Italian Regional Healthcare Services Put to the Test by Covid-19: Strategic and Managerial Issues from the First Wave

Marta Marsilio[1] *and Anna Prenestini*[2]

[1]DEMM, University of Milan, Milan, Italy – marta.marsilio@unimi.it
[2]DEMM, University of Milan, Milan, Italy – anna.prenestini@unimi.it

The Italian Regional Healthcare Services (RHSs) have the responsibility for the provision of health services in their territory, for the organizational design and strategic direction of public providers, and for contracts with private accredited providers. RHSs have had to rapidly adapt their strategies for the purpose of facing the Covid-19 health crisis. There is scarcity of research on the influence of RHSs over the organisational capacity and managerial autonomy of the healthcare organizations (HCOs) in responding to an emergency. This paper aims to investigate the role of the Italian RHSs in the governance of Covid-19 emergency and to analyse the influence on the response of HCOs in managing the first wave. Findings show the prevalence of two models (centralized vs decentralized) in pandemic crisis management that have achieved different outcomes in the RHSs; oftentimes the weakness of regional strategies was compensated for by bottom up initiatives from individual HCOs.

1 Introduction and Background

The coronavirus pandemic has proven to be the highest level of natural variability healthcare systems have ever experienced: a phenomenon which has undermined the ability to predict Covid-19's impact on patient flows and thus the ability to implement consistent approaches for service delivery. Since this disease is new, in fact wholly unknown, there has been complete lack of information about:[1] i) its spread through the population; ii) expected inpatient flow to hospitals; iii) consequences on patients' health and subsequent level of care assistance requirements.

Moreover, this outbreak has exacerbated the negative side effects of the austere health policies of the last ten years,[2] especially the cuts in resources (professionals, physical assets such as beds, equipment, technologies for non-invasive and invasive ventilation, etc.) available to face this emergency. Thus, Health Care Organisations (HCOs) have had to adapt their processes rapidly so as to deal with the public health crisis and deliver services by converting production assets

DOI: 10.54103/milanoup.73.53

(beds, operating rooms, Intensive Care units, physical pathways, etc.) and taking advantage of the few elements of predictability that have gradually emerged from the crisis.

The Italian National Healthcare Service (INHS) follows the principles of the Beveridge System, in which resources are collected by general taxation at central level and then devolved to the 21 Regions and Autonomous Provinces (Regional Healthcare Services - RHSs).[3] Therefore, the responsibility for the provision of care, for governance, for the design of the organizational model of public Local Health Authorities (LHAs) and hospitals, and typically for the contracts with accredited private hospitals, is decentralised to Regional level.[4]

Thus, RHSs differ from each other in governance arrangements, financial mechanisms, organisational design, number and relevance of private providers and in the quality of the service provided.[5] As a consequence of these governance mechanisms, RHS policies can exert great influence on how HCOs (e.g. Local Health Authorities and Departments of Public Health and Prevention, LHAs' hospitals and Hospital Trusts, community and primary care practices, long-term care facilities, local public health departments) manage their service provision. Cross-field scientific literature has studied the role of national governance in the management of healthcare systems during periods of epidemics such as SARS, MERS[6–8] and recently, Covid-19.[9,10] There is no agreement amongst scholars about whether centralised governance structures and mechanisms have a more positive effect on pandemic responses than decentralised ones. However, one of the latest studies on Covid-19 highlights that a centralised governance structure may not facilitate a proactive strategy in dealing with a pandemic but rather may foster a less effective response.[9] On the other hand, there is scarcity of literature which examines the role and influence of RHSs on the organisational capacity and managerial autonomy of the single HCOs in responding to an emergency.

2 Aims and Methodology

The main aims of this research are:

- to investigate the role of the Italian RHSs in facing the Covid-19 emergency;
- to analyse to what extent the RHSs' strategies could have affected the response of HCOs in managing the first wave of the Covid-19 pandemic in their territory because of the Regional level centralisation of decisions regarding the emergency.

RHSs were selected from the first, worst-affected Italian regions to face the Covid-19 emergency in terms of number of infected people. Their healthcare systems in particular experienced huge stress because of the pandemic (Italian

Department of Civil Protection, open data). Six RHSs were analysed: Piedmont, Lombardy, Veneto, Emilia-Romagna, Tuscany and Lazio.

Research was conducted using the following methodological approach:

- desk analysis of the policies and regulations that the RHSs implemented during the first wave of the pandemic (from February to mid-July 2020);
- interviews with 15 key informants (CEOs and/or Clinical directors and/or Administrative directors and/or Social directors) of public and private healthcare providers, using a semi-structured questionnaire in order to gather insights on COVID-19-related governance and strategies in their RHS and to investigate how they influenced organisational and managerial efforts.

The desk analysis and semi-structured questionnaire to key informants was undertaken focusing on three main items: (i) characteristics of regional crisis teams and governance mechanisms, (ii) the strategies for facing the Coronavirus emergency in the following healthcare management areas: acute care services and hospital networks, health and prevention services, community and primary care practices, laboratory services and networks, iii) digital innovation and telemedicine.

These items were identified from the strategies and operational tactics that HCOs adopted in the first wave in response to the crisis[1] and are the managerial levers likely to be most influenced by the RHS policies used to tackle the pandemic.

3 Findings

3.1 RHSs Crisis Teams and Governance Mechanisms

The role of the specific RHS crisis team and the governance mechanisms can have a huge influence on the responses by the HCOs.

In the Piedmont region there were two distinct phases in the organisation of the Regional Crisis Team (RCT). The first coincided with the period between the end of February and the first half of March. It was characterised by centralised management and was focused on a prevalently medical issues and hospital-centric response. The RCT took responsibility for decisions relating to: number of Intensive Care beds, patient distribution by ambulance to Emergency Departments, patient transfers between hospitals, swab testing authorisations. Clinical Directors participated in the RCT as representatives of their HCOs, then took responsibility for implementing RCT directives. In this chain of command, the role of the CEOs was to ratify the decisions brought back by the Clinical Directors. Even administrative activities such as hiring extra staff and purchasing PPE (Personal Protection Equipment), swab tests and medical equipment for

the whole RHS was centralised in the RCT. In the second phase, a new Covid Emergency Commission was nominated which involved CEOs more actively despite maintaining the line of command and control between the RCT and clinical directors.

This centralisation of decision-making was also characteristic of the Veneto region, but with more management sharing and participation. The composition of the RCT comprised the CEOs of the various HCOs and Authorities (i.e. regional Departments, Administrative Authorities) as well as professional and medical staff (i.e. infectious disease specialists, laboratory directors, etc.) who were fundamental in handling the Coronavirus emergency, both for clinical and organisational responses. The RCT guaranteed a uniform response across the region, while allowing flexibility for individual businesses to apply policies based on their particular contexts.

In the Lombardy region, the governance of the crisis had three distinct levels of RCT which involved an extremely high number of professionals, encompassing regional, HCOs and Administrative Authorities positions. In general, a strong centralisation of decision-making and of pandemic management (e.g. patients transfers between Intensive Care Units, the regional discharge management team) was observed.

In the Tuscany region, the RCT was presided over by the President of the Region, with a lot of involvement from CEOs. The RCT centralised decisions regarding the emergency by creating directives focused on the many crisis management areas, clearly outlining how they were to be implemented. HCOs were, however, able to develop bottom up projects which were taken as a reference model at regional level.

The Lazio region was also characterised by deeply centralised decision-making at regional RCT level, intervening promptly in the definition of the role of public and private LHAs in the network managing the emergency, albeit working closely with the various CEOs.

On the contrary, in the Emilia-Romagna region the role of the RCT was prevalently that of co-ordination and direction, guaranteeing the possibility of implementing responses at local level in a flexible manner, coherent with the characteristics and the organisational capabilities of the context. The RCT coordinator had a wealth of experience in healthcare management, having been the regional health minister and CEO of several healthcare organisations. The RCT favoured sharing emergent best practices which could be spread across the whole region.

3.2 Regional Strategies in Facing the Crisis

Regional strategies during the first wave of the pandemic were concentrated on the areas of acute care services and hospital networks, health prevention services and primary care practices, laboratory services and networks.

3.2.1 Acute Care Services and Hospital Networks

Regions paid the most attention to the management of the public and accredited private hospital networks. Hospital plans were defined, identifying:

- hospital hubs to manage time-dependent pathologies and urgent interventions;
- the number of intensive care and acute care beds to dedicate to Covid patients in the various hub and spoke hospitals;
- Covid hospitals and Covid-free hospitals (actually, only very few hospitals were Covid-free due to the evolution of the epidemic and its increasing impact on the beds necessary for treating Covid patients);
- Covid focused hospitals (e.g. a public Intensive Care focused hospital at the Milan Exhibition Centre and a private accredited focused hospital in Rome, following an agreement between "Gemelli" hospital and the RCT of the Lazio region).

3.2.2 Prevention Management

Only the Veneto region instantly recognised the key role of prevention strategies to identify the main breeding grounds of the epidemic in the region immediately. In the first wave of the pandemic, the massive screening plan implemented by HCOs was one of the most efficient for containing the spread of Coronavirus because of its speed and coverage.

Regional focus on screening and prevention strategies in the Emilia-Romagna region came later, despite the region having a deeply-rooted prevention and public health culture. Consequently, HCOs developed bottom up strategies for epidemic tracing and testing management even during the first phase of the emergency.

For the other regional health systems, there was a delay in attention paid to these policies. Specifically:

- in the Piedmont region, a unique regional platform was established to monitor swabs and results from the end of March as first step for implementing prevention policies;
- in the Lombardy region the first screening campaign guidelines including the involvement of general practitioners, were only introduced at the beginning of May, when the evolution of the epidemic showed a decrease in positive cases of Covid-19;
- in the Tuscany region the first guidelines regarding prevention coincided with the reduction in the use of intensive care beds, however, some screening plans had been initiated by individual HCOs.

3.2.3 Community Services and Primary Care Practices

The regions' set-up Community Integrated Care Teams - CICT (called USCA - Unitá Speciali di Continuitá Assistenziale), active seven days a week from 8am to 8pm, in accordance with the national regulations. CICT are tasked with managing patients who do not require hospital treatment to be treated at home through telephone and/or video consultations and home visits. The Lombardy, Veneto and Lazio regions also activated a telemedicine support system to monitor Covid patients at home.

3.2.4 Laboratory Networks

Initially, the majority of regions opted for concentrating swab tests in a restricted number of specialised laboratories which were reference hubs. Later, other laboratories were accredited and added to the network given the exponential spread of the virus and the impossibility of returning test results promptly to avoid overcrowding in emergency departments and to identify the best patient flows for patients (those to be hospitalised and those to be sent home).

Only the Veneto region established a network of target-selective swab testing centres across the territory from mid-March (e.g. positive contact tracing, categories of essential service workers), co-ordinated by the Academic Medical Hospital of Padua. This promptness, combined with massive production capacity, allowed for rapid screening and meant that patients could be cared for quickly.

3.3 Digital Innovation and Telemedicine

Telemedicine was one of the most relevant basics for clinical check-ups during the Covid-19 pandemic (as regional directives had halted in-person service, with the exception of urgencies). Concentrating on tele-consults, the various regions show differing directions.

The Veneto region was one of the first to standardise the tariffs for telemedicine outpatient visits, thus guaranteeing the LHAs the certainty of reporting and obtaining fees commensurate to in-person visits.

The Emilia-Romagna region too guaranteed funding for telemedicine visits, based on the reporting of the LHAs, albeit with a reduction in comparison to the usual tariff for in-person visits.

Tele-consults in the Tuscany region were additional to, rather than substituting traditional, in-person consultations so as to guarantee an uninterrupted service to patients who were already undergoing treatment. In this case, the tariffs were the same as those of an outpatient visit.

The Lombardy region defined neither operational guidelines nor tariffs for telemedicine services. In June, HCOs were asked to define protocols for each specific specialisation as a pre-requisite for approving tele-consultations. These requirements, although imposed with the intention of ensuring better service

security and delivery, actually slowed their adoption and pushed back pending cases. During the first phase, the Piedmont and Lazio regions did not formalise directives.

4 Discussion and Conclusion

The analysis of the evidence relative to the examined RHSs indicates the prevalence of two models in pandemic crisis management:

- The centralised model in the experience of Piedmont, Lombardy, Veneto, Tuscany and Lazio, albeit with differences in the RCTs' choice of governance and in the methods of intervention.
- The decentralised model in the case of Emilia-Romagna which left the implementation of operating methods to the individual HCO crisis units.

As far as the regional policy range is concerned, the RCTs' decisions were prevalently concentrated on hospital assistance, generally dedicating less space to policies relative to the areas of prevention and of public health.

During the peak phase of the epidemic, the main range of the regions' co-ordination in the area of hospitals was that of intensive care beds; in some cases, using a central prescriptive method, in others, through co-ordinated management.

Historically, public health policies at national and regional level have only marginally involved the development of prevention departments in HCOs[5] opting for other intervention areas (primarily hospitals), with the partial exception of the Veneto and Emilia-Romagna regions. This has meant that over time there has been a decrease in the number of staff dedicated to prevention. The crisis has intensified this criticality, highlighting a notable shortage of staff in these functions, jeopardising the likelihood of reaching adequate levels of efficiency.

Regions have shown weakness in directing HSOs towards adopting telemedicine: the technical aspects of acquiring and managing platforms, the issues relative to privacy and to sharing health data between organisations compromised the speed at which telemedicine was adopted. Embraced earlier, it may have had a positive impact on waiting times for healthcare services and on pending healthcare visits.

In the first wave of the epidemic, a wider centralisation of strategies regarding response to the emergency at a regional level, aimed at guaranteeing co-ordination and knowledge sharing between the various healthcare organizations, had different outcomes in the various regions. In some cases, the weakness of, or the extreme focus on regional policy was compensated for by bottom up initiatives from individual HCOs. Future developments in research must investigate how,

on the basis of the problems encountered in the first wave, regional governance and pandemic response strategies evolved during successive waves.

References

[1] Marsilio, M., Prenestini, A. (2020). *Il management delle aziende sanitarie in tempo di crisi* (in Italian) [The management of health care organizations in crisis times]. Milano: McGrawHill.

[2] OECD (2018). Spending on Health: Latest Trends. https://www.oecd.org/health/health-systems/Health-Spending-Latest-Trends-Brief.pdf.

[3] Ferré, F., De Belvis, A.G., Valerio, L., Longhi, S., Lazzari, A., Fattore, G., Ricciardi, W., Maresso, A. (2014) Italy: Health System Review. *Health Systems in Transition*, 16(4): 1–168.

[4] Jommi, C., Cantú, E., Anessi-Pessina,E. (2001). New funding arrangements in the Italian National Health Service. *The International Journal of Health Planning and Management*, 16(4): 347–368.

[5] Del Vecchio, M., Prenestini, A., Rappini, V. (2015). Livelli di integrazione dei dipartimenti di prevenzione (in Italian) [Levels of integration of the prevention departments]. In CERGAS - Bocconi (Eds.): *Osservatorio sulle Aziende e sul Sistema Sanitario italiano. Rapporto OASI 2015* [*Observatory on Companies and the Italian Health System. OASI Report 2015*]. Milano: EGEA.

[6] Schwartz, J. (2012). Compensating for the "authoritarian advantage" in crisis response: A comparative case study of SARS pandemic responses in China and Taiwan. Journal of Chinese Political Science, 17(3):313–331

[7] Obermann, K., Jowett, M. R., Taleon, J. D., Mercado, M. C. (2008). Lessons for health care reform from the less developed world: The case of the Philippines. The European Journal of Health Economics, 9(4):343–349.

[8] Carrel, L.F. (2005). "Epidemic in Switzerland": Description of a Strategic Leadership Exercise by the Swiss Government. *Journal of contingencies and crisis management*, 13(4): 170–175.

[9] Sharma, A., Bikash Borah, S., Moses, A.C. (2021). Responses to COVID-19: The role of governance, healthcare infrastructure, and learning from past pandemics. *Journal of Business Research*, 122: 597–607.

[10] Jiang, F., Deng, L., Zhang, L., Cai, Y., Cheung, C.W., Xia, Z. (2005). Review of the Clinical Characteristics of Coronavirus Disease 2019 (COVID-19). *Journal of General Internal Medicine*, 35: 1545–1549.