

ORIGINAL ARTICLE

CARE MODEL IN PRIMARY HEALTH CARE: ACCESS AND COMPREHENSIVE CARE DURING THE COVID-19 PANDEMIC*

HIGHLIGHTS

1. The importance of technology for access and comprehensive care.
2. Challenges to incorporating innovative health actions.
3. Contributions to the planning of primary care actions.
4. Impact of the pandemic on the primary care model.

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ABSTRACT

Objective: To analyze the care model in Primary Health Care from the perspective of access and comprehensive care. **Method:** Qualitative research, with data collected from May to December 2021 in each regional health center in the state of Paraná through recorded interviews using a semi-structured script with 26 managers. *IRAMUTEQ* software was used to process and group the data into five classes. The results were analyzed using dialectical hermeneutics. **Results:** Two classes showed actions related to the attributes of access and comprehensiveness present in the care model. Actions to increase access included the participation of a multi-professional team to promote comprehensive care and the use of technological resources while maintaining the biomedical model. **Final considerations:** During the pandemic, there was adaptation and resilience on the part of managers who organized the care model and the inclusion of technological tools to facilitate access and continuity of care.

DESCRIPTORS: Primary Health Care; Nursing Models; COVID-19; Pandemics.

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INTRODUCTION

The care models go through the milestones recognized by the health history. They are related to various factors, such as new forms of care and historical, cultural, political, and economic contexts.¹

The dynamics of the organization of health services were considered a challenge for science, managers, and society since the moment demanded new ways of thinking about managing health services and rethinking the care model.² Thus, the pandemic has raised concerns among researchers and health professionals about the care model, performance, and work process, especially in Primary Health Care (PHC).

The pandemic of the new coronavirus marked the year 2020.³ In the global context, researchers and managers made efforts to control the speed of the spread of the virus, developing social isolation measures, aiming to reduce hospitalization rates and support the health system to adapt its care capacity.⁴

In this sense, PHC has played an important role in the care network, and, in the context of the pandemic, it has contributed to coping actions with the support of the teams from the health units (US) who know the population and their vulnerabilities. At the same time, it provided promotion, prevention, and care actions, creating work processes in health surveillance and continuity of care for the population and establishing priorities.⁵

The care model adopted as a theoretical reference in this study is related to the concepts presented by Bárbara Starfield,⁶ converging health actions with building and implementing the values and principles of the Unified Health System (SUS). It is understood that it contemplates universal, equal access, regionalization, hierarchization, and decentralization of health services from the perspective of comprehensiveness, guiding care practices for decades since this model has impacted improving population health indicators.⁷

However, with the guidelines of new protocols requiring the care practices reorientation with new organizational logic due to the pandemic, the care model offered in PHC was contrasted with the biomedical model.³ This contrast encouraged health services to organize themselves along the lines of urgency and emergency, with a predominance of medical consultations and hospital admissions. Still, it did not exclude, despite the closure of some USs, multidisciplinary actions focused on continuity of care.⁸

In this context, therefore, there is the importance of PHC in responding to the pandemic, but, on the other hand, an appreciation of the hospital-centered biomedical model influencing care practices. This study analyzed the PHC care model from access and comprehensive care perspectives.

METHOD

Qualitative research, part of the project entitled: Challenges and Opportunities for the Health Care Network in Times of the Covid-19 Pandemic: information, organization, and access to Health Practices in Paraná - Brazil. Paraná has 399 municipalities organized into 22 health regions, and the survey included at least one municipality from each region. The participants in the survey were managers who met the following criteria: working in management with functions related to planning, organizing, and directing PHC. The researchers received a list from the Council of Municipal Health Departments of Paraná (COSEMS/PR) with the managers' e-mail addresses and institutional telephone numbers as possible participants. Afterward, the participants were invited to participate in the research,

and once they had accepted, the interviews were scheduled for the day and time they were available. Of those interviewed, there was no refusal to take part in the research or need to repeat the interview.

Before starting the interviews, two pilot tests were carried out. The data was collected after prior training by a group of researchers comprised of four undergraduate students and two Ph.D. students in Nursing. The increase in the number of researchers favored new times for scheduling interviews and facilitated the participation of managers due to their high workload in the context of the pandemic. Data collection took place from May to December 2021 through interviews with a semi-structured script containing five questions related to the performance of the manager, the work process, and the service organization during the pandemic. For each interview, two researchers were needed: one to conduct the questions and another who recorded his observations in a field diary and supported the infrastructure.

There were 26 participants, and the interviews were recorded and lasted an average of 30 minutes. One interview took place in person, and the other 25 were conducted virtually, using the virtual room platform's recording tool to give the researcher better attention during the interviews and provide the necessary rigor in the transcription. In the face-to-face interview, the Informed Consent Form (ICF) was sent via e-mail, clarifying any doubts about it and requesting printed authorization. In the virtual interviews, the ICF and prior acknowledgment were sent by e-mail from the researcher to the participant's institutional e-mail address.

After transcribing the interviews, the *IRAMUTEQ* software (Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires) was used to group the data into classes. After grouping, the following analyses were carried out: classic textual analysis, specificity analysis, the Descending Hierarchical Classification (DHC) method, similarity analysis, and word cloud analysis.⁹ The transcribed interviews were not returned for feedback from the participants.

The analysis yielded 1,269 text segments, of which 1,094 were 86.21% successful. The text segment classes were defined after sizing the text segments classified according to the vocabularies. The *corpus* was divided into five *sub-corpus*, and this article discusses the results obtained from the Class 4 and 3 *sub-corpus*, which met the proposed objective. Class 4, with 263 UCE, corresponds to 25.2% of the UCE, and Class 3, with 159 UCE, corresponds to 15.2% of the total UCE. Classes 3 and 4 are related to the same context and have been analyzed together for this article. Classes 1, 2, and 5 deal with the issue of the care model but in a different context. As a criterion, we used words with a chi-square (χ^2) greater than 3.84 and a $p < 0.0001$ to determine the strength of the link between them, as shown in Figure 1.

Some of the words shown in the dendrogram in Figure 1 were analyzed concurrently because they were part of the same context, even though they were processed separately by the system. This was due to how each participant reported the same situation and others, which, despite a high chi-square (χ^2) and $p < 0.0001$, had little or no representativeness concerning the research topic - and were therefore not analyzed.

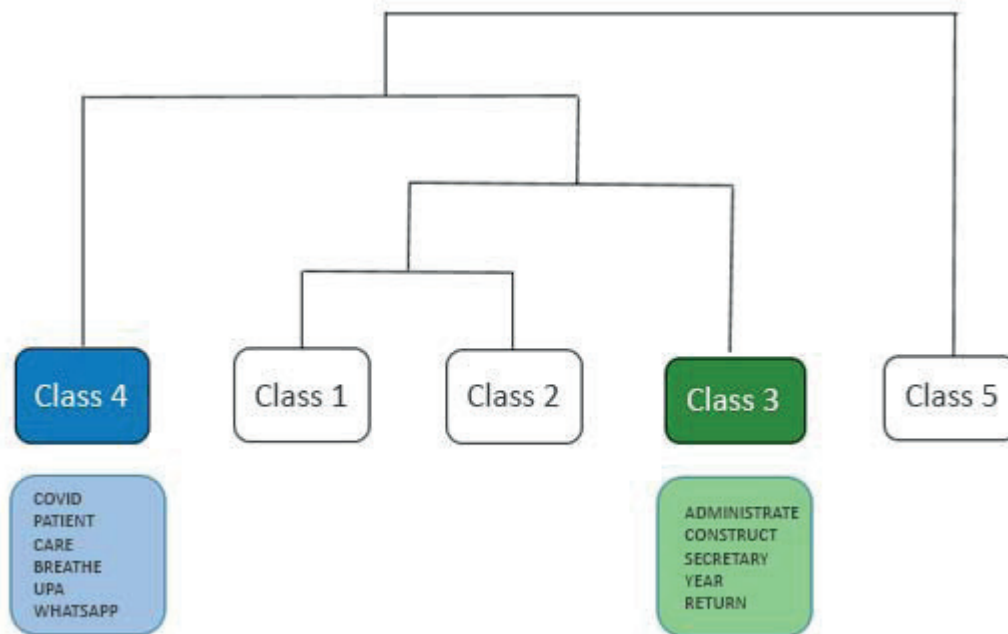


Figure 1 - Class dendrogram. Curitiba, PR, Brazil, 2023.

Source: The Authors (2023)

Subsequently, the emerging convergences and divergences were analyzed, and those required in the care model established in the participating municipalities, using dialectical hermeneutics (DH) to interpret and analyze the complexity inherent in the social phenomenon.¹⁰ The *Consolidated Criteria for Reporting Qualitative Research (COREQ)* was used to check the stages of the method.

The research was approved by the Human Research Ethics Committee of the Health Sciences Sector of the Federal University of Paraná (UFPR) and by the co-participating institution, the State Health Department of Paraná, under opinions No. 4.450.267 and No. 4.590.722, respectively.

RESULTS

Data processing showed that the care model in force during the pandemic stood out for the need to expand access and for actions to strengthen comprehensiveness as part of the reorganization of PHC. Thus, the following classes are presented concomitantly: the resumption of health actions in primary care during the stabilization of the COVID-19 pandemic and the organization of the care model during the COVID-19 pandemic in PHC.

The Paraná COVID-19 Contingency Plan proposed the organization of sentinel USs as access points for patients with respiratory symptoms. The other USs would cover other types of care:

[...] With the beginning of the pandemic, one of these USs became exclusively for COVID [...] (manager 02)

[...] We set up a specialty center to attend to COVID-19, we didn't stop attending to the population, and we continued to provide care in the territory [...] (manager 06)

The Emergency Care Units (UPA) and hospitals initiated the first care reorganization

actions. In PHC, care was focused on cases with mild to moderate respiratory symptoms, and those considered elective were postponed:

[...] because many tests were stopped, elective surgeries stopped happening, preventive examinations were sometimes suspended [...] (manager 02)

In structuring the care model with so many variables in a short space of time and with the urgency that the situation demanded, they pointed out that boldness and creativity were needed to devise a new form of care:

[...] I understand that we need to separate the current moment, which is an extraordinary moment, [...] because it was necessary to implement strategies [...] soon we will have to use them again because the wave is rising and falling [...] (manager 09)

The care network's composition considers structural, economic, and local issues. Smaller municipalities often use the health services of neighboring, better-structured municipalities, especially for specialized and hospital care:

[...] We had to reinvent ourselves in the situation of Covid and the pandemic, structure ourselves in a different way [...] my municipality is small, so I don't have a hospital [...] (manager 14)

They pointed out the importance of expanding the work of the different professional categories that work at the system's front door in the initial assessment of users with symptoms of COVID-19 syndrome, directing the patient according to assessment and need:

[...] the care comes from the community agent, the nurse, and the technician [...] (manager 01)

One of the main difficulties in reorganizing the care network was the impossibility of expanding human resources. In addition, and as a form of care and protective measures, many PHC health professionals were dismissed due to their health condition, reducing the team without the possibility of hiring them immediately:

[...] the number of professionals decreased, and we had to reorganize, allocate ourselves, and everything that was determined during the pandemic [...] (manager 24).

The Paraná COVID-19 Contingency Plan highlighted using information and communication technologies (ICTs), including teleconsultation, as an access and longitudinality strategy. Conditions that facilitated or hindered their use, such as geographical, cultural, and social conditions, and the tendency on the part of staff and managers to maintain the existing model of care:

[...] we don't use teleconsultation because we have a well-defined protocol with timetables, and as it's a small town [...] (manager 03)

[...] we haven't implemented teleservice because our population is very rural [...] it's rural, most of them have internet [...] (manager 06)

The telephone and the messaging app as a support tool for monitoring patients with flu-like symptoms were other devices incorporated into the care model and seen as something positive and innovative:

[...] WhatsApp has been fundamental. We even created a channel where people with some characteristic flu symptoms could go [...] (manager 13)

The participants highlighted the challenge of reorganizing the care model, both for managers and the care team, as structural, emotional, and physical factors had a considerable impact on the process of restructuring PHC:

[...] The question of the work process [...], because we lost our entire work process [...]. They are extremely tired, working hard, worn out [...] and you want to reorganize the work process, and there is a factor that is individual to each one [...] (manager 12)

In the period of stability, there was a resumption of health actions in PHC, especially collective activities, with the prevailing care model focusing on chronic health conditions:

[...] What's changed are the collective activities, like the groups we always used to do [...] events have stopped happening, but this year they've come back better; Blue November, Pink October. During the pandemic, these events became difficult to execute, [...] (manager 02)

On the other hand, they understood that some innovative actions, such as the virtual consultation, could be maintained and incorporated into the PHC care model to facilitate access and continuity of care:

[...] Today we are in the process of getting back on our feet [...] thinking about some innovations, perhaps bringing this teleservice experience to PHC [...] (manager 08)

In addition to the challenge in the clinical management of cases, there was a lack of knowledge about the disease. The health professionals were afraid of the risk of contamination for themselves, their families, and the population:

[...] At times in the beginning, everyone was frightened, including doctors hiding and wanting to write prescriptions in the back of the unit [...] (manager 16)

On the other hand, during the pandemic, the PHC health team has remained more united, showing concern and care for others:

[...] there was a part of unity. I think that to take care of each other [...] we had to look more at the emotional [...] (manager 18).

The managers cited continuing education as fundamental for PHC teams to contribute to professional training and the construction of the care model:

[...] there has to be permanent education. So, I consider continuing education to be fundamental, essential [...] (manager 12)

The results of this study highlight two essential attributes of PHC: access and comprehensiveness. Access is demonstrated in the participants' speeches related to new ways of organizing PHC and the use of technologies to facilitate access and monitoring of the population, both for acute and chronic conditions. Comprehensiveness is evidenced in the reports on the organization of the care network in terms of its challenges and potential.

DISCUSSION

There are different ways of organizing the PHC care model in Brazilian municipalities, and it is necessary to consider the particularities and local reality, resources, and management decisions related to organizing access to services, health surveillance, health promotion, and caring for people and families and shared management.¹¹

Considering the different realities of each municipality, managers in the pandemic period had to rethink the care model at the different points of health care, including PHC. With support from the state and federal agencies, they had to draw up a contingency plan, creating adaptations to the local reality, emphasizing expanding access, reviewing different forms of PHC, and establishing accelerated remote discussion during the pandemic.

Increasing access to services and health professionals able to work at the SUS front door is a way of guaranteeing quality, equitable, and comprehensive health care.¹² In this sense, it is important to recognize each place's specificities, think of unique strategies to reduce the problems of access to health services, and consider the population's geographical, social, and cultural diversity.¹³ For Starfield,⁶ the first contact implies accessibility to health services, and PHC is understood as the main gateway to the care network and the first resource to be sought.

The state of Paraná has drawn up a contingency plan to deal with Covid-19. This plan aimed to define responsibilities between the state and municipalities, with the support of the Ministry of Health, and to propose strategies to deal quickly and effectively with situations related to COVID-19. This document also contains information about the disease, control measures, and priority actions in the organization of health spaces.¹⁴

In this survey, managers demonstrated that the actions implemented during the pandemic followed those established by this plan. It was also possible to recognize that the managers who participated in the organization of PHC services and adapted the actions of the care model needed skills such as creative capacity, perseverance, and resilience.

It was clear that in PHC, care focused on cases with mild to moderate respiratory symptoms and other elective health conditions was postponed. In structuring the actions in the care model with the variables presented by the managers in a short time and with the urgency that the situation demanded, boldness and creativity were needed to devise different and resolute forms of health care for people.

During disease outbreaks and epidemics, PHC plays a crucial role in responding to the situation, as it provides early and resolute care, as well as maintains longitudinally and coordination of care, which increases the chance of identifying serious cases that should be treated and referred to the care network.¹

Comprehensiveness implies adaptations to be made by PHC so that patients can access the various types of service. Although some can be offered within the health unit, including referrals to other points in the network for specific health problems, they are considered fundamental support for PHC, such as hospitalization.⁶

There are significant differences in the distribution and availability of health services in Brazil,¹² a fact identified in the state where this research was carried out, especially in the smaller municipalities and those on the border. Inequalities in health resources can be observed within the scope of PHC in municipalities with different availability of actions, caused by the composition of teams, whether in terms of numbers or professional categories, by the decrease in financial resources historically received, compromising the response of PHC.¹² The dimension of comprehensiveness is understood as preserving access to the various levels of care in the healthcare network, from PHC to hospital services, whose characteristic is the difference in the technological densities of healthcare.⁶

The pandemic demanded a simultaneous change in municipal health services, especially in PHC, taking control of the pandemic and ensuring that routine actions were not neglected, organizing and strengthening territorial actions.¹² Just as during the pandemic, it was challenging for managers to propose and implement actions to facilitate access and care that had long been on the agenda in PHC, one of which was virtual consultation in some of the municipalities participating in the survey.

About virtual medical consultations, it is important to note that this has been authorized since 2002 by Resolution no. 1643 of the Federal Council of Medicine (CFM) and that of nurses by Law no. 13.989 of the Federal Nursing Council (COFEN), supported by Resolution no. 634/2020, which authorizes and regulates the practice.

In recent years, there has been an increase in the use of "teleconsultation", which may have positively impacted how people depend on health services. However, one of

the concerns is the difficulty of access due to social or technological factors.¹⁵ It is difficult to insert new technologies into PHC care in the municipalities due to the population's geographical, cultural, and social conditions. As well as the tendency of staff and managers to maintain the face-to-face work process and municipalities' financial difficulty in introducing new technologies.

Teleconsultation is seen as an opportunity to provide health guidance to people in general, especially those with chronic conditions, and can be an important tool for longitudinal care in a safe manner,¹⁶ as portrayed in the testimonies that illustrate the participants' perceptions of this type of care.

While teleconsultation has been a critical component in increasing the capacity of health services safely and at different times during the pandemic, it has also been an effective alternative to home visits for patients with other care needs or chronic conditions.¹⁷ In a recent study analyzing the facilities and limitations of telemedicine, the following were highlighted as limitations of this modality: physical examination, technology management skills, and technical issues during care. In contrast to the facilities identified, the maintenance and scope of health care, comfort, elimination of time lost to travel, and family participation were the obstacles encountered.¹⁸

On the other hand, there are managers who, based on their experiences, have started to think about new ways of caring for the population, using innovative tools such as virtual consultation in PHC. The emergency caused by the Covid-19 pandemic has made it possible to modify and adapt ways of caring for the population's health.¹⁹

The marks left by the pandemic on society have not yet been sufficiently measured on a biological, emotional, economic, and social level. Fear was present among the health professionals who worked during the peak of the disease. This feeling is anchored in various concerns, including contamination, being a vector for their family members, lack of knowledge about the disease, and lack of clarity about how to proceed in an unknown situation. It is important to note that, in addition to the unknown and the psychological pressure in the face of the imminent risk of contamination, there was concern about care and communication with patients.²⁰ Context of multiple pressures on health teams and perceived by managers.

Due to anxiety, uncertainty, and frustration, caring for the people who worked on the front line and in different spaces demanded a lot of dedication and energy from professionals, managers, and the emotional sphere.²¹ At the same time, solidarity and unity between people became more evident in the health teams.

With decreased COVID-19 cases, health services have resumed routine and relevant/common actions in PHC. However, despite experiencing new strategies and work processes during the pandemic, in which the data highlighted the ease of access during this period, many teams returned but remained with a fragmented work process focused on specific pathologies.

There is no clarity about the impact on the population's health caused by these actions, often organized in specific months. It would even be necessary to expand the analysis of these indicators to plan and organize an action focused on the needs of that population during the various months of the year. In recovery, continuing education in training managers and professionals is emphasized, facilitating, providing, and sharing new knowledge, ensuring new and safe professional practices.²⁰

The statements made by the managers interviewed attest to the importance of promoting ongoing training. Therefore, the importance of continuing education for health professionals is clear, as the pandemic has brought moments of insecurity, worry, and anxiety, among other feelings. As well as fear of falling ill themselves or their family members, it is important to provide time during the working day for actions that involve sharing experiences about daily life and work, care related to personal protection, and

relevant technical updates to face the pandemic scenario.²²

As a limitation of the research, scheduling time with these professionals was difficult, as they were directly involved in organizing the care network during the pandemic.

FINAL CONSIDERATION

The study pointed out that, at the peak of the number of confirmed cases of COVID-19, it became necessary for managers to adapt and be resilient, organizing care actions in the care model. However, this model, which emphasized easy access and comprehensive care in PHC during the pandemic, did not maintain its continuity during the resumption of actions. The reports showed that the professionals returned to previous practices, such as organizing the work process in a fragmented way and focusing on specific pathologies, demonstrating how challenging it is to incorporate innovative actions into daily life.

Another relevant aspect is that, despite the seriousness and urgency of the pandemic, which has emphasized the biomedical and hospital-centric model, the managers' discourse shows the potential of PHC to adapt to users' needs, to be a point of support in absorbing mild and moderate cases of Covid-19 and also to incorporate new care technologies.

There was a need to include and build technologies that support the care of the population, as well as continuing education activities that support processes of change in health services, with greater emphasis on issues related to the duties of management positions, strategic planning, and the process of change.

Given the above, reflection and research on the extent to which the COVID-19 pandemic and other crises that may arise impact professional and personal life and what the main determinants of the resumption of activities are timely. This research can help managers in the organization and planning of actions and services - including the use of technology and innovation offered in the PHC model of health care for the population - in crises, which can extend to the day-to-day running of health units.

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Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work - **Ros C da, Peres AM, Kalinowski CE**. Drafting the work or revising it critically for important intellectual content - **Ros C da, Peres AM, Kalinowski CE, Souza MAR de, Straub M, Montenegro LC, Martins MM**. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved - **Ros C da, Peres AM, Kalinowski CE**. All authors approved the final version of the text.

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