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To cite this article: Gabriela Lotta, Vera S. P. Coelho & Eugenia Brage (2021) How COVID-19 Has Affected Frontline Workers in Brazil: A Comparative Analysis of Nurses and Community Health Workers, Journal of Comparative Policy Analysis: Research and Practice, 23:1, 63-73, DOI: [10.1080/13876988.2020.1834857](https://doi.org/10.1080/13876988.2020.1834857)

To link to this article: <https://doi.org/10.1080/13876988.2020.1834857>



Published online: 05 Nov 2020.



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How COVID-19 Has Affected Frontline Workers in Brazil: A Comparative Analysis of Nurses and Community Health Workers

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ABSTRACT *The need to respond to the COVID-19 pandemic has created challenges for services delivered by frontline workers (FLW). This paper analyzes how the Brazilian government regulated the reorganization of Primary Health Care (PHC) and how FLW responded to these initiatives, comparing the roles played by nurses and community health workers. Given the multilevel health system, it was expected that the high level of ambiguity would stimulate innovations. However, data show that the ambiguity created different situations for each profession. While nurses were able to adapt their work and act with more autonomy, CHW lost their role in the policy.*

Note: In the interests of space, street-level theory and the pandemic context underpinning the articles for this special issue are discussed in detail in the Introduction to the issue.

Keywords: frontline workers; health; multilevel governance; COVID-19; community health workers

1. Introduction

The COVID-19 pandemic has created challenges for services provided face-to-face. The high risk of contagion and the need for physical distancing have impelled a reorganization of the way services are delivered at the street level and how frontline workers (FLW) interact with citizens.

The questions of how FLW deal with emergency situations and what happens to their discretion and behavior remain unanswered in the literature (Sapat and Esnard 2012; Henderson 2014; Alcadipani et al. 2020; Dunlop et al. 2020). The literature on crises points to the importance of regulating and protecting FLW due to the unpredictability of emergency situations and the risks to which workers are exposed (Leite et al. 2020; Nagesh and Chakraborty 2020). The reactions of FLW during crises depend on the ways

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they are treated and to what extent they are protected by government (Black et al. 2020; Nagesh and Chakraborty 2020). At the same time, the literature proposes how crises improve FLW's discretion (Stivers 2007; Sapat and Esnard 2012). This means that, under crises, FLWs should be controlled and led (Maynard-Moody and Musheno 2003).

In this article, we empirically analyze FLW in primary health care (PHC), one of the public services most affected by the pandemic all around the world. We compare the impacts of the pandemic on the work of two types of FLW, nurses and community health workers (CHW), working in the Brazilian public health system, the Unified Health System (SUS – *Sistema Único de Saúde*). The SUS is regulated by the federal government and PHC is implemented by states and municipalities. As such, the empirical question guiding our analysis is: what are the impacts of the COVID-19 crisis on the discretion of nurses and CHW in a setting where the public health system is regulated via a multilevel governance structure?

In order to answer this question, our case study looks at what happened with nurses and CHW working in PHC, in Brazil, between March and July 2020.

Given that Brazil has an internationally recognized public health system, it was expected that the country would be a success story in responding to the pandemic (Castro 2020; Lancet 2020). The expectations were based on the size of the system; the experience of PHC in previous health emergencies such as Zika and H1N1; the existence of a territorially based health care model with CHW; and the multilevel system that was able to reduce inequalities and improve health conditions over recent decades (Arretche 2012).

However, Brazil is now considered to have had one of the worst responses to the pandemic internationally, and to have committed numerous governmental mistakes (Lancet 2020). Concerning FLW, in April, Brazil had 50 per cent of nurses' deaths from COVID-19 in the world. In July, more than 40,000 frontline health workers were infected with the disease. These data show the high risk faced by FLW during the pandemic in Brazil. It is, therefore, an interesting case for studying the relations between, on the one hand, government regulation, coordination and resource provision and, on the other, how FLW acted during the pandemic.

The findings suggest that ambiguity in regulations, lack of coordination and lack of resources created major uncertainty for FLW. These conditions affected their powerfulness, using the concept proposed by Thomann et al. (2018). However, this situation impacted nurses and CHW differently. While nurses were better able to adapt their work, the role of CHW was downgraded.

This argument is developed in the following sections. Section 2 presents the SUS's governance structure and the literature concerning FLW in multilevel systems. Section 3 presents the methodology. Section 4 analyzes changes in the regulation of FLW and PHC implementation during the pandemic and compares the impacts upon CHW and nurses and their responses. The final section presents our conclusions.

2. FLW in Multilevel Systems

The SUS is a public and universal health care system organized via a multilevel governance structure, co-financed by the federal government, states and municipalities. The Health Ministry is responsible for defining policy guidelines and coordinating the system. Medium- and high-complexity services are delivered by states and municipalities, while responsibility for PHC lies with the municipalities.

PHC has significantly expanded over the last 30 years, with priority being given to the poorest groups. This expansion was supported by the Family Health Strategy (FHS), which provides services at the Basic Health Units (UBS – *Unidades Básicas de Saúde*) and also at patients' homes. FHS teams consist of physicians, nurses, community health workers and other health professionals. All municipalities fall under the same regulations provided by federal government, though these regulations leave space for municipalities to interpret and adapt policies. This governance structure supported the enhancement of municipal capacity and helped to reduce inequalities between municipalities (Arretche 2012).

This multilevel system is similar to agencification, in which there is high ambiguity and low conflict (Heidbreder 2017). This type of system “pools authority on the supranational level, yet delegation is limited to specific tasks” (Heidbreder 2017, p. 1371). It requires local agencies to have high capacity in order to implement policies.

The literature about FLW in multilevel system suggests that these contexts open space for ambiguity and uncertainty during policy implementation, driving local organizations and FLW to take on greater responsibility (Dörrenbächer 2017; Heidbreder 2017; Thomann and Sager 2017). In these settings, FLW adapt policies to embed them in local organizations. The coherence and harmony of policies depend on the discretion of FLW, their rationalities and systems of accountability (Dörrenbächer 2017).

FLW theory proposes that discretion is shaped by policy design (Brodkin 2012; Thomann et al. 2018). The more ambiguous the policy is, the greater is the space for discretion (Matland 1995; Hupe and Hill 2007). From a bottom-up point of view, this could increase creativity and innovation (Matland 1995; Lipsky 2010; Thomann et al. 2016). However, from a top-down perspective, it could generate incoherence and jeopardize policy implementation (Matland 1995; Dörrenbächer 2017). In order to avoid this kind of problem, discretion should be manageable and accountable (Thomann, Lieberherr, and Ingold 2016).

The literature also points out that FLW's willingness to implement policies depend on their powerfulness (Thomann et al. 2018), which is a necessary but not sufficient condition for policy implementation. As these authors suggest, together with resources and support, powerfulness increases the chances of successful implementation.

Based on these theoretical assumptions, and with the aim of contributing to the literature on the impacts of crises on FLW's discretion in multilevel governance systems, we will analyze how the government regulated both the space for discretion and the resources available; how the government provided support to FLW during the crisis and how these factors affected their feelings of powerfulness and how they used their discretion.

3. Methodology

In order to better understand the relationship, in a context of crises, between governmental regulation, coordination and support on the one hand and the way FLWs use discretion on the other, we comparatively analyzed two professions that work in PHC in Brazil: nurses and CHW. This selection is justified for several reasons.

Brazil was selected as it has one of the largest public health care systems in the world and, at the same time, was one of the worst cases in responding to the pandemic. In this context, analyzing how Brazilian FLW experienced the COVID-19 crisis is an extreme

case for learning about FLW discretion during crises more generally. Extreme cases are situations in which the phenomena of interest are salient and easily analyzed (Eisenhardt 1989).

Brazil is also an interesting case due to the multilevel structure of its health system, which creates both more space for discretion and more need for regulation in order to harmonize policy implementation (Dörrenbächer 2017).

The choice to study PHC and its frontline workers is justified by the pressure the COVID-19 pandemic has placed on health systems all around the world and the changes it has generated in policy provision. Health FLW were, therefore, the most affected workers. And primary health care workers make daily connections with families through very intense physical interactions, both inside health centers and at citizen's homes.

We chose nurses and CHW given their centrality to PHC. There are 286,000 CHW and 270,000 nurses in the Brazilian PHC (Ministério da Saúde 2020).

The choice to compare nurses and CHW is justified because, despite both implementing the same policy, they are professions with quite different degrees of vulnerability. While nurses are qualified and recognized as health professionals; CHW are not qualified and are not recognized as such. This means that the government was not obliged to supply CHW with protective personal equipment (PPE) or even additional payment during the pandemic, as was the case with nurses. They also have different types of role. Nurses mainly work through appointments and attending to citizens' health at health clinics. CHW live in the same area where they work, and their responsibility is to make home visits every day to their neighbors' homes and to gather information for nurses. Due the need for physical distancing, CHW's main role of visiting homes became a source of risk. On the other hand, as they are connected to the territory, it was expected that they would be better able to use their discretion in adapting the recommendations for citizens locally (Lotta et al. 2020a).

To undertake the comparison, we used different methods of data collection. The first strategy was an analysis of the federal legislation regarding PHC in the period between March and June 2020. The analysis aimed to understand how PHC was reorganized to deal with the pandemic. The documents were analyzed by focusing on the proposed changes, how professions were affected and the impact on FLW workers. We also used secondary data from Leite et al. (2020) that analyzed the impacts of these regulations on the health workforce.

The second method was analysis of one public Facebook group of CHWs, containing 20,000 workers, between March and July 2020. They discussed issues related to their work during the pandemic. We selected 100 posts with more than 700 interactions that discussed the impacts of the pandemic on the jobs of CHW.

The third method was the analysis of documents, websites and speeches from the National Confederation of CHW (CONACS) and the National Corporation of Nurses (COFEN), which represent, respectively, the CHW and nurses' unions. These bodies are responsible for negotiating the responsibilities of CHW and nurses with the public authorities. We also interviewed the president of CONACS and one manager of COFEN.

Finally, we used secondary data from a national survey conducted between 15 and 30 June with 870 CHW and 430 nurses (Lotta et al. 2020b). The survey analyzed how these workers were experiencing the pandemic, their feelings, access to resources and

governmental support. The survey also collected information about changes to their activities.

After data collection was completed, we analyzed all the materials with the aim of understanding the impacts of COVID-19 on the jobs of these frontline workers. We coded the data based on four themes: changes to FLW roles and tasks; use of discretion; access to resources; feelings of powerfulness.

4. Federal Regulations Regarding COVID-19

Brazilian president, Jair Bolsonaro, is a denialist of the pandemic (Castro 2020; Lancet 2020). As a consequence, the federal government did not prioritize efforts to fight the crisis. Instead, different states and municipalities implemented their own diverse measures to do so. Up to July, the Health Ministry had spent less than 30 per cent of the budget assigned to tackle the pandemic.

Research into federal health regulations during the pandemic suggest that there were weaknesses in planning and action to protect workers, resulting in a disastrous situation (Leite et al. 2020). There were few guidelines for allocating resources, training and managing services, and recommendations from the federal government were erratic and fragmented. This generated a lack of preventative, diagnostic and follow-up measures to support health workers (Leite et al. 2020, p. 12).

We identified essentially the same issues when analyzing the only federal regulations of PHC during the pandemic. While there are some recommendations for changes in specific areas and for some professions, there are no general regulations concerning how PHC should be reorganized. This left considerable space for municipalities to decide how to reorganize PHC, which is a problem in a context of unequal capacity between municipalities.

As reported by some CHW in the Facebook group, some municipalities decided to close all UBSs as they did not know how to ensure physical distancing during the pandemic. Other municipalities reorganized PHC services to provide health care to those infected with COVID-19. And others decided to adopt tele-monitoring and avoid physical encounters. These examples show the large diversity in responses made possible by the federal regulations.

Just to give an example of the consequences of this lack of regulation, among the municipalities that had greater capacity to tackle the pandemic we find São Paulo, where recommendations were issued regarding how the policy should be implemented. However, these regulations were often silent about how professionals should deal with the new tasks they needed to carry out. They did not state what support would be available to confront this new situation and remained ambiguous about how FLW should work.

Analyzing the national regulations, we identified five features that impacted the scenario for FLW activities during the pandemic. The first is that they were delayed, being published only four weeks after the beginning of the pandemic.

The second is that they are highly ambiguous and contain contradictions. For example, the federal recommendation about the work of CHW was that they should no longer carry out home visits. At the same time, it advises them to follow the cases of infected people, and to keep track of priority groups and patients. The documents do not specify

how CHW should conduct these activities without home visits. This means that they do not coordinate the efforts and leave it to local decision-makers (municipalities or individual clinics) to decide what to do, and how, in response to the pandemic (Leite et al. 2020).

The third feature is that they propose new tasks and working processes that were not regulated. This means that, while asking the clinics and teams to perform new tasks, they do not say how these tasks should be executed, as in the case of tele-monitoring, fast-tracking and even care of patients infected with COVID-19. This creates an environment of indecision and insecurity at the street level.

The fourth feature is that the implementation of the recommendations requires resources, equipment, information and training. However, these were not made available by the government, thus jeopardizing the ability of frontline workers to implement them.

The fifth feature is that PHC was not the main target of the regulations, equipment and resources. PHC has not been at the center of pandemic-response strategies (Castro 2020). In fact, the main strategy focused on hospital care and social isolation. In Brazil, as in other countries, there has been a lack of acknowledgment of the central role that PHC could play during the crisis.

When analyzing the level of policy formulation based on these regulations, our main finding is that federal regulations contain a high degree of uncertainty. As suggested by Leite et al. (2020, p. 8), “There is no coordinated action for this offer and no general guidance for the entire SUS workforce, or for specific professional categories”.

This uncertainty opened up space for a high level of discretion at the street level, which in normal life may foster creativity and innovation (Matland 1995). However, during a pandemic, discretion combined with a lack of government support and protective equipment can easily turn into inaction, due to the uncertainties and feelings of powerlessness and risk that these workers may experience (Thomann et al. 2018).

This situation was further aggravated by the conflicts created by the president, who denied the gravity of the disease. “Official federal government discourse, since the beginning of the pandemic, has been ambiguous, tending to deny scientific evidence” (Leite et al. 2020, p. 16). A lack of coordination together with incongruent guidelines created conditions of conflict and ambiguity, jeopardizing the ability of FLW to make decisions (Matland 1995). In the next section we explore the reactions of nurses and CHW to these weak regulations and uncertainties.

5. What Has Changed to FLW in Primary Health Care?

As has been explained, the regulations created remarkable ambiguity about how FLW should work. This generated high uncertainty for them, which was worsened by the conflicts stoked by the President’s speeches. However, when analyzing the impact of this lack of regulation on the ground, we found differences between CHW and nurses. We will analyze these impacts in terms of resources, feelings of powerfulness in their work, and the way they use their discretion.

Table 1. Access to resources

	Did you receive PPE? (YES)	Have you been trained? (YES)	Have you been tested? (YES)	Do you feel supported by your managers? (YES)
Nurses	65%	49%	41%	45%
CHW	30%	13%	27%	23%

Source: online survey with 870 CHW and 430 nurses in late June (Lotta et al. 2020b).

5.1 Impacts on Resources and Powerfulness

Even working in the same teams, nurses and CHW had access to different levels of resources. They also received different amounts of training and support. Table 1 shows these differences. The table suggests that both nurses and CHW encountered a lack of resources, training and support. However, nurses were in a less vulnerable situation compared to CHW.

The same difference was found when comparing the effects of these situations on the feelings of FLW. Table 2 shows the differences in their feeling of preparedness – which is a means of analyzing powerfulness – and the impacts on their mental health. The data shows how the crisis negatively impacted feelings of powerfulness among both CHW and nurses and also affected their mental health. However, data also suggests that CHW felt less powerful than nurses and also suffered more with mental health problems during the pandemic.

These excerpts taken from the Facebook group reveals the situations of CHW and nurses with regard to resources and powerfulness:

Until today, we have not received masks, or gloves, or alcohol. But we have to monitor people. This puts our lives at risk, and our bosses say we should work normally. (CHW)

I bought my own PPE, suitable for corona, because the municipality provides one that I know is not suitable. (Nurse)

The residents fear me as I fear them. They don't want to be infected by me and I am afraid they may infect me. We cannot perform our work this way. Our activity is very superficial, we cannot go into the houses, we cannot continue the same way of working, and have no guidance or materials. (CHW)

Table 2. Preparedness and mental health issues

	Do you feel prepared? (NO)	Was your mental health affected during the pandemic? (YES)
Nurses	66%	51%
CHW	80%	87%

Source: online survey with 870 CHW and 430 nurses in late June (Lotta et al. 2020b).

5.2 Impacts on Jobs and Discretion

In the context of the pandemic, the daily functions of FLW changed and they were forced to adapt to this stressful context. The ambiguity of the regulations and the lack of support influenced FLW in many ways. Both nurses and CHW had to adapt their tasks in an experimental way, without coordination. At the same time, they faced the contradiction of continuing their traditional work, which is based on intense physical interactions, with the necessity of maintaining physical distance. This has presented a major challenge and a new dilemma: approximation versus social distancing.

This dilemma of a performing a highly interactive role at a time of physical distancing was a major challenge for many FLW, who usually develop tasks through face-to-face interactions and had to entirely change their approach to doing their job. These FLW struggled with performing old and new tasks without receiving the necessary support to deal with the new situation (See Table 3).

However, if for nurses this is presented as a dilemma of how to behave during the pandemic, for CHW it directly places the work they usually perform at risk. Table 1 presents a summary of changes in daily routines reported by nurses and CHW working in municipalities in different parts of the country.

Table 1 shows that, in contrast to nurses, CHWs have been developing new types of tasks even outside the health system. Some of them claimed, for example, that they had been pressured to help in guaranteeing physical distancing in queues at banks, when citizens arrived to claim social benefits.

If for nurses the crisis created doubts about how to effectively protect themselves and how to adapt their normal procedures of care, for CHW the ambiguity created doubts about the importance of their profession. As CHW could not continue to make home visits as usual, their profession as a whole was questioned and even devalued more than

Table 3. Summary of the changes in daily work reported by nurses and CHW during the COVID-19 pandemic

Challenges	Nurses	CHWs
Changes in tasks	How to do their original tasks while maintaining distance. New tasks still related to their profession, such as providing tele-monitoring and organizing sanitary barriers	Different realities in each municipality: (1) Unable to develop their professional tasks (2) Asked to develop new tasks to deliver the policy (3) Asked to stop performing their tasks
Distance requirement	How to keep a safe distance during appointments	How to develop their tasks if they cannot get into houses How to keep a distance from patients that are their neighbors
Working relationships	Organizations impose more work: they cannot take vacations or leave	In some municipalities, all are asked to take a vacation or quit their jobs

Source: Facebook groups and online survey (data collected from March to July 2020).

before. This imposed greater vulnerabilities and, at the same time, exposed their precariousness at the beginning of the pandemic, as they did not have a defined role.

The data from the survey also suggests the different ways in which CHW and nurses' discretion were affected. While 23 per cent of the nurses reported they had to learn how to do new tasks, only 8 per cent of CHW answered the same.

Another significant difference that emerged from the data analyzed concerns the hierarchy between the professions. This hierarchy has long been discussed in the literature on the health professions, particularly concerning differences between doctors and nurses. However, in the SUS there is also a hierarchy affecting CHW, who are the least highly valued members of health teams. As we have explained, they were less likely to be trained, to be listened to, and they were also the last to receive PPE. Likewise, the work they carry out was also questioned. As a result, they end up performing various functions, as expressed by the president of the municipal union: "CHWs are not considered to be on the front line ... At the moment they are like 'handymen', covering potholes for different tasks."

The diversity of functions developed by different CHW suggests the lack of harmony between them, which was related to the lack of regulation and coordination (Dörrenbächer 2017) and was amplified by the crisis. The differences between nurses and CHW are also revealing. Nurses are more professionalized than CHW and have strong unions representing them and fighting for better conditions. The vulnerable situations experienced by CHW before the crisis as a non-recognized health profession (Nunes 2020) increased during the pandemic. In this way, despite the fundamental role that CHW have in primary health care, they were devalued during the pandemic and exposed to greater risk. This jeopardized the previous expectations that CHW would be able to play an important role in responding to the pandemic due to their previous experience with crisis and their connection with the territory (Haines et al. 2020; Lotta et al. 2020a).

6. Conclusions: What We Learn from the Brazilian PHC Case

In a multilevel system like the SUS, effectiveness in fighting the pandemic depends on federal regulation and coordination to compensate for the unequal capacity of local agencies. Coordination is important for strengthening municipalities and enabling them to adapt policies to local needs (Heidbreder 2017). In these contexts, FLW work depends on support and protection that should be provided from different levels of the system (Leite et al. 2020).

Based on the case of Brazilian PHC, the lack of a clear federal directive forced municipalities to decide what to do with PHC and FLW. The ambiguity of the federal regulations could have reinforced the space for discretion, as proposed by other scholars (Stivers 2007; Sapat and Esnard 2012). However, the uncertainty about support and the conflicts stoked by the president jeopardized the ability of FLW to use this discretion.

As a consequence, each municipality responded in a different way, according to its capacities. Despite great variation between municipalities, the lack of resources, support and training for FLW was the case everywhere. When analyzing the situation of nurses and CHW, we observe that this political ambiguity in confronting the pandemic directly affected PHC, particularly the FLW who saw both their personal security and precarious

working conditions deteriorate. Their feelings of powerlessness and lack of support that resulted from this political ambiguity in facing the pandemic affected their ability to act creatively (Leite et al. 2020). As these authors suggest: “The lack of coordination by the authorities together with a succession of errors made by the federal government seems to be related to the multiplication of deaths caused by Covid-19 in the country, including deaths of health professionals” (Leite et al. 2020, p. 18).

As we have tried to show, the consequences for CHW and nurses were different, due to their access to resources, training and support. As nurses were more able to adapt their job to the new conditions by using their discretion to change their working practices and to produce new tasks they were able to respond more proactively to the crisis (Dalés and Hansén 2011). By contrast, CHW were less able to use their discretion, because their own profession and primary activities were limited by the pandemic and their role was placed in doubt as they could not carry out their central task: face-to-face interactions. This left them in a situation of powerlessness.

This case contributes an important finding to the literature on FLW: multilevel systems create high ambiguity and create space for FLW’s discretion. However, in a context of a crisis, without regulation, coordination and support, that discretion may become inaction for some workers. Instead of becoming entrepreneurs (Arnold 2015) or taking control (Maynard-Moody and Musheno 2003; Stivers 2007) in contexts of emergency, high risk, high ambiguity and lack of support, FLW may become less able to act.

In this sense, high levels of discretion, related to both the ambiguity of federal regulation and decentralized implementation, led to CHW inaction during the period analyzed, which were key months of the implementation of response measures. By analyzing this period, we seek to capture a specific moment at the beginning of the pandemic. An analysis of what happened over subsequent months will still be necessary.

Funding

This work was supported by the Fundação de Amparo à Pesquisa do Estado de São Paulo [2019/13439-7, CEPID CEM].

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