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Emily S Pingel, *Emory University*

Alexandra Llovet, *Emory University*

Fernando Cosentino, *UBS Bom Retiro Octávio Augusto Rodovalho*

[Jeffrey Lesser](#), *Emory University*

Journal Title: HEALTH EDUCATION & BEHAVIOR

Publisher: SAGE Publications | 2020-12-16

Type of Work: Article | Final Publisher PDF

Publisher DOI: 10.1177/1090198120979609

Permanent URL: <https://pid.emory.edu/ark:/25593/vtwkj>

Final published version: <http://dx.doi.org/10.1177/1090198120979609>

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Accessed December 7, 2023 7:53 PM EST

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 Health Education & Behavior
1–5

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Health Education

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DOI: 10.1177/1090198120979609

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Emily S. Pingel, MPH¹ , Alexandra Llovet, BA¹,
Fernando Cosentino, MD², and Jeffrey Lesser, PhD¹ 

Abstract

Decreased engagement in preventive services, including vaccination, during the COVID-19 pandemic represents a grave threat to global health. We use the case of the Bom Retiro Public Health Clinic in São Paulo, Brazil, to underscore how continuity of care is not only feasible, but a crucial part of health as a human right. The long-standing relationship between the clinic and neighborhood residents has facilitated ongoing management of physical and mental health conditions. Furthermore, we demonstrate how the clinic's history of confronting infectious diseases has equipped it to adapt preventive services to meet patients' needs during the pandemic. Our academic–community partnership used a multidisciplinary approach, relying on analysis of historical data, ethnographic data, and direct clinical experience. We identify specific prevention strategies alongside areas for improvement. We conclude that the clinic serves as a model for continuity of care in urban settings during a pandemic.

Keywords

community health promotion, emergency, neighborhood, primary care, risk and crisis communication, urban health

Can the provision of basic preventive care continue during a pandemic? Using the central São Paulo neighborhood of Bom Retiro as a case study, this brief report argues that the Brazilian health care system has prioritized uninterrupted primary care, even during COVID-19. Strong health systems are paramount in combatting health crises; primary care serves as the bedrock of such efforts, given its role in communicating with patients and providing key preventive services (Dunlop et al., 2020). Since the start of COVID-19, public health reports indicate falling vaccination rates (Bramer et al., 2020), hospital avoidance among those with serious health conditions (Lange et al., 2020; Moroni et al., 2020), and suggested deferral of routine visits (Centers for Disease Control and Prevention, 2020, “Prevention”). Public health authorities are already warning of the dire consequences of such lapses in prevention, as the pandemic simmers in high- and low-income countries alike (Robertson et al., 2020; Verhoeven et al., 2020). Contrastingly, the Bom Retiro Public Health Clinic (BRPHC) has continued primary care services and sustained vaccination rates, reflecting a continuity of efforts to combat infectious disease over the past century.

Brazil's Sistema Único de Saúde (or Unified Health System), known as SUS, is the largest public health care system in the world, reaching millions of individuals. The 1988 Constitution declared health as “a right of all and a

duty of the State,” thus providing for the establishment of SUS. The system partitions services among four levels on a continuum of prevention to acute complexity: primary care clinics, urgent care centers, hospital care, and hospitals that perform complex procedures (e.g., organ transplant). The Family Health Strategy (FHS) was established at a federal level in 1994 as an initiative aimed at expanding primary care. As a national program tailored to local needs, the FHS organizes much of the daily activity of health professionals at the level of neighborhood-based primary care. By 2018, SUS's FHS teams, bolstered by the Mais Médicos (“More Doctors”) federal program, expanded primary care provision to nearly 70% of the population (Souza et al., 2020). Decentralization—the provision of care in alignment with local conditions—is a primary feature of SUS, resulting in shared health policy decision making at the federal, state, and municipal levels.

¹Emory University, Atlanta, GA, USA

²UBS Bom Retiro Octávio Augusto Rodovalho, São Paulo, Brazil

Corresponding Author:

Emily S. Pingel, Department of Sociology, Emory University, Tarbutton Hall Room 225, 1555 Dickey Drive, Atlanta, GA 30030, USA.

Email: epingel@emory.edu

Following Brazil's first COVID-19 case in February 2020, the federal Ministry of Health issued recommendations for service provision within SUS. While highlighting that strategies had to be locally informed (Oliveira et al., 2020), Brazilian public health scholars and practitioners underscored the essential role of primary care in combatting the pandemic, arguing that access to and knowledge of local populations, continuity of care, and the potential to mitigate the social and economic effects of the pandemic placed primary care clinics in a crucial position (Daumas et al., 2020; Medina et al., 2020; Sarti et al., 2020; Teixeira et al., 2020). Nevertheless, Barone et al. (2020) have argued that the political turmoil surrounding the presidency of right-wing politician Jair Bolsonaro prevented Brazil public health authorities from reacting to the crisis in a timely manner.

Amid these circumstances, health care providers in Bom Retiro additionally face the challenge of ensuring access for a multilingual, ethn racially and class diverse patient population. The BRPHC's adaptability in crisis and strong community ties have allowed primary care continuity, even in a pandemic. We demonstrate below how in a multicultural neighborhood confronted by epidemics for over a century, primary care remains both fundamental and feasible.

Method

By examining historical and contemporary data on health, migration, and geography, we place the COVID-19 pandemic in a context that allows continuities to emerge. Our academic–community partnership used a multidisciplinary approach, relying on historical data, ethnographic data, and direct clinical experience.

Dr. Lesser has engaged in local fieldwork, with a team including Ms. Pingel and Ms. Llovet, for over 5 years in order to contextualize historical and geographic data on neighborhood-based primary care in São Paulo. In 2018–2019, Ms. Pingel conducted 14 months of fieldwork that included over 600 hours of participant observation of clinical appointments with nurses and physicians, patient home visits with community health workers, and community-based prevention activities. As a primary care provider at the BRPHC, our community research partner and coauthor, Dr. Cosentino developed written crisis response reports. Our data thus underscore the actions taken to prevent the spread of COVID-19 and describe how everyday primary care practices and health education campaigns persist, albeit with modifications. We analyzed our ethnographic field notes and clinical notes as the basis of evidence for this report.

Results

The Geographies of Bom Retiro

For the past 6 years, our Research Collective has been studying the relationship between ethnicity, immigration, and

public health in São Paulo, a city whose population grew from roughly 240,000 in 1900 to 1.3 million in 1940 to over 11 million today (IBGE Population Census, 2020). The neighborhood of Bom Retiro has been central to Brazilian health and immigration policy since Brazil became a republic in 1889. The city's first pharmacy, orthodontic, and obstetric schools were located in the neighborhood, as were a leprosy treatment building, a pro-natalist education site, and a sexual health center. In 1893, the Ministry of Health built the block-long Central Disinfectory (charged with improving health outcomes by chemically "sanitizing" immigrants and their baggage) on land that once housed Brazil's first immigrant reception center. Today, the São Paulo Secretary of Health operates the building as a museum, archive, and medical warehouse. Across the street sits the BRPHC amid informal textile factories and low buildings filled with single rooms that house entire families. Many buildings in Bom Retiro have only one or two floors and residential spaces are often workspaces as well. Tight quarters, poor public services (notably trash removal), and standing water have led to the spread of communicable diseases throughout Bom Retiro over the last 150 years (Bertoldi, 1887). Overall, the neighborhood is ethn racially and class diverse, making neighbors of Jewish and Korean immigrants, typically of higher socioeconomic status, and more recently arrived Bolivian and Paraguayan sweatshop laborers. Residences where families live in a single room and share a single building bathroom are glossed as belonging to predominantly Black and Brown Brazilians, many originally from the impoverished Northeastern region.

Finally, our interest in geographies of health make Bom Retiro's 30 streets an excellent research site since they have remained spatially constant since the late 19th century. Furthermore, the total population has remained between 35,000 and 40,000 residents. In 1934, about 35% of Bom Retiro's residents were non-Brazilian and today that number is about 20% (Araújo, 1940; IBGE Population Census, 2020). Constancy of space and population allows us to locate health events and demographic data (historical and contemporary), on a relatively unchanged map, something impossible in most of contemporary São Paulo, which has seen immense spatial changes over time.

The Bom Retiro Primary Care Clinic

The BRPHC is the point of initial contact for residents with nonurgent medical needs (e.g., vaccinations), regular primary care visits, and public health promotion activities. Thus, its relation to the public and its experience with epidemics is critical to the continuity of care during the COVID-19 pandemic. According to BRPHC internal recordkeeping from 2015, 65% of residents seek services at the BRPHC, offered free of charge to any person residing in the neighborhood, regardless of citizenship status. Clinic services include scheduled routine checkups, chronic disease monitoring and

treatment, vaccinations, prescription refills, pediatric care, gynecological services, and psychological counseling. Physicians and nursing staff provide in-home routine care and vaccinations for patients with limited mobility. For urgent needs, health care providers direct patients to ambulatory care centers or public hospitals. Nonurgent services beyond the purview of primary care, such as surgeries or X-rays, require referral to other facilities and providers.

Following SUS's principle of decentralization, municipalities determine the structure of local service provision. In the city of São Paulo, this structure consists of a public-private partnership. The BRPHC responds to mandates from the Municipal Health Secretariat, while a private company known as a "Health Organization" manages material aspects such as human resources and most medical equipment. The Health Organization has structured the BRPHC into five Family Health Strategy teams—each consisting of one physician, one nurse, two nurse technicians, and six community health workers (CHWs). Each team attends to a neighborhood micro-territory, emphasizing the importance of geography to health care. CHWs must live in the neighborhood and have regular contact with patients in their micro-territory as they deliver notifications and appointment reminders. In addition to the Family Health teams, the clinic offers a multidisciplinary Core Support Team (the Núcleo de Apoio à Saúde de Família, or NASF), which typically consists of a psychologist and/or psychiatrist, an audiologist, a dietician, occupational therapists, social workers, and a physical education professional. A small Epidemiological Surveillance team, led by the clinic's head nurse, responds to municipal-level mandates regarding prevention campaigns (e.g., organizing measles vaccination), communicates health promotion and disease prevention messages to residents, and tracks cases of infectious diseases, such as tuberculosis and dengue. Beyond these teams, the Health Organization employs administrative and janitorial staff, and on-site pharmacists. Core Support Team professionals offer free weekly health promotion sessions in different neighborhood locations, leading patient activities such as auricular therapy and daily exercises for managing chronic pain. Some Family Health Teams coordinate with sweatshop managers to meet with workers (often immigrants from bordering countries), and their children to offer basic primary services.

Primary Care During the COVID-19 Pandemic

Patients living with chronic conditions (e.g., diabetes, hypertension), children, and pregnant women continue to receive regular primary care at the BRPHC. Failure to follow-up with chronic patients presents a great risk in a pandemic scenario, as it can increase seeking emergency care and further pressure the public health system. São Paulo's municipal health secretariat mandated that specific functions continue at the primary care clinic during the pandemic, including follow-up with patients with chronic

illnesses, pediatric care, prenatal care for pregnant patients, the provision of medications at the pharmacy, vaccination, connecting patients to social assistance programs, and conducting nonurgent curative procedures (e.g., dressing a minor wound). Health agents specialized in serving São Paulo's substantial homeless population have maintained services for their clients (e.g., tuberculosis treatment), providing continuity for vulnerable populations.

To avoid crowding among patients, clinicians and staff rearranged the spatial organization of the clinic and its environs (Brazilian Ministry of Health, 2020). Physicians see patients presenting COVID-19 symptoms in rooms separate from those for routine visits. The walk-up area for the pharmacy was already located outside of the main building and the front of the clinic has a covered open-air area where people wait for appointments. Nurses and nurse technicians now administer vaccines on the street in front of the clinic, via a separate pathway and a drive-thru, to prevent crowding. The clinic began influenza vaccinations in mid-March (2 months earlier than in the past). The initial vaccine campaign, aimed at health professionals and older adults, had massive adherence, although convincing older adults not to gather and chat in front of the clinic proved challenging.

Vaccination campaigns remain a core activity, in accordance with Brazil's Ministry of Health guidelines. The measles vaccine is available to adults who are in high-risk groups (e.g., infants and older adults not previously vaccinated) following a neighborhood outbreak in late 2019. Flu vaccine was released in advance to allow for a better differential diagnosis between COVID-19 and H1N1 and to prevent two simultaneous peaks of seasonal respiratory syndromes (COVID-19 and influenza). The State of São Paulo managed to vaccinate 100% of older adults (aged 60+), in addition to one million health professionals and 67,000 security professionals in this initial phase (Mello, 2020).

Consistent with the federal Family Health Strategy, community health workers continue to play a vital role in ensuring follow-up with patients. In Bom Retiro, CHWs maintain communication with patients via WhatsApp or home visits, while respecting social distancing guidelines. CHWs also advise patients on preventive measures against COVID-19 transmission. During home visits, CHWs investigate patients' needs (e.g., prescription renewal, need for referrals, and delayed vaccination) and guide health communication messaging regarding COVID-19 including informational pamphlets and other visual materials, written in Portuguese, Spanish, and Korean. These materials are specific to Bom Retiro, given its substantial non-Portuguese-speaking population. Finally, CHWs offer resources to symptomatic patients on where to seek emergency treatment.

The Core Support Team has refocused efforts toward providing targeted mental health services in urgent cases. Clinicians at the BRPHC have noted an increase in patients with anxiety and depression symptoms who wish to begin or resume selective serotonin reuptake inhibitor (SSRI)

medications. The on-site pharmacy distributes these medications, as well as many others for chronic conditions.

Areas for Improvement

While the BRPHC has made important strides toward ensuring continuity of care during the pandemic, areas for improvement are present. As in other settings, providing primary care for vulnerable populations presents challenges that include the health centers' limitations (e.g., lack of financial reserves, limited clinical capacity and physical space), system limitations (e.g., limited communication between epidemiological efforts and primary care), and provider-level barriers (e.g., communicating with patients with low literacy and/or limited Portuguese fluency; Rust et al., 2009). Our research in Bom Retiro shows consistently that sociocultural and linguistic barriers between monolingual Brazilian providers and immigrant residents have hindered effective care. These long-term barriers potentially undermine COVID-19 prevention efforts. Immigrant sweatshop workers are particularly vulnerable to respiratory illnesses such as tuberculosis and influenza, given their exposure to dark, poorly ventilated spaces. Targeted efforts to reach these populations with prevention messaging and ensure their linkage to care in suspected COVID-19 cases are essential moving forward. Finally, the somewhat fractured nature of municipal communication often leaves providers at the BRPHC unaware when their patients are diagnosed with COVID-19. Frequently, notification comes only if the patient has died or by word-of-mouth through the CHWs. The city of São Paulo does not utilize the same data surveillance system (e-SUS) that much of the rest of the country uses; rather, it relies on its own citywide database, complicating cross-state comparisons. Limited data integration and epidemiological surveillance have impeded pandemic efforts across the country (Teixeira et al., 2020). The BRPHC should be more integrated into the efforts to trace outbreaks and provide follow-up care, given the strong ties to neighborhood residents and knowledge of the local environment.

Conclusion

This report demonstrates how a public health clinic in central São Paulo responded to the COVID-19 pandemic by focusing on continuity of care. In line with federal mandates, the BRPHC adapted its preventive services to meet patients' needs and prioritized widespread vaccination coverage. The long-standing relationship between the health clinic and neighborhood residents facilitated ongoing management of chronic physical and mental health conditions. Nevertheless, this study possesses limitations. Given the paucity of local, up-to-date surveillance data on COVID-19 cases, we cannot ascertain whether the adopted measures slowed transmission or mitigated illness severity among chronically ill patients. We also cannot know with certainty that the changes observed

at the BRPHC were implemented at other primary care clinics in São Paulo, let alone in Brazil as a whole. We hope that future epidemiologic and health systems research will tackle these crucial questions and offer a broad picture of SUS's response to the pandemic.

As public health practitioners and scholars, we are cognizant of health system burden during pandemics. As the severity of COVID-19 became apparent in early 2020, Ministry of Health representatives pleaded for a mass mobilization of SUS, including hiring more primary care doctors, using telemedicine, and generating local surveillance data (Oliveira et al., 2020). SUS's decentralized structure, in which local communities and stakeholders contribute to policymaking decisions, has long been an asset of the system. Yet we suggest that in times of worldwide crisis, strong public health leadership, supported by a federal response, may act as a crucial form of guidance in a territory as large and diverse as Brazil or the United States. While Brazil's chaotic political environment may have compromised the system's response to COVID-19 (Barone et al., 2020), the enduring commitment and remarkable adaptability of the BRPHC offers a sense of the potential for primary care to save lives long after the pandemic comes to an end.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was funded by the Fulbright Commission and the National Security Education Program. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

ORCID iDs

Emily S. Pingel  <https://orcid.org/0000-0003-1053-1158>

Jeffrey Lesser  <https://orcid.org/0000-0001-6386-7187>

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