

# A Survey on Italian General Practitioners' Perspectives Regarding the Reorganization of Primary Care Services

Francesco Andrea Causio<sup>1</sup>, Andrea Gentili<sup>1</sup>, Flavia Beccia<sup>1</sup>, Lucia De Maio<sup>1</sup>,  
Andriy Melnyk<sup>1</sup>, Gianluigi Quaranta<sup>1</sup>, Luigi Russo<sup>1</sup>, Cosimo Savoia<sup>1</sup>, Fidelia Cascini<sup>1</sup>

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## Abstract

**Background.** This study investigates the perspectives of primary care doctors in Italy regarding recent healthcare reforms, including the introduction of Community Hospitals and Community Homes.

**Methods.** An online survey was conducted with 43 General Practitioners from various regions of Italy.

**Results.** The results reveal diverse opinions on the potential benefits of Community Hospitals and Community Homes in enhancing primary care and reducing inappropriate emergency room visits. While some GPs expressed optimism, a substantial portion raised concerns about inadequate dissemination of information and lack of clarity regarding admission criteria and functions. The study also highlights disparities in digital literacy and utilization of electronic health records and telemedicine platforms among GPs.

**Conclusion.** These findings suggest the need for improved communication, training, and support to ensure successful implementation of healthcare reforms and digital transformation in Italy's primary care system.

**Highlights.** Italian GPs express diverse opinions on the potential benefits of Community Hospitals and Community Health Houses in enhancing primary care.

The study findings highlight the different perspectives and challenges faced by General Practitioners in Italy, regarding the reorganization of Primary Care Services and, in particular, the implementation of community hospitals, community health homes and digital healthcare initiatives.

Disparities in digital literacy and utilization of electronic health records and telemedicine platforms among GPs highlight the need for targeted training and support programs.

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<sup>1</sup> Department of Life Sciences and Public Health, Section of Hygiene, University Cattolica del Sacro Cuore, Rome, Italy



## Introduction

In the Italian healthcare landscape, General Practitioners (Medico di Medicina Generale or MMG) and Free-Choice Pediatricians (Pediatria di Libera Scelta or PLS) play integral roles as Primary Care Physicians (PCPs) (1). MMG serves as the front line of adult primary care, offering comprehensive medical services to individuals within their communities. Meanwhile, PLS specializes in pediatric care, providing essential healthcare services to children and adolescents. PCPs are essential figures, acting as the first point of contact for patients seeking medical attention, preventive care, and guidance on health-related matters. They rely on various resources such as medical knowledge, clinical guidelines, diagnostic tools, and therapeutic interventions to provide comprehensive healthcare to patients (2). Their roles extend beyond mere diagnosis and treatment, encompassing aspects of health education, promotion of healthy lifestyles, and proactive preventive measures within the community. These healthcare professionals serve as key pillars in the Italian healthcare system, emphasizing the importance of personalized and community-oriented care (3).

The Italian National Recovery and Resilience Plan (PNRR) in Italy has allocated significant resources to reorganize and strengthen national healthcare services and community medicine. This strategic initiative's Mission 6 recognizes both the necessity of making healthcare more accessible and the potential of technology to enhance healthcare delivery (4). The need for proximity medicine, coupled with the evolution of digital medicine and telemedicine, serves to bridge gaps in territorial healthcare and acts as a transformative force in the Italian healthcare system, prompting a shift towards more accessible and community-oriented medical services.

In alignment with the Component 1 of Mission 6, titled "Proximity Networks, Facilities, and Telemedicine for Territorial Healthcare," the Ministerial Decree 77/2022 (DM 77/2022) has emerged as a pivotal document, defining criteria for the establishment of a new organizational model in territorial healthcare (5). The decree lays the groundwork for innovative approaches, such as Community Hospitals and Community Houses, with the overarching goal of overcoming territorial disparities and unifying regional services. Furthermore, the emphasis on the interoperability of information systems seeks to streamline and enhance the efficiency of healthcare services, ensuring a more cohesive and integrated

approach. This regulatory framework recognizes the evolving landscape of healthcare, acknowledging the role of digital technologies and the imperative to bring healthcare closer to the community.

This research endeavors to capture the opinions and expectations of PCPs, offering valuable insights into their perspectives on the redefined organizational model. The experiences of these healthcare professionals are critical in understanding the impact of DM 77/2022 and in identifying potential challenges and emerging opportunities within the domain of proximity medicine.

## Materials and Methods

### *Study design, participants and setting*

This is a cross-sectional web-based survey conducted from March 20, 2023, to April 16, 2023, to ensure the ready availability of results after the release of the Italian decree DM77/2022. It aimed to assess the knowledge, opinions, and concerns of primary healthcare doctors and pediatricians regarding the new organizational model of the general medicine contained in the Italian decree DM 77/2022. The survey has a quantitative approach to prioritize comparability between respondents and to perform a statistical analysis on the results. The study was conducted in a short period.

The inclusion criteria were: primary healthcare pediatricians and physicians (PCPs), currently inscribed in the primary care union named SIMG ( Società Italiana di Medicina Generale ) and actively operating. All PCPs not satisfying these criteria were excluded from the study.

### *Data collection and management*

The questionnaire was developed by researchers at Università Cattolica del Sacro Cuore and validated by a sample of PCPs among SIMMG members. Included PCPs were invited through the official institutional website (<https://www.simg.it/rilevazione-attitudini-e-percezioni-dei-mm-g-e-pls-sulnuovo-modello-organizzativo-ex-dm-77-2022/>) to participate in the study with a link containing an anonymous, self-administered questionnaire based on Microsoft Office Forms software (<https://forms.office.com/>). The questionnaire was divided into five sections, each dedicated to a specific aspect of the new model proposed in the DM 77/2022: Community Hospitals, Community Houses, District, Territorial Operations Centers, and Telemedicine. The website also provided

information about the aim of the study, a confidentiality agreement, and consent for voluntary participation. The survey included items on physicians' demographics and work-related characteristics (gender, age, years and number of patients served as a GP, geographic area of employment, eventual previous work in Community Hospital/Community Health Houses), in addition to a comprehensive assessment of physicians' opinion towards the organizational model of the following major categories: Community Hospitals, Community Health Houses, Telemedicine, Territorial Coordination Centers. The survey is not accessible online but it will be made available under reasonable request at the following mail: andrea.gentili1989@gmail.com.

Physicians' opinion was measured using a Likert scale-based questionnaire that provided 5-options for respondents (1=Strongly Disagree; 2=Disagree; 3=Neutral Agree or Disagree; 4=Agree; 5=Strongly Agree).

#### *Statistical analysis*

The total number of PCPs inscribed in the primary care union "SIMG" at the moment of the survey distribution was not available. However, it has been estimated to be around 4,000. The recruitment in the study relied on a non-probability convenience sampling with enrollment based on willingness to participate by invitation recipients. Based on these estimates, the minimum population number to enroll in the study was estimated to be at least 40 PCPs, based on convenience sampling and readiness availability constraints.

Descriptive statistics were used to present the characteristics of physicians who participated in the survey. The relation between the answers and some demographics characteristics of the participants has been assessed using the Spearman's rank correlation coefficient due to the ordinal nature of the Likert-scale data and the fact that it does not assume a linear relationship between variables.

STATA 16 software (Stata Corporation, College Station, TX, USA) was used for statistical analysis. Values of  $p < .05$  were considered statistically significant.

#### *Ethics statement*

This study is compliant with the Local Ethical Committee Standards of the Fondazione Policlinico Universitario Agostino Gemelli IRCCS. It was approved and registered with protocol number 0033856/23 of 01/12/2023 ID 5867, and it was carried out in accordance with the Declaration of Helsinki

and EU Regulation 2016/679 (GDPR) concerning the processing of personal data.

## **Results**

43 participants completed the survey and were included in the final study. Among them, the mean age was 46,8 years (SD =14,7) and the majority were men ( $n=25$ ). Almost half (48,84%) belonged to Southern regions of Italy. Twenty of the participants (46,51%) had more than 1,500 patients, and 45.2 % of the participants had less than 5 years of activity as a general practitioner. Detailed demographics and general information of respondents is available in Table 1.

The introduction of Community Hospitals prompted diverse opinions among participants. A substantial proportion (21.4%) strongly disagreed (rating 1) that their introduction would enhance primary care, while 14.3% expressed strong agreement (rating 5). The distribution suggests a diverse range of views about their role in reducing inappropriate emergency room visits, with 23.8% strongly agreeing and 21.4% strongly disagreeing.

A majority (54.8%) of participants argued that the community hospital admission criteria and functions were not comprehensively described and disseminated. A slightly higher percentage (28.57%) believed that Community Hospitals could meet the health needs of patients requiring low-intensity care not feasible at home, as well as those discharged from the hospital.

A large percentage (59.52%) of respondents believed that the functions of the Community Houses were not exhaustively described, and that General Practitioners (GPs) were not adequately informed. Similarly, a significant percentage (57.14%) did not believe that the process for GPs to request or activate interventions/care processes in the district was sufficiently explained.

A similar response (50% strongly disagreed) was received regarding how GPs can be informed about each patient's care path and progress status (i.e., where the patient stands within the care process). A predominantly negative response (59.52% strongly disagreed) was received for the question about GPs feeling adequately informed about the modes of interaction with the territorial operation center.

Regarding telemedicine, 35.71% believed they had the necessary computer and digital literacy for carrying out routine activities. Approximately

Table 1 - Demographic and general information of study participants

| Demographic information (N=43) | No.           | %         |
|--------------------------------|---------------|-----------|
| Gender                         |               |           |
| Male                           | 25            | 58.1      |
| Female                         | 18            | 41.9      |
| Age (years)                    | Average= 46.8 | SD = 14.7 |
| Geographical Region            |               |           |
| Northern Italy                 | 13            | 30.3%     |
| Central Italy                  | 9             | 20.9%     |
| Southern Italy                 | 21            | 48.8%     |
| Number of Assisted Patients    |               |           |
| <500                           | 7             | 16.3%     |
| 500-999                        | 7             | 16.3%     |
| 1,000-1,499                    | 9             | 20.9%     |
| >1,500                         | 20            | 46.5%     |

54.76% of participants received laboratory reports or diagnostic test results electronically on a daily basis. In addition, 71.43% of respondents regularly submitted medical prescriptions through the Electronic Health Record.

The Spearman's rank correlation analysis revealed no statistically significant association between the nature of responses provided and the participants' years of professional experience or the number of patients they assisted.

## Discussion

Our findings revealed that PCPs perceive digital health competence as a multifaceted concept encompassing several key domains. While most participants reported adequate basic digital competence, their confidence levels varied across different aspects of digital health implementation. Participants particularly emphasized the importance of being able to evaluate when and how to implement digital solutions based on individual patient needs and circumstances.

Italy's healthcare sector has undergone significant digital transformation since 2008, driven by national strategies and reforms overseen by the Ministry of Health, the Ministry of Economy and Finance, and the Agency for Digital Italy (AGID). Key initiatives which impact primary care include the establishment of centralized booking systems, electronic health records (EHR), ePrescription, dematerialization of medical

reports and disease certificates, patient summary, and telemedicine services. Given their central role in Italy's healthcare system, GPs may be the difference between the success and failure of this transformation. The Ministerial Decree 77/2022 and its reorganization of primary care thus adds additional complexity to an already evolving landscape. The results of our study shed light on the perceptions and challenges faced by GPs regarding pivotal topics, such as Community Hospitals and digital telemedicine platforms in Italy (6).

Firstly, the demographic characteristics of our participants reveal a predominantly male, middle-aged group, with a significant portion hailing from the Southern regions of Italy. This distribution might reflect broader trends in the GP workforce demographics in Italy and could potentially influence the perspectives and experiences shared regarding healthcare reforms. This observation should be considered alongside the North-South regions gradient in the adoption of digital national healthcare services (7,8).

Our findings underscore the disparity between the current knowledge of GPs and the perceived knowledge required to effectively navigate the new telemedicine platforms. The restructuring of primary healthcare, including the introduction of new facilities and professional roles, seems insufficiently evaluated and regulated for those already working within the system. Especially concerning Community Hospitals, there exists significant uncertainty regarding whether these institutions can bolster primary care or further strain healthcare systems. The collaboration and integration of the GP role in primary care services are well established and essential for Beveridge-based healthcare models. Additionally, they play a significant role in facilitating access to healthcare services in other systems (9). However, the adoption of digital health tools and telemedicine has not been without challenges, particularly concerning general digital health literacy and the specific functionalities of these tools (10-12).

Regarding Community Hospitals, our study uncovered divergent opinions among GPs. While a notable proportion expressed optimism about the potential of Community Hospitals to enhance primary care and alleviate inappropriate access to emergency services, a significant minority harbored skepticism. This variance in opinion may be influenced by the lack of guidance and presentations of such structures within the country. It's worth noting that in regions where these structures have been long established, multiple positive effects are recognized (13).



A common theme that emerged from our study was the perceived lack of clarity and communication regarding the functions and criteria of Community Hospitals and Community Houses. A substantial portion of participants expressed concerns about inadequate dissemination of information and insufficient guidance for GPs, underscoring the critical issue of digital literacy from the perspectives of both healthcare professionals and citizens/patients (14,15). This highlights a crucial area for improvement in healthcare policy implementation: a previous survey by the Global Digital Health Partnership highlighted the importance of participatory process to involve healthcare practitioners in innovation and digitalization processes (16).

Furthermore, our study revealed disparities in digital literacy and utilization of electronic health records (EHRs) and telemedicine platforms among GPs. Interestingly, the Agency for Digital Italy (AGID) monitors Italy's progress in implementing digital health solutions through comprehensive measurement frameworks tracking implementation and impact. These encompass indicators reported quarterly by public healthcare facilities regarding the implementation of patient portals, regional registries, network infrastructure, regional EHR systems (i.e., n° of users), and digital laboratory reports (6). Therefore, it will be essential to monitor the evolution of these indicators as the Ministerial Decree 77/2022 is put into effect and implemented country-wide.

In our survey, while a notable percentage reported confidence in their digital skills and regular use of electronic prescriptions and laboratory reports, a significant portion expressed concerns about their readiness for routine telemedicine activities. Our findings align with recent research, which highlighted how healthcare professionals' digital health competence is closely tied to their ability to provide patient-centric care through digital channels. Similar to our study, they found that professionals need to critically assess when to use digital tools alongside traditional methods based on patient needs. Their research also emphasized how digital solutions transform professional-patient interaction, requiring new competencies - a finding that resonates with our observations about Italian GPs' varying levels of digital literacy and comfort with telemedicine platforms. Additionally, they found that familiarity and interest in new technologies enhanced healthcare professionals' digital health competence, suggesting that targeted training and exposure to digital tools could improve adoption rates among Italian GPs." (17). Several policy initiatives globally are tackling the

need to digitalize healthcare processes, demonstrating the relevance of this topic at the European, Chinese, and Australian levels, among others (18,19).

Lastly, our analysis of demographic characteristics revealed no significant correlation between years of work experience or patient caseload and responses regarding healthcare reforms. This suggests that perceptions and readiness for change are not necessarily influenced by tenure or workload but may be shaped by other factors such as training, institutional support, and personal attitudes, as also suggested in studies on healthcare professionals' digital literacy (20) and attitudes towards innovation in healthcare professionals (21,22).

In conclusion, our study provides valuable insights into the perspectives and challenges faced by GPs regarding healthcare reforms in Italy. These findings can serve as a starting point for a deeper analysis that can inform policy and practice to better support healthcare professionals in navigating the complexities of modern healthcare delivery.

## Limitations

Despite the efforts to design and deliver this survey in the best possible way, some limitations should be considered. The study was conducted online, potentially introducing a bias toward individuals comfortable with internet usage. The survey was not designed to be representative of the entire GP population, limiting the generalizability of findings. Participants' responses were self-reported, which could introduce inaccuracies or dishonesty. While the study included GPs from different regions, there may be an overrepresentation or underrepresentation of certain areas, which could introduce regional biases. The reason behind this regional bias could be related to the disproportionate geographic distribution of Community Homes and Community Hospitals throughout the Country, that may have influenced the adherence and the survey's response.

The study relies on self-reported data from the GPs, which may be subject to response biases or inaccuracies. The cross-sectional study design captured a snapshot in time, and longitudinal data would be needed to assess changes in perspectives and experiences over time as the healthcare reforms progress. Finally, the survey employed a quantitative approach, which may not fully capture the nuances and complexities of GPs' experiences and perspectives.

## Conclusions

The study findings suggest the diverse perspectives and challenges faced by general practitioners in Italy regarding the implementation of community hospitals, community health homes, and digital healthcare initiatives. While some GPs expressed optimism about the potential benefits of these reforms, concerns were raised about inadequate communication, lack of clarity, and disparities in digital literacy and utilization. To ensure the successful implementation of these healthcare reforms and digital transformation, it is crucial to further investigate and address the identified gaps and challenges. Improved communication strategies, comprehensive training programs, and ongoing support for healthcare professionals are essential to enhance their understanding of the new structures, roles, and processes. Additionally, addressing digital literacy and promoting the adoption of electronic health records and telemedicine platforms should be prioritized to leverage the full potential of these technologies in improving patient care and healthcare delivery. Furthermore, continuous monitoring and evaluation of the implementation process, coupled with stakeholder engagement and feedback mechanisms, can help identify areas for improvement and facilitate necessary adjustments. Collaboration between policymakers, healthcare providers, and relevant stakeholders is vital to ensure that the reforms align with the needs and realities of the primary care landscape in Italy. By addressing the concerns raised in this study and fostering a collaborative and supportive environment, Italy can pave the way for a more integrated, efficient, and patient-centered primary care system, ultimately enhancing the quality of care and health outcomes for its citizens.

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## Riassunto

*Indagine sulle prospettive e sulle opinioni dei medici di medicina generale italiani in merito alla riorganizzazione dei servizi di assistenza primaria*

**Introduzione.** Questo studio indaga le prospettive dei medici di base in Italia riguardo alle recenti riforme sanitarie, tra cui l'introduzione

degli Ospedali di Comunità e delle Case di Comunità.

**Metodi.** È stato condotto un sondaggio online con 43 Medici di Medicina Generale provenienti da diverse regioni italiane. L'indagine ha raccolto opinioni sui potenziali benefici degli Ospedali di Comunità e delle Case di Comunità nel migliorare l'assistenza primaria e ridurre gli accessi inappropriati al pronto soccorso.

**Risultati.** I risultati rivelano opinioni divergenti: alcuni medici si sono mostrati ottimisti, mentre una parte significativa ha espresso preoccupazioni sulla scarsa diffusione di informazioni e sulla mancanza di chiarezza riguardo ai criteri di ammissione e alle funzioni di queste strutture. Inoltre, lo studio evidenzia disparità nella alfabetizzazione digitale e nell'uso delle cartelle cliniche elettroniche e delle piattaforme di telemedicina tra i medici di base.

**Conclusioni.** Questi risultati suggeriscono la necessità di migliorare la comunicazione, la formazione e il supporto per garantire un'implementazione efficace delle riforme sanitarie e della trasformazione digitale nel sistema di assistenza primaria in Italia.

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Corresponding Author: Andrea Gentili, Department of Life Sciences and Public Health, Università Cattolica del Sacro Cuore, Largo Francesco Vito 1, 00168, Roma, Italy  
e-mail: andrea.gentili1989@gmail.com