Brazilian Primary Health Care strategies during the COVID-19 pandemic: A scoping review

Abstract  Primary Health Care is the gateway for users to access the Brazilian healthcare system and has been particularly affected by the COVID-19 pandemic demands. This review systematically identified and mapped evidence regarding novel or adapted strategies developed within PHC during the COVID-19 pandemic in Brazil. Our results are presented as a narrative synthesis following the JBI methodology. They were analyzed and discussed through the lens of the Health Work Process Theory, which allowed us to categorize the publications into two principal domains of strategies, managerial and clinical, encompassing strategies that were new, adapted, or maintained in healthcare services. Two hundred twenty-six interventions were identified (130 managerial and 96 clinical) from 49 studies. The new strategies appeared more frequently in both domains, while the maintained ones were less prevalent. The array of interventions highlights different care models, sometimes aligned with a biomedical approach. In contrast, others focus on comprehensiveness and longitudinality based on a person-centered care, in the family, and the community. Thus, this review identified that the same pre-pandemic challenges persist.

Key words  COVID-19, Primary Health Care, Scoping review. Health Services, Brazil
Introduction

Primary Health Care (PHC) services are the main gateway to the Brazilian health system. PHC’s proximity to the community and the list of strategies developed give it greater capacity for comprehensive and longitudinal care, increasing its resolving power for most health problems at this care level\(^1\). However, we should consider the intense "PHC strengthening discontinuity process"\(^2\) movement in the country in recent years\(^5,6\).

The change in the National Primary Care Policy (PNAB) and the financing model induced some setbacks, such as the low coverage of doctors in remote and peripheral regions, the deployment of partial or incomplete teams, the interrupted expansion and qualification of PHC services, especially those organized under the Family Health Strategy (ESF) model, besides the destructuring of important health promotion programs, as in the case of the School Health Program\(^1\).

Add to this context of fragility in PHC services is the public emergency created in March 2020 by the COVID-19 pandemic, with an exponential increase in the demand for PHC services as a result of the disease and, on the other hand, the resistance by most of the population to seeking these services for fear of becoming infected, adversely affected care and the organization of the work process of their teams\(^7,8\).

Therefore, recognizing the possible deterioration of the population's health situation and the prolonged extension of the pandemic period\(^9\), knowing the work processes can say a lot about the organization of services during this emergency, highlighting gaps or strategies that contribute to the decision-making by managers and health professionals working in these services during this phase of resuming activities and reorganizing services after the current change of federal government\(^4\).

Thus, the present work aimed to systematically identify and map evidence on the strategies developed in PHC during the COVID-19 pandemic in Brazil, detect research gaps, and support the development of future investigations.

Methods

This scoping review\(^10\) mapped the evidence of strategies used in PHC during the COVID-19 pandemic in Brazil. This approach adopted the principles of the scientific method and evidence synthesis, including rigor, transparency, and reproducibility\(^11\), assured in the publication of the protocol on the Zenodo platform\(^12\) (https://doi.org/10.5281/zenodo.6461683), which was followed without changes.

The following question was formulated to meet the objectives: "What strategies were employed in PHC during the COVID-19 pandemic in Brazil?". It was developed according to the acronym P (Population) - Primary Health Care; C (Concept) - PHC Strategies; and C (Context) - COVID-19 pandemic in Brazil.

In this scoping review, we included studies that adopted strategies developed in PHC, performed by health professionals and managers to organize PHC services with the involvement of all stakeholders related to the development of PHC strategies. Primary and secondary qualitative and quantitative studies published and unpublished in English, Spanish, and Portuguese in Brazil by March 8, 2022, were also included.

A librarian experienced in systematic reviews developed the search strategies, combining keywords structured by the acronym PCC (primary care; COVID-19, Brazil), using the MeSH search terms in the PubMed database, and adapting to other databases. The published studies were extracted from the following databases: Medline (via PubMed), BVS Regional Portal, Lilacs, Embase, Scopus, WHO COVID-19 Global literature on coronavirus disease, and SciELO. Gray literature was searched through the Google Scholar repository (first 10 pages), the Brazilian Digital Database of Theses and Dissertations (BDTD), and the CAPES catalog. We also performed an additional search of the reference lists of the included articles and looked for steering groups on the topic. The search strategies and search process implemented are shown in Appendix 1 of the review protocol (https://doi.org/10.5281/zenodo.6461683).

Screening and eligibility of retrieved studies were preceded by a calibration of the inclusion and exclusion criteria performed by all reviewers using a sample of search results. After calibration, two reviewers independently selected the studies by independently screening titles and abstracts and reading the included studies’ full texts. Disagreements were decided by consensus. The entire process was performed using the reference management software Rayann QCRI\(^13\).

One reviewer extracted data, which were checked by another reviewer, according to the research questions through an electronic spread-
sheet containing the following aspects: study characteristics (principal author, year of publication, language of publication, type of publication, study design, region), study objective, population, information on the services where the strategies were implemented, strategies, and facilitators and barriers of the strategies. The evidence was not assessed evaluated regarding its methodological quality, as these data are unnecessary for this scoping review.

Considering the changes caused by the pandemic in the organization of PHC services and society and that health practices are social constructions determined by the interrelations between the needs of clients and those of health professionals, which dialectically transform and are transformed, we opted to present the results in a narrative synthesis, analyzing them from the Health Work Process Theory14 and the World Health Organization model15, allowing greater clarity on changes in the organizational dimension of services. Thus, the identified publications were grouped into two significant domains of analysis (Managerial Actions and Clinical Actions), with three subdomains each (Establishing strategies, Adapting strategies, and Maintaining strategies).

**Results**

A total of 2,590 records were retrieved from the databases and platforms. After excluding duplicates (n=1,254), 1,336 were screened. At the end of the first selection stage, 84 publications were included for reading the full texts. A selection was also carried out from a list of references (n=54), a manual search from research groups on the topic (n=19), and recommendations from experts (n=2). Seventy reports were excluded because they did not meet the eligibility criteria, and the justifications can be found in the supplementary material (https://doi.org/10.5281/zenodo.6461683). The final sample consisted of 49 publications16-64. The selection process can be seen in Figure 1.

**Studies characteristics**

Forty-nine reports were included in this scoping review. Thirty-two studies were experience reports 16-20,22,23,25-28,30,31,35,38-41,43,46-48,50-52,54,55,57,60,61,63, we also had three cross-sectional studies 28,32,56, a documentary analysis46, a letter to the editor35, a cohort48, an essay49, five case studies45,45,56-59, a descriptive study60, a netography65, and four publications had not indicated the type of study21,24,37,63. The studies were primarily published in 202017,19-24,26,28-30,32-36,39-41,43-52,55,56,58,59,64, and there was no assessment of their methodological quality considering the characteristics of scoping reviews.

Sixteen studies were conducted in the Northeast17,18,20,28-31,42-44,47,48,50,51,56-60, one in the Southeast19,21,26,29,30,36-38,43,47,50,55,57, nine in the South16,22,25,32,42,55,58,60,62, one in the Midwest53, and none in the North. Moreover, five publications had national coverage24,27,35,46,63, one study covered Latin America35, and one publication did not mention the location15.

The study population comprised health professionals16,18,21,22,24,26-28,30-32,36-39,40,41,43,45,46,48-50,52,53,56,57,59,63,64, community health workers27,30, nurses25, assigned population health services28,38,40,44,51,59,62, older adults37,45,51, and residents or undergraduate students29,53,58. Three studies did not inform the population33,35,46.

**COVID-19 coping strategies**

Based on the previous classification, the 49 studies revealed 226 actions (130 management and 96 clinical strategies). Most studies (n=30) combined management and clinical strategies (187 actions - 104 management and 83 clinical)16-18,21,22,26,28-31,33-35,37-40,42,44,45,47,48,52-55,63,64, while 19 studies had unique strategies, ten of which were purely clinical19,23,37,38,42,51,55,60-62 and nine management20,24,27,31,38,46,53,57.

Next, management and clinical strategies are described regarding establishing, adapting, or maintaining actions without distinguishing whether they were mixed or single-strategy studies. A single study may have been included in multiple strategies or actions.

Within management strategies, 33 studies16,17,20,22,24-26,28-30,32-36,39-41,43-48,52-54,56-58,63,64 created new actions (n=130 actions) to combat COVID-19, 22 proposed adapting actions previously worked on in services16-18,21,22,26,27,31,33-35,43-50,57,59,60-62 and nine management20,24,27,31,38,46,53,57.

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Regarding new actions, 24 publications reported the establishing workf0ews16,17,22,24,25,28-32,34-36,39,41,44,47,48,52,53,56,63,64 and 17 focused on continuing education actions25,26,28-31,35,36,40,43,45,47,48,52,54,56,57, nine on workers’ benefits16,19,21,24,26,37,64, six on expanding technical support22,24,36,46,47,58, six on surveillance25,31,32,44,52,54, six on security30,34,36,48,57, three on the use of new technologies20,24,28, and two on social support20,34.
In adaptations, 17 studies had actions aimed at workflows, three changes in gateways, four in relocating professionals, and two pointed out actions for the safety of professionals. In maintaining management strategies, a study focused on the safety of professionals, adaptation of services, and the issue of flows. Within care strategies, 32 studies created new actions to combat COVID-19, 18 adapted actions previously worked on the services, and 10 maintained what was in progress.

The use of new technologies to promote care was reported in 27 studies. Four indicated diagnostic actions, three home visit actions, three vaccinations for other audiences, establishing clinical flows, two clinical follow-ups, and a strategy was created to vaccinate older adults against COVID-19 in one study exclusively. Regarding adapting care strategies, 12 studies showed actions to promote care continuity, five telemedicine adaptations, two in monitoring, two in vaccination, one study portrayed changes in oral health actions and two in dispensing medicines for chronic patients. Regarding maintaining the strategies, five studies reported actions to care for chronic patients, five strategies for maintaining care flows, three for maternal and child care, and two for vaccination.
Barriers and facilitators

Forty-two publications had barriers or facilitators to implementing strategies and actions], categorized into client, professional, and services and systems levels.

At the client level, we underscore barriers to clients’ adaptation and access to new technologies for teleservice or online practices, access to qualified information, and conviction about the risks of conversations and crowds at UBS. At the professional level, the barriers identified were the difficulty of managing technologies or PPE, communication with clients, availability of PPE, internet access, and work overload. Regarding the level of services, the main barriers were lack of PPE, reorganization of the workflow and new protocols, internet access, and limited physical space. Difficulties with diagnostic tests and financing were the main barriers at the system level.

Regarding facilitators for implementing actions, the collaboration of the population, increased bonding and reception, higher patient adherence via remote access, and greater rapprochement between professionals, the commitment of professionals, the use of digital technologies, communication with clients, reorganization of the workflow and new protocols, internet access, and limited physical space were highlighted as potentials. The use of new protocols and guidelines was highlighted as a potential for the systems level.

Discussion

This scoping review mapped in the scientific evidence the strategies developed in Brazilian primary health care during the COVID-19 pandemic, as shown in the results presented. Most studies were case reports and included health professionals, which was expected given the urgency of sharing evidence in the health emergency and the role of these professionals in the actions adopted. The many publications that mix management and clinical strategies corroborate the increased bonding and reception, the collaboration of the population, and services and systems levels.

At the same time, the tendency of health professionals to adapt or sustain practices already incorporated into the daily services, simultaneously with the creation of new strategies, reconfirms the search to meet the needs already imposed on the services, as in the case of prenatal care appointments and vaccination actions, while recognizing the new needs foisted by the COVID-19 pandemic.

The use of digital technologies by PHC services, particularly teleservice (by telephone, WhatsApp, online appointment), was already expanding in health practice. If kept in the teams’ daily routine, the increasing use of digital technologies could assist in expanding access to clients located in remote areas and difficult to travel to services.

However, it is noteworthy that this feature was widely used for individual appointments, with a predominance of proposals for specific population groups, such as severe mental disorders, violence, palliative care, and those already considered a priority in the daily life of services, such as children under one year, pregnant women, puerperae, and older adults.

We should highlight the questioning about home visits and prioritization of population groups for care, considering that these standards were already defined before the COVID-19 pandemic, but which became more evidenced in this setting imposed on social distancing and suspended routine appointments. These standards would respond to the need imposed by the new PHC financing model, which entered into force during the pandemic. We should consider
that the indicators of this new model are sought by teams in an unbridled manner, even to the detriment of other population groups or more inclusive practices\textsuperscript{21,70}, as seen with the dental care of pregnant women, pointed out by literature as one of the causes of return of the elective oral health care, even before the establishment of scientific-technical standards for its realization with safety\textsuperscript{21}.

Thus, besides the suspended group activities, which characterizes a disease-centered care model, this result also raises the reflection that although it refers to a new strategy, it maintains, in essence, the same operant technology of individual in-person appointments and reproduces a biologist care model focused on programmatic actions\textsuperscript{69}, which continues to value the logic of surveillance.

Thus, many of the proposals understood as new, in their nature, refer to adapted work processes to preserve routine services. At the same time, without getting into the discussion of the need for these remote activities to be also used for health promotion, this initiative provided closer follow-up for priority groups, signaling the operationalization of a care model that values longitudinal care – even if not offered to the entire population of the territory.

Against this movement of suspended group activities\textsuperscript{26,27,32,49,50} or strategies centered on priority groups, we underscore studies that showed the preservation of regular flow by the service\textsuperscript{25,33,36,50,57,59}. Among them, we highlight one that mentions the work of community health workers (ACS) as a “fundamental element in the success of the action”\textsuperscript{60}, which reaffirms the availability and potential of different mobilizing agents in the health work process\textsuperscript{60}, besides the importance of these professionals in recovering the leadership in times gone by.

From the same perspective, we should underscore initiatives centered on more comprehensive care, promoting healthy habits, and preserving bonds\textsuperscript{28,40,51,52,62,63}. In an even smaller number, but fully serving the proposal of a comprehensive and integrative PHC, we identified interventions focused on social protection, such as the distribution of staple food baskets and hygiene items, and assistance to complete the registration of clients in social programs\textsuperscript{26,34,36,41}.

This movement of creating health promotion interventions and prevention of diseases was also observed in specific actions on COVID-19, through the dissemination of reliable information and vaccination, including influenza – which emerged as a disease in the pandemic situation of the country\textsuperscript{20,26,28,35,37,41-43,45,52,59}. Such initiatives would deserve to be incorporated into the routines of services since they could contribute to health promotion issues and prevention of diseases and the confrontation of stigma and discrimination that have been reproduced over the years by population misinformation on specific diseases.

Among the new clinical interventions, we highlight the construction of clinical flows to keep distance between clients, without prejudice to expanding access to diagnosis and clinical care, including monitoring and follow-up on suspected or confirmed people\textsuperscript{16,25,28,29,36,38,45,46}.

In the strategies created by management, besides those focused on disease surveillance\textsuperscript{25,33,34,46,54,56} and construction of care line and organizational flows of the services network\textsuperscript{16,17,22,24,25,28-32,34-36,39,41,44,45,47,48,52,53,56,63,64}, the development of proposals to support services deserves attention, such as the qualification of the health work process (Technical Notes and Continuing Education Actions for Health Professionals)\textsuperscript{36,19-21,25,33,42} and for employees from other municipal sectors\textsuperscript{50}.

Building knowledge exchange spaces, as in the creation of discussion and decision-making groups\textsuperscript{47,59}, is another action that deserves to be highlighted by qualifying professionals from the perspective of care focused on the specificities of each situation, which would deserve to be continued in the routine of these services and incorporated by all others, since it would favor the materialization of the so-called recommended PHC comprehensiveness and still far from the practice of many services.

We also observed initiatives for occupational health, such as the supply of psychological care, auriculotherapy, Reiki, yoga, self-massage and meditation techniques, labor gymnastics\textsuperscript{47,48,52,59}, and reception strategies for employees away from work due to COVID-19\textsuperscript{40}.

It is noteworthy that despite the methodological rigor of the scoping review, the results need to be considered cautiously since the quality of the publications was not assessed. Another limiting factor to consider is data selection because, despite the comprehensive search, studies may have yet to be retrieved, and others may have been published after completion of the review due to the large volume of publications around the COVID-19 theme. Moreover, the urgent need for information has led many articles to be made available in preprint format and published on a
very tight schedule, which often compromises the description of strategies and the contextualization of actions and is reflected in the results.

Final considerations

The COVID-19 health emergency imposed a huge challenge and required an immediate response from the health system, which had to reorganize to meet the demands. The situation was similar in the PHC services. It required adapting or adopting new strategies to ensure the population's access to care continuity added to COVID-19 care. This scoping review aimed to present and describe these strategies.

The diverse interventions identified in the studies lead us to conclude that several projects are in dispute in PHC services, evidenced by different objects, work instruments, and professionals' actions, which explain different care models produced in the work process. Some have identified themselves with the traditional (epidemiological and clinical) care model – which brings a biologicist approach centered on individualizing disease surveillance – and others of collective health – with a holistic health perspective, seeking to meet the expanded care model, which values comprehensiveness and longitudinality based on care centered on the person, family, and the community.

We should consider that although COVID-19 refers to a transmissible disease and therefore needs a more centered approach to epidemiological surveillance, PHC services must consider health in its broadest aspect, including the vulnerabilities that enable its occurrence and the coexistence of different health conditions that can aggravate the disease's clinical picture. Also, besides the pandemic, work processes should recognize that people continue to live and produce new and old needs of (and in) health. In this sense, we found that the same challenge as the pre-pandemic antagonism in the organization of work processes in PHC endures in current strategies.

Collaborations

MC Bortoli, PR Sanine, BC Araújo and CF Oliveira contributed to the conception, development, analysis, and interpretation of the data, the writing of the article, and the approval of the version to be published. MIS Costa contributed to the conception, development, and writing of the article and the approval of the version to be published. TR Tesser contributed to the development, the writing of the article, and the approval of the version to be published.
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