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ORIGINAL ARTICLE

Challenges in Managing Primary Health Care During the Covid-19 Pandemic

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Highlights

1) The incipient technological structure of local services limited the management of the pandemic.
2) There was no pattern in the flow of population testing between municipal scenarios.
3) The integration of primary care with health surveillance was incipient.

ABSTRACT

This study sought to identify the main challenges of Primary Health Care (PHC), in the Covid-19 pandemic, based on the perception of managers of the Unified Health System (SUS) in two health macro-regions in Bahia. This is a qualitative, exploratory and documentary study using semi-structured interviews, with 27 actors selected for convenience and active in state, regional and municipal management, complemented through documentary analysis, between July 2021 and February 2022. The results demonstrated that the main PHC management challenges during the Covid-19 pandemic were related to planning the health response, infrastructure of health units, organization of the teams' work process, management constraints of the health system and the provision of services. The central role of this level in mitigating the disease was evident, but basic care was not explored to its full potential, making it essential to recognize the importance of this level and the necessary strengthening of regional governance to strengthen PHC.

Keywords: primary health care; Covid-19; health management; health systems.

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INTRODUCTION

The Covid-19 pandemic has imposed on health systems around the world the need to reorganize actions and services from the international to the community level[1]. Evidence highlights that health system responses focused on Primary Health Care (PHC) can provide more effective interventions due to their territorial-based capillarity in health crisis scenarios in the complexity of Covid-19[1,2,3].

Various challenges of PHC (Primary Health Care) related to the development of strategies for managing Covid-19 cases have been highlighted in the literature, whether in integration with surveillance services or in care for users of health systems. There are international experiences that adopted PHC as a first contact service for Covid-19 cases[4] and others that included the offering of remote actions as important care mechanisms[5,6]. However, challenges are evident relating to services and the population in accessing information and communication technologies (ICT)[7], the fragmentation of health systems and their ability to act intersectorally[8] and the centralization of care in hospital services in the first year of the pandemic[9]. Furthermore, other challenges were highlighted regarding the low adherence of teams to the use of applications to monitor suspected and confirmed cases[10], reduced access to the internet and electronic devices for the use of ICT[11], as well as insufficient inputs and infrastructure in primary care units[12].

In the Brazilian scenario, challenges such as regional inequalities, the diverse structure of local health services and the absence of a standard of territorial responses stand out with a multifaceted scenario of community interventions.[13], as well as the dissemination of information contrary to scientific evidence that compromised health surveillance measures and the insufficient institutional support for continuing education actions in municipal health departments[14].

On the other hand, several recommendations for the organization of PHC in the SUS since the first year of the pandemic already emphasized elements related to municipal/regional planning for articulating actions and services with referral criteria; ensuring infrastructure for health units, such as physical spaces/tents, oximeters, high-flow oxygen, in addition to personal protective equipment and hygiene products; coverage of individual and collective actions, whether in-person or remote; the management and reorganization of the teams' work process to avoid crowds and the provision of services, including the differentiation of assistance flows, prioritizing users and vulnerable social groups (Engstrom, 2020).

The Covid-19 pandemic highlighted numerous challenges for PHC in the SUS, considering its capillarity, territorial inequalities, diversity of access barriers, compromising the bond between the user and the healthcare team due to social distancing recommendations and the need to prioritize assistance for historically vulnerable families and social groups, whether in surveillance or care for suspected and confirmed cases of the disease.

However, in the literature review undertaken for this article, the centrality of research in the analysis and description of the organization of the work process and the characteristics of PHC and surveillance actions in Covid-19 was observed, including health professionals as sources of evidence, with analyzes from managers in their different spheres being scarce. Even though the potential of PHC's role in the pandemic has been a consensus among several authors, gaps persist in understanding its management challenges and shaping responses guided by territorial and community-based care.

Therefore, it was necessary to identify the main challenges for managers to organize the PHC response in facing the Covid-19 pandemic, since evidence classified around 80% of cases as mild and that these could be managed within the scope of primary health care, as a first contact service in the search for care[15]. Thus, it can contribute to the planning and management of PHC responses in future health crises of similar proportions to Covid-19.

This study sought to identify the main challenges facing PHC in the Covid-19 pandemic, based on the perception of managers of the Unified Health System (SUS) in two health macro-regions in Bahia.

METHODOLOGY

This is a qualitative, exploratory and documentary study that took as its research problem the PHC management challenges during the Covid-19 pandemic. This article is part of the research 'Covid-19 prevention and control strategies in different phases of the pandemic: an analysis of the global and local scope', carried out in two health macro-regions in the state of Bahia.

Regarding the research scenario, two macro-regions were selected that stand out due to different characteristics in terms of population, territorial extension, administrative autonomy of municipal health departments, coverage of Family Health Teams (EqSF), cases of Covid-19, as well as such as, number of municipalities, health regions and Regional Health Bases (BRS) until the research period.

Data production included semi-structured interviews with 27 SUS managers, in the period between July 2021 and February 2022, six municipal, 13 regional and eight state managers, selected for convenience with the following inclusion criteria: being a manager state, regional or municipal, directly involved with the planning and implementation of social responses to the Covid-19 pandemic. Managers from macro-regions not participating in the study, who had no knowledge about the scope of PHC and who had difficulties scheduling an interview were excluded.

Of the 32 contacts made, five could not participate due to scheduling issues. Managers from the following were contacted: municipalities that are headquarters of Health Regions, Regional Health Centers and Bases, Epidemiological Surveillance Directorate, Central Public Health Laboratory, Health Emergency Operations Committee, Council of Municipal Health Secretariats (Cosems), Laboratory of Infectious Agents and Vectors, Intermunicipal Consortium of Western Bahia, coordinators of Regional Intermanagerial Commissions (CIR), representatives of the Bipartite Intermanagerial Commission (CIB), and institutional supporters of Primary Health Care from the State Health Department.

The interviews were carried out remotely by project researchers and scientific initiation fellows, using the Zoom Platform. All were scheduled in advance, recorded and transcribed in full and guided by scripts prepared by the researchers with guiding questions inherent to the following aspects: planning of federated entities to face Covid-19; inter-management agreements and decisions; financing of services and actions; management and organization of the care network; provision of services to suspected and confirmed cases; and regulation of access to Covid-19 reference services.

To complement the information from the interviews, 509 documents were analyzed, between January 2020 and April 2021, such as minutes of the CIR of the host municipalities of the macro-regions, State Contingency Plan, State Vaccination Plan, Workers Testing Plan, Strategy of Social Distancing Flexibility, Technical Notes, Health Alerts, Acts of the Executive Branch, minutes and resolutions of the CIB. In documents at the state level, state propositions and decisions related to the actions and role established for PHC in the municipalities of Bahia were identified and, in those at regional level, the agendas and directions debated between municipal and regional managers for PHC. The information extracted was organized into document systematization matrices, which supported the preparation of a document assessment report with a compilation of all the material extracted from the analysis of the documents.

The document assessment report and interview material were imported into Nvivo Software version 12, at which time the empirical material was triangulated, processed and coded. In the first

stage of processing, discourse analysis was carried out[17] with a floating reading of both sources (interviews and documentary report) with the aim of highlighting aspects related to the challenges of PHC management during Covid-19. Then, excerpts from the interviews and documentary report, the challenges were coded based on thematic units and concerning the guiding questions that gave rise to the interview scripts and, finally, a secondary organization of the empirical material was carried out into analytical categories that grouped the information according to the analytical dimensions and corresponding to the components of the health systems, namely: planning, infrastructure and coverage, management and organization and provision of services[16].

The research complied with ethical principles, being approved by the Ethics Committee in Research from Federal University in Bahia with Certificate of Presentation of Ethical Appreciation (CAAE) 45387821.1.0000.8060. All participants signed the Free and Informed Consent Form and the interview excerpts presented throughout the article sought to hide personal and professional information to protect the identity of the research subjects.

RESULTS

Regarding the people interviewed, at the municipal level, six subjects held the role of municipal health secretaries. At the regional level, the following subjects participated in this research: one coordinator of the Regional Health Center (NRS), two reference technicians for NRS, two coordinators of Regional Health Bases (BRS), two coordinators of reference laboratories, four coordinators of CIR and two representatives of an intermunicipal consortium. At the state level, one was the coordinator of the Institutional Support of the Directorate of Primary Care (DAB), three were regional supporters linked to the DAB, one represented the Health Emergency Operations Committee, one was the coordinator of the Directorate of Epidemiological Surveillance, one representative of the COSEMS and another from CIB.

The results of this article will be presented according to the analytical categories mentioned in the method, considering those most significant challenges for PHC management in the Covid-19 pandemic. Thus, the following categorizations emerged: health response planning; infrastructure and coverage of local health systems; management and organization of PHC and provision of primary services.

Health response planning

In planning the health response, cooperation between state and municipal PHC management was conditioned by inequalities in autonomy and organization of municipal management teams, producing heterogeneous scenarios in the process of preparing local responses to the pandemic scenario, mainly due to its complexity of articulate intersectoral actions to support vulnerable groups and health surveillance.

> So, we have the difficulty, first, at the COSEMS level, thinking about municipalities, the variety of municipalities. Multi-structured municipalities, or not, which sometimes do not have an organized network, do not have a team. There are municipalities that, sometimes, have a primary care coordinator and have no planning at all, so this makes it difficult. [...] far beyond health, there are people with financial difficulties, unemployed, which includes social vulnerability and which adds to the social assistance department. There is a need to create sanitary barriers, for social isolation, we need to rely on other sectors in this logistics, and this makes this communication difficult because each secretariat has an organization (Subject 1).

> Look, the information came from the State. Now, the planning was very focused on each municipality. There was no joint action, no single planning for the actions. But the guiding elements of municipal planning were based on the Normative Guidelines of the Federal Government, the Ministry of Health and also the State Committee, right? But there was no direct joint action to standardize strategic actions to combat Covid (Subject 2).

Infrastructure and coverage of local health systems

Interviewees pointed out the incipient technological structure of health units for internet access and insufficient technical teams to manage ICT, even in the face of social distancing and the need to guarantee the continuity of remote care. Furthermore, the incipient technological structure of local services contributed to constraints in cooperation between state and municipal management of PHC, mainly during remote training on Covid-19, aimed at health professionals and managers, and difficulties in controlling records of vaccine doses administered to priority groups.

> When it was no longer possible to do this training remotely, and then technology came and helped us a lot in this aspect with all the difficulties we had with the internet, with signal, with managing it (Subject 3).

> For our municipality, we did not work with registration. We did not create a municipal register of these people. So, today I assess that it was not positive, because, today, we vaccinate people who show up at the site. So, they are not necessarily people who live in the municipality. And we observed in several experiences in other municipalities, in other states, that with the registration of these people, it would work. But due to administrative problems, IT issues, computing, the machine itself, the computer, this made this understanding difficult (Subject 4).

The CIR minutes and interviews with managers confirmed difficulties in state management decentralizing rapid tests to municipalities given the market shortage at the beginning of the pandemic and insufficient distribution by the federal government, which restricted the participation of PHC units in population testing. Therefore, small municipalities had low fiscal capacity to purchase tests, especially in the initial scenario of the pandemic, given the hyperinflation of prices. It is worth reiterating that, in the state documents analyzed, widespread testing was a bet that was intended to support health surveillance in monitoring contacts for the timely identification of new cases, allowing them to be monitored and the profile of viral spread to be traced. It was expected that serological surveys would support decisions on the adoption of measures to ease social isolation.

> Since we brought Primary Care to COVID, it brought it closer to the disease. Automatically, we also decentralized rapid testing in all Units. We would love to have done that with antigen tests. That's right, right? They can do it. Of course, it is not the Gold Standard, but it can provide a faster diagnosis, but due to the cost and difficulty of acquisition, we have not been able to achieve this yet (Subject 4).

> The other problem was acquiring this equipment quickly, it was another challenge, especially because the quantity available on the market to be sold was scarce, as well as the bureaucratic processes to be overcome (Subject 5).

Inequalities in coverage of PHC doctors was a recurring challenge in municipalities. This was accentuated by several requests for dismissal due to professional issues or fear of being part of the front line to combat the pandemic, which contributed to relativizing the local response capacity of primary services in different territories with an insufficient staff structure to care for patients suspected and confirmed cases of Covid-19.

> In the municipality alone, we had 17 professionals who left, who asked for dismissal or who also asked to leave the municipality due to the pandemic or because they spent time in medical residences or because it was a form of protection. Understanding that it was a way to protect the family, they asked to leave the service. So we, in 2 or 3 months if I'm not mistaken, had 17 doctors leave and so it was a huge burden, especially for Primary Care in the municipality (Subject 4).

> Thinking about the macro, thinking about the region, in the surrounding areas, we still have many municipalities with a lack of doctors (Subject 6).

PHC management and organization

Concerning management and organization, several interviewees highlighted obstacles to developing timely local responses in a scenario in which the federal and state rationale for actions to combat the pandemic was hospital-centric and did not initially prioritize PHC as the first contact service of suspected or confirmed cases. This was characterized by the closure of primary services, interruption of care and prevention and control actions in the first months of the health crisis.

> At first, it was understood, I don't know if it was by the State Government or by the Ministry itself, that primary health care should restrict care. There was some information, guidance on this: suspend the service (Subject 6).

> Strategically, he stopped promoting and preventing, when he abdicated from investing much more acutely in PHC activities. This I think is the big mistake. We stopped taking infected people off the street, we let them circulate. (...) as we managed to expand our hospital network, the Ministry of Health established that we should not look for PHC (Subject 7).

The state documents confirm the evidence pointed out by the managers, where propositions about PHC were treated in a timid way, in the first edition of the State Contingency Plan (PEC), and only in the second and third edition, it was observed that primary services had more clarity in the definition of its responsibilities, including the identification of suspected cases and the follow-up of confirmed cases integrated into the health surveillance teams. Likewise, the CIB minutes analyzed revealed that of the 93 agendas discussed, seven referred to PHC actions in the pandemic, but only two discussed the role of primary services: the first on the flow of access to users with Severe Acute Respiratory Syndrome and the second on the protocol for monitoring confirmed cases.

The 277 CIB resolutions published between March 2020 and May 2021 confirm that the centrality of state decisions was hospital-centric and focused on the acquisition of Personal Protective Equipment (PPE), supplies, tests and qualification of clinical and ICU beds in health regions. PHC was the subject of only two resolutions: No. 107/2020, which approved the Health Telesharing Program with Primary Care in the State of Bahia, providing for the resumption, expansion and strengthening of care offered in municipalities during and after the Covid pandemic. 19 and nº 112/2020 (July 2020), which provided guidelines for organizing basic care in monitoring and monitoring Covid-19 cases.

Challenges were mentioned in the local notification of Covid-19 cases in the first months of PHC's action in the pandemic. In scenarios where the organization of the local work process used manual data recording instruments, the transfer and integration of information between the municipal and state management spheres were incipient and contributed to case underreporting.

> Unfortunately, even though we have Primary Care with the municipality's own records, we didn't have notification forms in the system, so we printed out forms and notified manually, using the crank. So this did not guarantee a macro view, so we had a lot of underreporting (Subject 4).

There was no pattern in the flow of population testing between municipal settings and a disjointed work process between PHC and health surveillance professionals prevailed. However, state documents proposed that primary health services would notify cases to increase health surveillance capacity, acting on promotion, prevention, care, testing and isolation of users to avoid the collapse of the health system.

> Look... apart from the fact that municipalities have autonomy, right? and each municipality adopted its own method of testing, right? so it included the rapid test, the PCR and all the tests. So you can't say there was an X flow, not a Y flow (Subject 8).

Managers mentioned challenges in integrating PHC with health surveillance, with fragmented action predominating. There was little training between these services in order to strengthen communication between them and enhance territorial-based Covid-19 surveillance. In the state documents analyzed, the importance of PHC support for epidemiological surveillance in disseminating information to the population, monitoring and monitoring patients in home isolation and holding joint meetings to discuss topics related to Covid-19 was emphasized.

> And if I were to give a rating, I wouldn't give an 8 for this combination of surveillance and basic care, because they go together, basic care is also surveillance and then each one remained in their own boxes and didn't exist (Subject 8).

Furthermore, the federal government's late decision to start vaccinating the population and the municipal dependence on the national distribution of vaccines imposed local constraints on the administration of vaccines. In the State Vaccination Plan of Bahia, local administrations only had a defined role in the elaboration of local micro vaccination schedules, however conditioned to the doses distributed nationally and, in the minutes of the CIR, an important dependence of the municipalities in relation to the deliberations of the federal entity.

> The problem with immunization was logistics at the Ministry and thus, the Ministry's lack of agility in providing the vaccine (Subject 9).

Another challenge in organizing care in PHC was related to the restriction in the supply of services and changes in in-person care flows in health units, given the implementation of social distancing protocols. In the midst of this, obstacles were mentioned for municipal administrations with low institutional capacity to reorganize PHC services in a timely manner, aiming to meet the demands of the health crisis and maintain the supply of routine primary care for chronic conditions.

> We continued with Primary Care, which was our gateway, with restrictions, reduced number of services, observing distancing. From the first moment, we started the difficulty of defining the treatment (Subject 10).

> But what became quite clear is that all basic care was unable to monitor chronic conditions. (...) so they focused on fighting Covid, but they forgot that in addition to Covid, those who were hypertensive continued to be hypertensive, those who were diabetic remained diabetic, those who had leprosy continued to have the disease. So, we didn't have the capacity and then it wasn't just installed capacity, but the organizational capacity, logistics, organization of the work process within the Family Health Team to handle these two fronts (Subject 9).

Provision of primary services

Finally, the provision of PHC services during the Covid-19 pandemic was conditioned by need for rapid technical appropriation by professionals to face an unknown scenario, successive updates of care protocols and divergences in decision-making on strategies for managing confirmed cases, contributing to the lack of local consensus in defining protocols and care flows for primary care units.

> Basic care, practically. So this doctor, this nurse, this physiotherapist had never intubated anyone in their life, right? I had never done an intubation, I didn't know how to access blood gas analysis, because I wasn't part of this professional's training. He had prepared himself and was in the field of work of another level of attention. So it was necessary, very quickly, to give this professional as little knowledge as possible. In fact, some professionals didn't even know how to use specific PPE. So there was no point in having a mask, gloves, body armor, if people didn't know how to use them. And then we come in with this first moment, we are going to train one of the health characters to use PPE (Subject 3).

> From the first moment, we started the difficulty of defining the treatment. We had a group of prescribing professionals who were in favor of medication and other prescribers who were not in favor of medication and then, in the meeting group, it was established that the municipality was not going to establish a medication protocol. We were really going to work on a scientific basis. And so we continue (Subject 4).

DISCUSSION

The complexity of Covid-19 imposed on local systems the need for intra and intersectoral coordination involving primary health services [17]. However, as in this study, international experiences confirm challenges in integrating PHC with other sectors, such as social assistance[8], which should be an element considered in responses to future waves.

The local autonomy of health systems in planning responses to Covid-19 must be carefully considered. Small municipalities tend to have less fiscal and administrative capacity to plan, develop and manage health actions in their territory[19]. This is a chronic challenge in the management of the SUS and can modulate the capacity of municipal systems to plan responses centered on PHC in cooperation with the states.

The results of this study are in line with international and national evidence on the challenges of PHC services in providing a technological and communicational structure to face the Covid-19 health crisis[7,11,13]. This restrictive factor becomes more critical in a pandemic scenario, where social distancing measures impose organizational limitations on face-to-face care for the population and health services need to respond with rapid adoption of digital tools and technologies for remote health care[20].

The constraints on population testing by PHC highlighted in this study confirm obstacles for primary services to support surveillance actions. Similarly, countries such as Nigeria and South Africa had restrictions on the decentralization of testing of suspected cases of Covid-19 and fiscal challenges[6]. In Colombia, at the beginning of the pandemic, the decentralization of testing was limited by the absence of inputs on the market[21].

The results of this research reinforce recommendations from other authors on the importance of improving local surveillance of the pandemic, by expanding testing for all respiratory symptoms and carrying out population-based serological surveys[3,22].

The insufficient coverage of doctors to work in PHC during the pandemic period, evident in this study, only ratifies the deepening of the historical inequality in the provision and retention of doctors between Brazilian municipalities, exacerbated by the important difficulty in hiring these professionals at a speed compatible with the demand of the territories locations in a scenario of global health crisis and with significant internalization. This contradicts international proposals on the need to plan the supply of human resources to work in PHC during the pandemic, especially in areas with a high rate of professional turnover and difficulty in medical allocation[23].

Unlike the results found in this study, Spain, the United Kingdom and Sweden organized the response to Covid-19 centered on PHC services[18]. Some authors highlighted that pandemic control was more effective in countries that adopted primary care as a first community contact service[9], while others state that responses with this configuration were variable between nations, giving centrality to hospital services to the detriment of a model based on primary care, which limited the formation of territorial-based interventions[12,24].

Findings from this study were similar to those found in other international experiences that were characterized by the impacts of Covid-19 on the provision of routine and in-person care[25]. The rapid need to reorganize the work process in PHC to ensure the safety of professionals and users

brought challenges to the continuity of strategic actions such as home visits, routine screening, among others[25], and some authors have highlighted that such changes should not reinforce a care model focused on acute and symptomatic conditions for Covid-19 to the detriment of monitoring users with chronic conditions[26].

As in the present study, international experiences revealed challenges in integrating PHC with health surveillance, due to the low computerization of notification processes[11,12], which compromised actions that should support community monitoring of suspected and confirmed cases[10]. In the national scenario, in addition to the aforementioned challenges, there were similarities in the data from this study with the insufficiency of institutional support for continuing education actions in surveillance integrated into PHC in municipal health departments[14].

From the analysis of interviews and documents, in actions related to planning, there was participation of local PHC management, however, planning was guided, primarily, though state and policy makers did not develop their actions in coordination with municipal entities, with decisions being taken locally according to the particularities of the regions. It is noteworthy that the scenario of divergence regarding management strategies for users with Covid-19 posed challenges for municipal management, the definition of care protocols for PHC units.

Despite the recognition of PHC's capillarity and experience in monitoring, case assistance and immunization actions, the notoriety of primary care in the process of confronting the pandemic on the state agenda was late. Furthermore, fragmented services were identified, especially PHC and surveillance, as well as weaknesses in the communication mechanisms between state managers and managers of primary health services establishments, in addition to the precarious computerization of notification and monitoring processes.

Although there is no vehement evidence regarding financing, it was noted that this issue seemed transversal and resulted in fiscal constraints for municipal entities to organize the provision of timely and appropriate primary care for suspected and confirmed cases of Covid-19, especially given the crisis in the supply of equipment and inputs for monitoring, testing and immunizing the population.

CONCLUSION

The health scenario caused by Covid-19 caused several challenges for the management of the PHC response. They stood out as the main challenges to inequalities in state and municipal fiscal and management capacity; the fragmentation of intersectoral actions to support vulnerable groups and health surveillance; insufficient infrastructure and coverage, with the inadequacy of the technological structure, inequalities in the provision of doctors and scarcity of inputs; in management and organization, in which there was no prioritization of PHC as a first contact service and due to the existence of problems in local notification, in the flow of population testing and PHC cooperation with surveillance. Finally, the challenge of providing primary care deserves to be highlighted, given the successive updates and divergences in decision-making on strategies to combat the pandemic, which imposed the need for professional qualifications in a new scenario of health "war".

It is noteworthy that the identification of challenges through this study can guide state, regional and local PHC management strategies, which include intersectoral planning actions in future waves, as well as the reorganization of work processes based on local needs; provision of adequate infrastructure; organization of flows and institutional communication; policies for the provision, retention and emergency qualification of professionals; improving communication between managers and strengthening regional governance to support the capacity of municipal managers in decision-making and management of PHC policy in pandemic scenarios.

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