

Maino, F., & Betti, M. (2026). Regional models and health outcomes: the Italian National Health Service in the post-pandemic period. *South European Society and Politics*, 1-30.

Mangano, A. (2010). An analysis of the regional differences in health care utilization in Italy. *Health & Place*, 16(2), 301-308.

Masseria, C., & Giannoni, M. (2010). Equity in access to health care in Italy: a disease-based approach. *European Journal of Public Health*, 20(5), 504-510.

Materia, E., Cacciani, L., Bugarini, G., Cesaroni, G., Davoli, M., Mirale, M. P., ... & Perucci, C. A. (2005). Income inequality and mortality in Italy. *The European Journal of Public Health*, 15(4), 411-417.

Matranga, D., & Maniscalco, L. (2022). Inequality in healthcare utilization in Italy: how important are barriers to access? *International Journal of Environmental Research and Public Health*, 19(3), 1697.

Mazzucco, W., Lanza, G., Gaglio, V., Albanese, G., Amata, O., Casà, C., Ferorelli, D., Sessa, G., Spina, E., Silenzi, A., & Marotta, C. (2019). Medical workforce planning in a changing

health context: Comparison between Italy and Europe. *EuroMediterranean Biomedical Journal*, 14(11), 49-55.

Mbau, R., Musiega, A., Nyawira, L., Tsofa, B., Mulwa, A., Molyneux, S., ... & Barasa, E. (2022). Analysing the efficiency of health systems: a systematic review of the literature. *Applied Health Economics and Health Policy*, 21(2), 205.

Messina, G., Vencia, F., Mecheroni, S., Dionisi, S., Baragatti, L., & Nante, N. (2014). Factors affecting patient satisfaction with emergency department care: an Italian rural hospital. *Global Journal of Health Science*, 7(4), 30.

Ministero della Salute. (2019–2023). *Annuario statistico del Servizio Sanitario Nazionale*. Direzione Generale della Digitalizzazione, del Sistema Informativo Sanitario e della Statistica. <https://www.salute.gov.it/>

Mircioiu, C., & Atkinson, J. (2017). A comparison of parametric and non-parametric methods applied to a Likert scale. *Pharmacy*, 5(2), 26.

Murgante, B., Borruso, G., Balletto, G., Castiglia, P., & Dettori, M. (2020). Why Italy first? Health, geographical and planning aspects of the COVID-19 outbreak. *Sustainability*, 12(12), 5064.

Naghavi, M., Zamagni, G., Abbafati, C., Armocida, B., Agodi, A., Alicandro, G., ... & Monasta, L. (2025). State of health and inequalities among Italian regions from 2000 to 2021: a systematic analysis based on the Global Burden of Disease Study 2021. *The Lancet Public Health*, 10(4), e309-e320.

Notarnicola, I., Duka, B., Grosha, E., Gioiello, G., Zega, M., Caruso, R., ... & Stievano, A. (2025). Regional inequities in the distribution of the nursing workforce in Italy. *Nursing Reports*, 15(7), 235.

OECD/European Observatory on Health Systems and Policies. (2023). Italy: Country health profile 2023. State of Health in the EU. European Commission. https://health.ec.europa.eu/system/files/2023-12/2023_chp_it_english.pdf

OECD/European Observatory on Health Systems and Policies. (2025). Italy: Country health profile 2025. State of Health in the EU. European Commission. <https://eurohealthobservatory.who.int/docs/librariesprovider3/country-health-profiles/chp2025pdf/soheu-2025-italy-final-web.pdf>

Palm, W., Webb, E., Hernández-Quevedo, C., Scarpetti, G., Lessof, S., Siciliani, L., & Van Ginneken, E. (2021). Gaps in coverage and access in the European Union. *Health Policy*, 125(3), 341-350.

Peres, F. F. (2026). Effect sizes for nonparametric tests. *Biochemia Medica*, 36(1), 010101.

Petrelli, A., Rosano, A., Rossi, A., Mirisola, C., & Cislighi, C. (2019). The geography and economics of forgoing medical examinations or therapeutic treatments in Italy during the economic crisis. *BMC Public Health*, 19(1), 1202.

Petrelli, A., Ventura, M., Di Napoli, A., Pappagallo, M., Simeoni, S., & Frova, L. (2024). Socioeconomic inequalities in avoidable mortality in Italy: results from a nationwide longitudinal cohort. *BMC Public Health*, 24(1), 757.

Pujolar, G., Oliver-Anglès, A., Vargas, I., & Vázquez, M. L. (2022). Changes in access to health services during the COVID-19 pandemic: a scoping review. *International Journal of Environmental Research and Public Health*, 19(3), 1749.

Raghupathi, V., & Raghupathi, W. (2020). The influence of education on health: an empirical assessment of OECD countries for the period 1995–2015. *Archives of Public Health*, 78(1), 20.

Ricciardi, W., & Tarricone, R. (2021). The evolution of the Italian national health service. *The Lancet*, 398(10317), 2193-2206.

Rotulo, A., Paraskevopoulou, C., & Kondilis, E. (2022). The effects of health sector fiscal decentralisation on availability, accessibility, and utilisation of healthcare services: a panel data analysis. *International Journal of Health Policy and Management*, 11(11), 2440-2450.

Rydzewski, P. (2025). Digital inequality and sustainable development. *Problemy Ekorozwoju*, 20(1), 96-108.

Santos-Jaén, J. M., Valls Martínez, M. D. C., Palacios-Manzano, M., & Grasso, M. S. (2022). Analysis of patient satisfaction through the effect of healthcare spending on waiting times for consultations and operations. *Healthcare*, 10(7), 1229.

Shih, Y. C. T., Bradley, C., & Yabroff, K. R. (2023). Ecological and individualistic fallacies in health disparities research. *JNCI: Journal of the National Cancer Institute*, 115(5), 488-491.

Signorelli, C., Odone, A., Oradini-Alacreu, A., & Pelissero, G. (2020). Universal Health Coverage in Italy: lights and shades of the Italian National Health Service which celebrated its 40th anniversary. *Health Policy*, 124(1), 69-74.

Spezia, N., De Rosis, S., & Nuti, S. (2025). The relationship between Sense of Community and perceived service quality: rethinking the role of local communities in sustaining rural health and social care. *BMC Health Services Research*, 25(1), 716.

Sprengholz, P., Henkel, L., Böhm, R., & Betsch, C. (2023). Historical narratives about the COVID-19 pandemic are motivationally biased. *Nature*, 623(7987), 588-593.

Thomson, R. M., Niedzwiedz, C. L., & Katikireddi, S. V. (2018). Trends in gender and socioeconomic inequalities in mental health following the Great Recession and subsequent austerity policies: a repeat cross-sectional analysis of the Health Surveys for England. *BMJ Open*, 8(8), e022924.

Torri, E., Sbrogiò, L. G., Di Rosa, E., Cinquetti, S., Francia, F., & Ferro, A. (2020). Italian public health response to the COVID-19 pandemic: case report from the field, insights and challenges for the department of prevention. *International Journal of Environmental Research and Public Health*, 17(10), 3666.

Toth, F. (2014). How health care regionalisation in Italy is widening the North–South gap. *Health Economics, Policy and Law*, 9(3), 231-249.

Trentini, F., Marziano, V., Guzzetta, G., Tirani, M., Cereda, D., Poletti, P., ... & Merler, S. (2022). Pressure on the health-care system and intensive care utilization during the COVID-19 outbreak in the Lombardy region of Italy: a retrospective observational study in 43,538 hospitalized patients. *American Journal of Epidemiology*, 191(1), 137-146.

Venuleo, C., Marinaci, T., Cucugliato, C., & Giausa, S. (2024). It is time to take complaints seriously? An exploratory analysis of communications sent by users to a public healthcare

agency before, during and after the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 21(10), 1299.

Viñuela Jiménez, A. J., Perancho, R., Díaz Dapena, A., & Lasarte Navamuel, E. (2025). Left behind places in Italy: North vs. South or intra-regional disparities? *Le Disuguaglianze Territoriali in Italia: Cause, Forme, Conseguenze*.

Vitale, E., Lupo, R., Artioli, G., De Vito, M. F., Calabro, A., Caldararo, C., ... & Carriero, M. C. (2022). The satisfaction level perceived by Italians during the first phase of the Covid-19 pandemic phase. *Acta Bio Medica: Atenei Parmensis*, 93(Suppl 2), e2022155.

Wakefield, J. (2008). Ecologic studies revisited. *Annual Review of Public Health*, 29(1), 75-90.

Winkelmann, J., Webb, E., Williams, G. A., Hernández-Quevedo, C., Maier, C. B., & Panteli, D. (2022). European countries' responses in ensuring sufficient physical infrastructure and workforce capacity during the first COVID-19 wave. *Health Policy*, 126(5), 362-372.

World Health Organization. (2025). Patient-reported experiences in primary care: metrics and assessment tool, reference version. World Health Organization.