Access to general health care among people with disabilities in Latin America and the Caribbean: a systematic review of quantitative research

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Summary

In Latin America and the Caribbean (LAC), there are 85 million people with disabilities (PwD). They often experience barriers accessing healthcare and die, on average, 10–20 years earlier than those without disabilities. This study aimed to systematically review the quantitative literature on access to general healthcare among PwD, compared to those without disabilities, in LAC. A systematic review and narrative synthesis was conducted. We searched in EMBASE, MEDLINE, LILACS, MedCarib, PsycINFO, SciELO, CINAHL, and Web of Science. Eligible articles were peer-reviewed, published between January 2000 and April 2023, and compared healthcare access (utilization, coverage, quality, affordability) between PwD and without disabilities in LAC. The search retrieved 16,538 records and 30 studies were included, most of which had a medium or high risk of bias (n = 23; 76%). Overall, the studies indicated that PwD use healthcare services more than those without disabilities. Some evidence indicated that women with disabilities were less likely to have received cancer screening. Limited evidence showed that health services affordability and quality were lower among PwD. In LAC, PwD appear to experience health inequities, although large gaps exist in the current evidence. Harmonization of disability and health access data collection is urgently needed to address this issue.

Keywords: Systematic review; People with disabilities; Latin America; Caribbean; Access to healthcare; Health equity

Introduction

Worldwide, there are 1.3 billion people with disabilities, a diverse group of persons with long lasting physical, mental, intellectual or sensory impairments who often face various barriers that restrict them from an equal participation in society.[1,2] This number is expected to increase further in the coming decades due to population ageing and the rise of chronic diseases.[1] People with disabilities often have greater health needs than the general population because of baseline health conditions and increased comorbidities.[1,3] However, they also frequently lack access to essential and high-quality health services due to several system- and individual-level barriers, which further increase health inequities.[3] Systemic barriers (ie, that arise at the level of the health system) include low availability of services, poor healthcare worker training, stigma and low physical and communicational accessibility along the healthcare journey.[1,3–5] While transport and substantial additional living costs, as well as low autonomy and awareness of access to healthcare, are some of the barriers people with disabilities face at the individual level.[1,4] Consequently, people with disabilities frequently have poorer health and on average die 10–20 years earlier than those without disabilities, even under circumstances that could have been avoided.[1,4,6] This life expectancy gap is even higher among low- and middle-income countries (LMICs).[6] This is why member states of the United Nations (UN) recently committed to disability inclusion in healthcare systems, including essential health services and public health interventions.[7]

Bright and Kuper (2018) explored English quantitative research on access to general healthcare services for people with disabilities in LMICs between 1995 and 2015.[8] General healthcare corresponded to essential health services (eg, antenatal care, immunization, etc.),

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excluding specialist health services. The included articles used a wide range of disability and healthcare access outcomes and 46% of included studies had medium or high risk of bias, restricting the possibility to draw robust conclusions.[8] Since this systematic review, further reviews have looked at the qualitative evidence,[9] barriers to access healthcare,[10] or access for specific types of disabilities.[11]

After Europe, the Americas have the highest prevalence of disability globally (19%)[1] and about 85 million (15%) people have disabilities in Latin America and the Caribbean (LAC).[12] The LAC region represents a diverse set of countries with important sub-regional socio-economic and health differences. In general, central America has the highest poverty rates, in contrast to the Southern Cone, although the entire region has consistently been characterized by inequality.[12] In most countries of LAC, primary healthcare is delivered by public health providers, although countries differ in their organization of basic health coverage.[13] For instance, some countries have national health systems (Belize, Brazil, Ecuador, El Salvador, Guyana, Honduras, Jamaica, Panama, Paraguay and Trinidad and Tobago), while others have contributory health coverage with multiple insurers (Bolivia, Chile, Colombia, Dominican Republic, Guatemala, Mexico, Peru, Suriname).[13] Furthermore, most countries protect populations with low-income against out-of-pocket payments and catastrophic health spending, but rarely other vulnerable groups.[13] Some well-known structural weaknesses in the health systems in LAC include fragmentation (both between public and private health systems, and within public healthcare), inequality in health access, financial constrains (eg, lowest health spending in Haiti, Venezuela, and Honduras), and lack of human resources and infrastructure.[14,15]

Disability can overlap with multiple vulnerabilities of other groups such as women, children, elderly, ethnic minorities, LGBTI+ people and migrants, whose representation varies widely across LAC.[12] Yet, analysis on healthcare access with disability lens remains scarce. This review will respond to the current call of UN member states to document health inequities experienced by all people with disabilities and further build evidence on healthcare access for LAC.[7] More than ten years have passed since the Pan American Health Organization established a regional strategy to improve disability data[5] and, despite the efforts to overcome this statistical invisibility, robust diagnostic analyses are still needed.[12] The COVID-19 pandemic revealed the still poor and unsystematic information about people with disabilities and healthcare.[16] Thus, an in depth and systematic analysis will help identify the evidence available and the remaining data gaps in healthcare access (utilization, coverage, quality, and affordability of health services).[17]

The research question addressed by this review is whether people with disabilities experience inequalities in access to healthcare in Latin America and the Caribbean. The aim of this study is to systematically review the quantitative literature on access to general healthcare among persons with disabilities, compared to those without disabilities, in LAC. This systematic review will improve upon the previous review of Bright and Kuper (2018) by capturing recent evidence and trends in access to general healthcare and including high-income countries of LAC and non-English studies, which have been previously excluded from systematic reviews.[8,9]

Methods

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines[18] (Supplementary Material 1) and was registered in the Prospective Register of Systematic Reviews (PROSPERO) under the following number: CRD42021235797.

Search strategy and selection criteria

Studies were eligible if they were peer-reviewed articles of quantitative research with interventional or observational study designs (eg, cohorts, case–control, cross-sectional, etc.) carried out in Latin American and Caribbean countries, as defined by the World Bank in 2023.[19] They must have been published since 2000 onwards and written in English, Spanish, Portuguese, French, or Dutch. Quantitative sections from mixed methods studies were considered. Qualitative studies, studies conducted outside LAC or multi-country studies that did not provide disaggregation for a country in LAC were excluded as well as editorials, commentaries, letters to the editor, systematic reviews, case reports, study protocols, conference abstracts, and grey literature.

Participants were people with disabilities of any gender and age group, including those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.[2] Disability was defined in the study according to the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), the International Classification of Functioning, Disability and Health or the Social Model of Disability. It included people with specific conditions deemed likely to result in disability (eg, dementia, spina bifida, schizophrenia, etc., as listed in Iemmi et al., 2015)[20] as well as disability measured through functioning or activity limitations (eg, Washington Group questions, activities of daily living). We excluded people with mild disabilities (eg, symptoms of depression alone rather than clinical diagnosis or major depressive disorder, some difficulty in one activity of daily living/functioning domain or mild cognitive difficulties).

Eligible studies had to include one of the following measures of access to healthcare: coverage, utilization, quality, and affordability of health services. This conceptualization was based on the World Health Organization's definition of universal health coverage and its progress monitoring indicators of coverage of essential health services.[17,21] Among eligible studies, we also included the following secondary outcomes if available: adherence to health treatment or barriers to accessing healthcare. Outcomes could be measured within any type of general health services. The studies must have had a comparison group of people without disabilities and report measures of effect comparing people with and without disabilities.

Peer-reviewed published articles were searched on April 12th, 2023, through eight databases: EMBASE, MEDLINE, LILACS, MedCarib, PsycINFO, SciELO, CINAHL, and Web of Science. In addition, the reference lists of relevant systematic reviews were checked to identify potential articles. No language restrictions were applied; however, a date filter was applied to identify papers published after 2000. Comprehensive search strings were built with keywords and thesaurus and MeSH terms. Search terms were also identified in the full manuscript of other reviews of similar topics. The search was also conducted in Spanish and Portuguese, as these are the two main regional languages. An information specialist of London School of Hygiene and Tropical Medicine reviewed and approved the search strategy (Supplementary Material 2).

Two reviewers independently screened study titles, abstracts, and full text against the eligibility criteria. They then compared results and reached a consensus at each stage. A third reviewer resolved uncertainty or disagreement. Rayyan software was used for screening articles and recording decisions.[22]

Data analysis

Two reviewers independently extracted data of studies selected and agreed on results. A third reviewer resolved any disagreement between individual judgements. From each article the following information was extracted: citation details, study location, study design, participant characteristics (sex, age group, type of disability and method of assessment), outcome measures and method of assessment, results among participants with and without disabilities, summary of results (eg, measures of effect), type of health service used, barriers to healthcare and quality measures. Data extracted were recorded in a Microsoft Excel spreadsheet.

A narrative synthesis was conducted on each type of outcome of access to healthcare. Summary of results with measures of effect (eg, prevalence ratios with 95% confidence intervals [CI]) presented as unadjusted, age-sex adjusted and/or multivariable adjusted or mean with standard deviation were collected. Results were organised in subgroups according to outcome measurements and thereafter according to type of

1	Study design, sampling method is appropriate to the study question
2	Sample size calculations presented
3	Response rate reported and acceptable (>70%)
4	Disability measure clearly defined and reliable
5	Health access measure clearly defined and reliable
6	Confidence intervals or standard deviations are presented
7	Potential confounders taken into account in analysis
8	Case-Control: cases and controls are comparable (e.g., by sex and age group)
9	Case-Control: clear case control definitions
10	Cohort: groups being studied comparable at baseline in all respects other than the factor under investigation.
11	Cohort: Losses to follow up are presented and acceptable
Risk of bias	**LOW:** All or almost all of the above criteria were fulfilled, and those that were not fulfilled were thought unlikely to alter the conclusions of the study
	MEDIUM: Some of the above criteria were fulfilled, and those not fulfilled were thought unlikely to alter the conclusions of the study
	HIGH: Few or no criteria were fulfilled, and the conclusions of the study were thought likely or very likely to alter with their inclusion.

Table 1: Quality assessment criteria.

impairment (mental, physical, sensory, intellectual, or multiple impairments). Finally, a meta-analysis was intended for synthesis of results in case of sufficient homogeneity in healthcare access outcomes and across disability-specific groups.

Included studies were independently checked against quality criteria and then assessed for risk of bias by two reviewers using an adaptation of the SIGN50 guidelines.[23] Risk of bias was assessed through the study design, participants, outcomes and data analysis and additional criteria were available for case–control and cohort studies regarding the comparability of the groups and study design (Table 1). Any disagreement was discussed together with a third reviewer. Each study was graded as low, medium, or high risk of bias, depending on the criteria fulfilled and the possibility of altering the conclusions of the study. Studies with high risk of bias were excluded from the analysis of health outcomes.

Results

The initial search retrieved 16,534 records. Four additional studies were found through reference checking.[24–27] After deduplication, the titles and abstracts of 10,927 articles were independently screened. Then, 191 articles were fully screened and finally, 30 studies were included in this systematic review (Fig. 1); of which 8 had been also previously included in Bright and Kuper's (2018) review.[8]

Table 2 shows the main characteristics of the articles included. Most studies had a cross-sectional design (n = 24; 80%), were conducted in Brazil (n = 19; 63%) and in urban areas (n = 19; 63%). Articles were most frequently published in English language (n = 23; 77%) and from 2010 onwards (n = 27; 90%). Most participants were adults (n = 14; 47%) or of mixed age groups (n = 13; 43%). Participants often had any type of self-reported disability (n = 8; 26%) or functioning limitations (n = 8; 26%). Utilisation of healthcare was the most

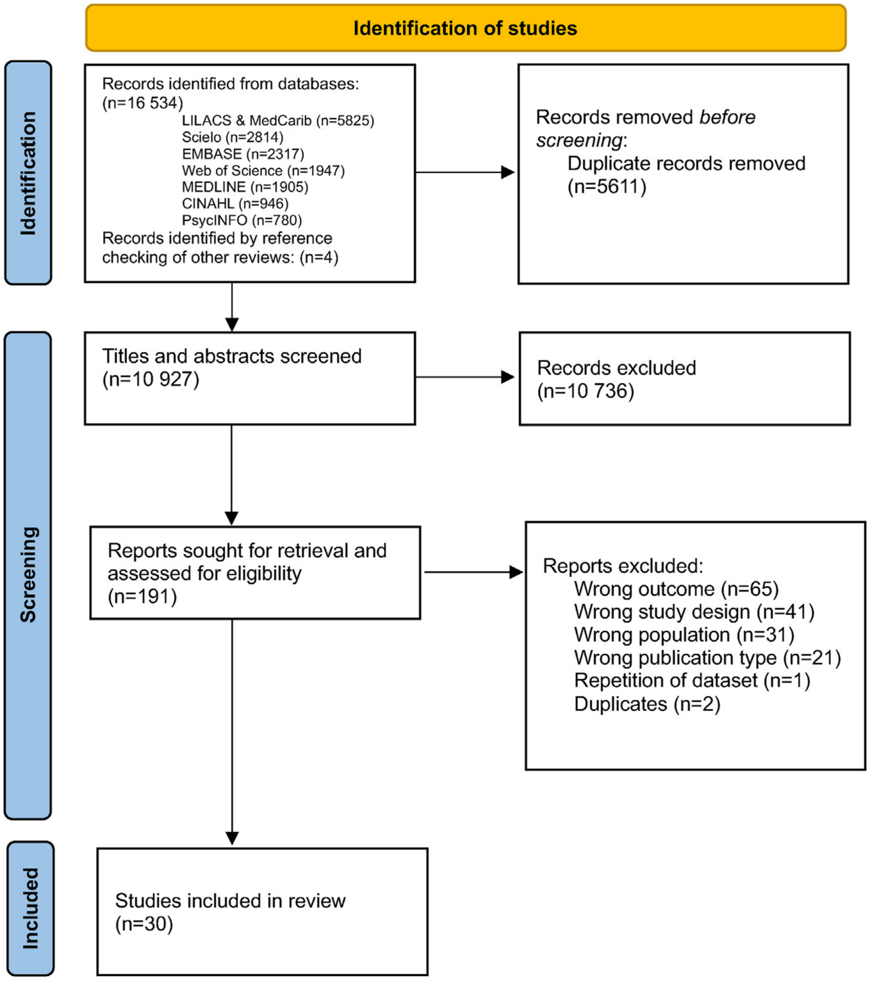

Fig. 1: **PRISMA flow diagram of study selection and identification**.

frequent outcome reported (n = 20; 63%) (Fig. 2). Health services often were outpatient visits (n = 16; 31%) and health treatment or medication (n = 12; 24%). The quality assessment revealed that most studies had a medium risk of bias (n = 16; 53%). Studies with high risk of bias (n = 7) were excluded from the synthesis analysis of health outcomes presented below.[24,28–33]

A meta-analysis could not be performed since there was not sufficient homogeneity in the measurement of disability and healthcare access outcomes. Disability was self-reported, measured through questionnaires, clinical assessments or identified in medical or school records (Table 3). Most studies collected data under a biomedical model of disability (ie, categorised disability according to the presence of impairments or medical conditions) (n = 22; 73%). Most healthcare outcomes were collected through questionnaires and were applied during in-person interviews; only two studies collected data from patient's records within the last 12 months.[46,52] However, healthcare outcomes were measured by different types of services and period (Table 4).

Table 4 shows the summary of outcomes measured, where 17 studies examined differences in healthcare utilization between people with and without disabilities. Nine studies (53%)–eight cross sectional studies and one cohort study–reported strong evidence of a higher utilization among people with disabilities (outpatient visits or hospitalizations).[39,45–52] However, two studies indicated that people with disabilities utilized oral health services less often than people without disabilities.[37,53] Three studies (18%) found some evidence of mixed utilization levels.[34,35,38] The studies focussed on people with hearing impairment or psychosocial disabilities all showed that they utilized health services more often than the comparison groups without disabilities.[45–51] Studies without significant results showed a trend towards either higher (n = 2) or mixed (n = 1) utilization levels among people with disabilities.[40,41,43]

Coverage of key services was examined in five studies, and three found statistically significant differences by disability status among women. For example, women with disabilities had lower coverage of preventive health services such as cancer screening, gynaecological check-ups and antenatal care than those without disabilities.[27,42,51] The rest of the studies indicated either no differences or lower coverage levels.[25,26] Furthermore, the two cross-sectional studies reporting on affordability revealed that people with disabilities had more difficulties affording health services or had catastrophic health expenditures than persons or households without disabilities.[36,44] Finally, a case–control study in Guatemala reported that the quality of healthcare services was lower among people with functional limitations than those without. They found that people with disabilities felt disrespected or found it difficult to understand the information given during a health treatment than people without disabilities.[42]

Variable	Category	N	%
Decade of publication	2000	3	10%
	2010	20	67%
	2020	7	23%
Country	Brazil	19	63%
	Chile	5	17%
	Colombia	1	3%
	Guatemala	1	3%
	Haiti	1	3%
	Mexico	1	3%
	Peru	1	3%
	Multiple	1	3%
Country income level	High income	5	17%
	Upper-middle income[a]	24	80%
	Lower-middle income	1	3%
Study location	Urban[b]	19	63%
	Urban and rural	11	37%
Study language[c]	English	23	77%
	Portuguese	4	13%
	Spanish	3	10%
Study design	Cross-sectional	24	80%
	Case-control	5	17%
	Cohort	1	3%
Disability group[d]	Any self-reported disability	8	26%
	Functional/activity limitations	8	26%
	Psychosocial disabilities	6	19%
	Hearing impairments	4	13%
	Intellectual/learning disabilities	3	10%
	Physical disabilities	2	6%
Age group	Mixed/all ages	13	43%
	Older adults (≥ 60 years) only	7	23%
	Adults (≥ 18 years) only	7	23%
	Children/adolescents only	3	10%
Outcome measured[e]	Utilization	20	63%
	Coverage	7	22%
	Affordability	3	9%
	Quality	2	6%
Type of service accessed[f]	Outpatient visits[g]	16	31%
	Health treatment/medication	12	24%
	Preventive care visits[h]	10	20%
	Hospitalization	8	16%
	Oral health services	5	10%
Risk of bias	Low	7	23%
	Medium	16	53%
	High	7	23%

[a] Albanese, 2011: all upper middle-income countries; expect Puerto Rico (high income) and Venezuela currently unknown (previously upper middle income). [b] Albanese, 2011: four countries urban and two both urban and rural; Bernabe-Ortiz, 2016: Semi-urban. [c] None of the eligible studies were found in French or Dutch language. [d] There is more than one type of disability reported in Albanese, 2011. [e] More than one outcome was reported in Kuper, 2018 and Fuentes-López, 2020. [f] More than one type of service reported in some papers. [g] Including: medical consultations, physician visits, GP appointments, home visits, emergency consultations. [h] Including: antenatal care, immunization, routine check-up, PAP test, mammogram, HIV/AIDS test, prostate cancer screening.

***Table 2:* Characteristics of included studies (n = 23).**

Two cross-sectional studies reported additional disaggregation by age, gender, and level of severity. Fuentes-López & Fuente (2020) found that older adults with

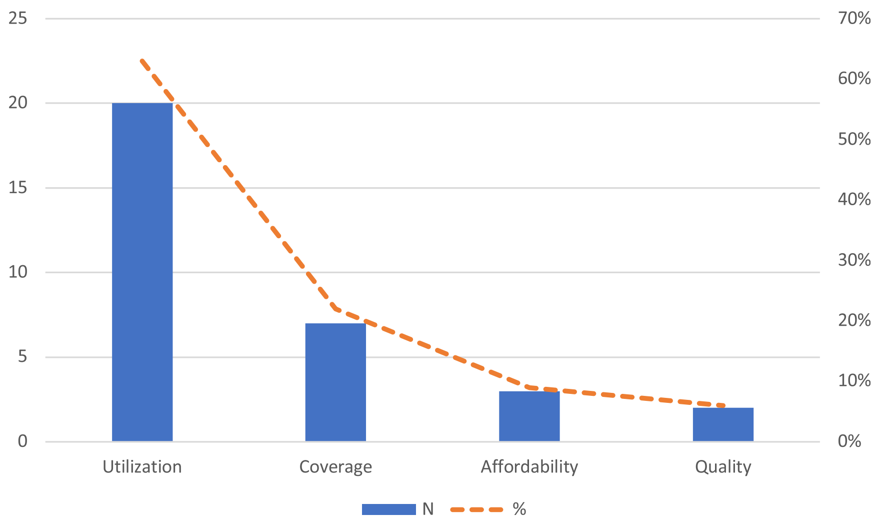

Fig. 2: **Health access outcomes measured across included studies (n = 23).**

hearing impairments were more likely to have a routine health checkup than older adults without disabilities and that women with hearing impairments visited GPs more often than those without disabilities.[51] Macarevich Condessa et al. (2021) found people with severe disabilities utilized oral health services less often than those with milder disabilities.[37] Only Albanese et al. (2011) disaggregated results by study location, however no clear differences were observed in the utilization of community health services among people with disabilities in urban versus rural Peru and Mexico.[38] Finally, although some studies adjusted their analyses by ethnicity, disaggregated results by indigenous people or afro-descendants were not found among included studies.

Four studies–two case-controls[41,42] and two cross-sectional studies[27,36]–reported barriers to access healthcare services. People with disabilities faced about 2–4 times more difficulties with the availability of health services[41,42] and access to health facilities (age-sex-adjusted odds ratio [OR] (95% CI) = 4.4 (1.9–10.2)), than those without disabilities.[41] They also reported difficulties in arriving at health facilities (aOR 2.95 (2.72–3.20)), being attended (aOR 1.72 (1.61–1.84)), or obtaining a doctor's appointment (aOR = 1.83 (1.72–1.94)).[36] Women with disabilities also believed that cancer screening tests did not apply to them (26–34%) or that they did not need them (around 26%).[27]

Fig. 3 presents the risk of bias assessment for each study. Studies had low (n = 7; 23%), medium (n = 16; 53%) and high (n = 7; 23%) risk of bias (Fig. 3). Almost all studies (n = 28; 90%) presented a health access measure clearly defined in the methods section and confidence intervals or standard deviations in the results (n = 26; 87%). However, sample size calculations were often not reported in the paper or incomplete (n = 25; 83%). Similarly, response rates were often not reported (n = 14; 47%). Generally, case–control studies (n = 5) had comparable and clearly defined cases and controls.

Discussion

This systematic review included 30 studies of quantitative evidence on general healthcare access among people with and without disabilities in Latin America and the Caribbean. Many studies indicated that people with disabilities use healthcare services more than those without disabilities. The few studies reporting on healthcare coverage had inconsistent results, although, there was some evidence that women with disabilities were less likely to have received cancer screening than those without disabilities. Both the affordability and quality of health services were reported to be lower among people with disabilities than those without. Overall, the evidence suggests that people with disabilities may experience health inequities in LAC.

Our results are consistent with other systematic reviews that found that people with disabilities more frequently use primary care services, outpatient care or are admitted to the hospital than those without disabilities.[8,11] However, the two studies reporting on oral health services found a lower use among people with disabilities, especially among those with severe limitations, and people with rare genetic diseases.[37,53] Furthermore, health coverage appeared to be limited for some services. Two studies found that women with disabilities have lower coverage of cancer screening than those without disabilities.[27,51] Similar findings were reported in a meta-analysis within high-income settings, where women with disabilities were less likely to have breast (22%) or cervical (33%) cancer screening than

First author, year	Country	Study design	Source of participants	Type of disability	Description and method to assess disability	Participants		Age range	Health access measure	Risk of bias
						With disabilities, n (%)	Without disabilities, n			
Amorim, 2011[34]	Brazil	Cross-sectional	Population	Hearing or visual	Self-reported hearing or visual impairment	Hearing 141 (14%); Visual 188 (19%)	619	>50 years	Utilization	Medium
Castro, 2013[35]	Brazil	Cross-sectional	Population	Any type of disability	Self-reported disability (physical or sensory impairment; multiple disability)	492 (18%)	2198	>11 years	Utilization	Medium
Araya Vallespir, 2014[28]	Chile	Cross-sectional	Primary care clinic	Any type of disability	Self-reported disability (physical, mental, or sensory impairment)	20 households	405 households	>14 years	Quality	High
Sato, 2015[25]	Brazil	Cross-sectional	Population	Any type of disability	Self-reported health status as bedridden	36 (3%)	1305	≥60 years	Coverage	Medium
Rotarou, 2017[36]	Chile	Cross-sectional	Population	Any type of disability	Self-reported disability (physical, mental, or sensory impairment)	7459 (10%)	68,695	≥18 years	Affordability	Medium
Sakellariou, 2017[27]	Chile	Cross-sectional	Population	Any type of disability	Self-reported disability (physical, mental, or sensory impairment)	5766 (9%); 5718 (16%)	60,515; 29,576	25–65 years; 50–75 years	Coverage	Medium
Granados-Martinez, 2019[29]	Mexico	Cross-sectional	Population	Any type of disability	Self-reported disability in household (physical, mental, or sensory impairment)	Median (SD) = 7 (0.196)	Median (SD) = 93 (0.419)	≥65 years	Affordability	High
Macarevich Condessa, 2021[37]	Brazil	Cross-sectional	Population	Any type of disability	Self-reported disability (physical, intellectual, or sensory impairment)	5445 (10%)	51,756	≥18 years	Utilization	Low
Albanese, 2011[38]	Multiple[a]	Cross-sectional	Population	Functional limitation	Self-reported severe or extreme difficulty in mobility	2237 (5–30%)[b]	n/a	≥65 years	Utilization	Low
Nascimiento, 2012[39]	Brazil	Cross-sectional	Registry	Activity limitation	Activities of daily living (Katz; Lawton and Brody)	100 (16%)	519	≥60 years	Utilization	Low
Dellaroza, 2013[40]	Brazil	Cross-sectional	Population	Activity limitation	Activities of daily living (Basic and instrumental)	BADL 566 (45%); IADL 567 (45%)	705; 704	≥60 years	Utilization	Medium
Danquah, 2015[41]	Haiti	Case-control	Population	Functional limitation	Washington Group Short Set of Questions	178	178	≥5 years	Utilization	Low
Bernabe-Ortiz, 2016[26]	Peru	Case-control	Population	Functional limitation	Washington Group Short Set of Questions	161	161	≥5 years	Coverage	Medium
Kuper, 2018[42]	Guatemala	Case-control	Population	Functional limitation	Washington Group Extended Set of Questions	707	465	>2 years	Coverage, quality	Low
Montoro Pazzini Watfe, 2020[43]	Brazil	Cross-sectional	Primary care clinic	Functional limitation	World Health Organization Disability Assessment Schedule; short version	Manaus 446 (66%); Sao Paulo 396 (56%)	533	≥60 years	Utilization	Low
León-Giraldo, 2021[44]	Colombia	Cross-sectional	Population	Functional limitation	World Health Organization Disability Assessment Schedule	Mean = 4.735	n/a	All ages	Affordability	Medium
Gonçalves, 2008[45]	Brazil	Cross-sectional	Primary care clinic	Psychosocial	Psychotic, mood, substance abuse, anxiety, eating and somatoform disorders; Structured Clinical Interview	385 (51%)	369	>14 years	Utilization	Medium
Castelo, 2012[46]	Brazil	Cross-sectional	Primary care clinics	Psychosocial	Lifetime bipolar disorder with moderate/severe functional impairment; Mood Disorder Questionnaire	55 (8%)	665	18–70 years	Utilization	Low
Fujii, 2012[47]	Brazil	Cross-sectional	Population	Psychosocial	Major Depressive Disorder (PHQ-9), self-reported depression, and depression diagnosed by physician	1105 (10%)	8684	≥18 years	Utilization	Medium
García-Huidobro,2012[30]	Chile	Case-control	Registry	Psychosocial	Major Depressive Disorder; electronic clinical register	206	412	>18 years	Utilization	High
Huang, 2014[48]	Brazil	Cross-sectional	Population	Psychosocial	Major Depressive Disorder; International Classification of Diseases, Geriatric Mental State, and Neuropsychiatric Inventory	99 (5%)	1973	≥65 years	Utilization	Medium
Chiavegatto Filho, 2015[49]	Brazil	Cross-sectional	Population	Psychosocial	Major Depressive Disorder and Anxiety Disorders[c]; WMH-CIDI questionnaire	n/a	n/a	≥18 years	Utilization	Medium
Bisol, 2008[24]	Brazil	Cross-sectional	Schools	Hearing	Hearing loss; registry special school for the Deaf	42 (46%)	50	15–21 years	Coverage	High
Freire, 2009[50]	Brazil	Cross-sectional	Population	Hearing	Permanent hearing loss; audiometry	126 (10%)	1184	≥15 years	Utilization	Medium
Fuentes-López, 2020[51]	Chile	Cross-sectional	Population	Hearing	Self-reported bilateral severe-to-profound hearing loss	745	n/a	≥21 years	Utilization, coverage	Medium

(Table 3 continues on next page)

First author, year	Country	Study design	Source of participants	Type of disability	Description and method to assess disability	Participants		Age range	Health access measure	Risk of bias
						With disabilities, n (%)	Without disabilities, n			
(Continued from previous page)										
Miranda, 2022[31]	Brazil	Cross-sectional	Referral centre, hospital	Hearing	Deaf children; registry care referral institution for the deaf	16	48	3–14 years	Utilization	High
Albanese,2011[38]	Multiple	Cross-sectional	Population	Intellectual	Dementia; 10/66 algorithm or DSM-IV dementia	1299 (7–12%)[d]	n/a	≥65 years	Utilization	Low
Oliveira, 2013[32]	Brazil	Case-control	Special needs centres	Intellectual	Down syndrome, cerebral palsy, autism, or intellectual disability; registry special needs school	103	103	>12 years	Utilization	High
da Silva, 2019[52]	Brazil	Cohort	Hospital	Intellectual	Severe-moderate intellectual disability; Baseline Pediatric Overall Performance Category	148 (20%)	610	1 month–16 years	Utilization	Medium
Debossan, 2022[53]	Brazil	Cross-sectional	Hospital	Physical	Rare genetic disease (Mucopolysaccharidoses and Osteogenesis Imperfecta); medical records	70	70	3–27 years	Utilization	Medium
Kessler, 2022[33]	Brazil	Cross-sectional	Population	Physical	Self-reported physical disability within household	10,878 (8%)	128,342	≥18 years	Coverage	High

Note: We reported number and percentage of participants whenever possible and calculated the total number of participants per group (ie, with or without disability) whenever studies only reported percentage. Decimals were rounded off. Abbreviations: BADL, basic activities of daily living; IADL, instrumental activities of daily living; n/a, not available; PHQ-9, Patient Health Questionnaire 9; WMH-CIDI, World Mental Health–Composite International Diagnostic Interview. [a]Mexico, Peru, Cuba Dominican Republic, Puerto Rico, Venezuela. [b]Cuba 546 (19%), Dominican Republic 439 (22%), Puerto Rico 603 (30%), Peru urban 143 (10%), Peru rural 30 (5%), Venezuela 204 (11%), Mexico urban 126 (13%), Mexico rural 146 (15%). [c]Including: panic disorder, agoraphobia, simple phobia, social phobia, generalized anxiety disorder, obsessive compulsive disorder, post-traumatic stress disorder, and separation anxiety. [d]Cuba 333 (11%), Dominican Republic 242 (12%), Puerto Rico 233 (12%), Peru urban 130 (9%), Peru rural 36 (7%), Venezuela 145 (7%), Mexico urban 93 (9%), Mexico rural 87 (9%).

Table 3: **Summary information of included studies by disability type (n = 30).**

those without disabilities.[54] People with disabilities face barriers in accessing sexual and reproductive health services; for instance, in sub-Saharan Africa they face inaccessible physical health infrastructure, stigma and discrimination across different levels.[10] However, only limited interventions exist to promote sexual and reproductive health among this population in LMICs.[55] Further analyses on healthcare coverage are needed, including a wider range of preventive services (eg, family planning, HIV, immunization, chronic diseases, etc.).

Despite the finding of higher utilisation, people with disabilities might not have access to affordable or quality healthcare. Only two studies reported on affordability of healthcare. In comparison to those without disabilities, our findings suggest that people with disabilities find it difficult to afford services or face catastrophic health expenditures.[36,44] Previous systematic reviews, also found some evidence of higher health expenditures for people with disabilities[8,56] and a strong association between disability and poverty in LMICs.[57] Catastrophic health expenditures and additional living costs among people with disabilities and their families might be particularly problematic in LAC, where household wages remain limited.[1,5,12,56] Very little evidence was available on quality of healthcare. One study found that people with disabilities felt disrespected or reported that health information was difficult to understand.[42] A meta-synthesis of qualitative evidence in LMICs highlighted that health worker attitudes and health information are common barriers faced by people with disabilities when accessing primary healthcare.[9] Similarly, a global synthesis of qualitative evidence found that women with disabilities encounter lack of communication tools in health centres and lack of appropriate skills and training among health providers.[58] Training of health workers is essential to improve the healthcare experience[1] and according to a recent review, sustained learning with multiple teaching methods and participation of people with disabilities could be a successful disability training model.[59] Additional evidence on affordability of health services is key to inform policy required on financial protection measures tailored to the LAC region. Similarly, evidence on the quality of healthcare is essential to monitor the effectiveness of the interventions, which should respond to the specific needs of people with disabilities to improve wellbeing, quality of life and participation in society.

This systematic review has some limitations that should be considered. Most studies were conducted in Brazil (n = 19; 63%); thus, findings may reflect to a large extend Brazil's context and limit the generalizability to other countries in the LAC region. Furthermore, most studies had a cross-sectional design which restricts the possibility to analyse causal paths between disability and healthcare access. Moreover, many studies (n = 25; 83%) partially presented or did not report sample size calculations and therefore, we could not assess their power

First author, year	Type of disability	Description of health access measure	Health access measure among participants		Measure of effect (95% CI)/p-value	Summary direction of effect	Risk of bias
			With disabilities	Without disabilities			
I. Utilization							
Amorim, 2011[34]	Hearing or visual impairment	Prostate cancer screening; lifetime	Hearing impairment 30%; visual impairment 58%	43%	aPR hearing impairment = 0.93 (0.81–1.08); visual impairment = 1.10 (1.01–1.20)	Mixed[a]	Medium
Castro, 2013[35]	Any type of disability	Hospitalization; last 12 months	Visual 7%; hearing 13%; physical 33% impairment; Multiple disability 23%	6%	aPR visual = 0.85 (0.45–1.60); hearing = 1.59 (0.88–2.86); physical impairment = 3.77 (2.00–7.11); Multiple disability = 3.26 (1.62–6.55)	Mixed[a]	Medium
Macarevich Condessa, 2021[37]	Any type of disability	Dental visits; last 12 months	34%	45%	aOR = 0.74 (0.83–0.66)	Lower[a]	Low
Albanese, 2011[38]	Functional limitation	Use of community healthcare services; last 3 months	n/a	n/a	Pooled aPR 1.02 (0.96–1.09) [aPR Cuba = 0.83 (0.74–0.92); Peru urban = 1.21 (1.03–1.41)][b]	Mixed[a]	Low
Nascimiento, 2012[39]	Activity limitation	Physician visits; last 12 months	None = 3 (7%); 1–5 = 58 (13%); ≥6 = 39 (31%)	None = 42 (93%); 1–5 = 390 (87%); ≥6 = 86 (69%)	$p < 0.0001$	Higher[a]	Low
		Hospitalization; last 12 months	None = 63 (12%); ≥1 = 37 (39%)	None = 461 (88%); ≥1 = 57 (61%)	$p < 0.0001$	Higher[a]	
Dellaroza, 2013[40]	Activity limitation	Hospitalization and >4 consultations; last 12 months	BADL 45%; IADL 45%	44%; 43%	PR BADL = 1.02 (0.76–1.36); IADL = 1.04 (0.81–1.33)	Higher	Medium
Danquah, 2015[41]	Functional limitation	Health centre visits (≥16 years); last year	0 = 34 (33%); 1–2 = 27 (26%); ≥3 = 42 (41%)	0 = 44 (42%); 1–2 = 35 (33%); ≥3 = 26 (25%)	aOR 1–2 versus 0 = 1.0 (0.5–2.0); ≥3 versus 0 = 2.1 (1.0–4.3)	Mixed	Low
		Health centre visits (<16 years); last year	0 = 40 (53%); 1–2 = 14 (19%); ≥3 = 21 (28%)	0 = 33 (45%); 1–2 = 26 (36%); ≥3 = 13 (18%)	aOR 1–2 versus 0 = 0.4 (0.2–0.9); ≥3 versus 0 = 1.3 (0.5–2.9)	Mixed	
Montoro Pazzini Watfe, 2020[43]	Functional limitation	Family physician visits; last 3 months	Sao Paulo yes = 60%, no = 53%; Manaus yes = 71%, no = 63%	Sao Paulo yes = 48%, no = 52%; Manaus yes = 42%, no = 58%	$p = 0.18$	Higher	Low
Gonçalves, 2008[45]	Psychosocial	GP visits; last 12 months	None = 60 (16%); 1 = 51 (13%); 2–5 = 132 (35%); 5–10 = 82 (22%); >10 = 57 (15%)	None = 104 (28%); 1 = 81 (22%); 2–5 = 111 (30%); 5–10 = 44 (12%); >10 = 26 (7%)	$p = 0.02$, when controlled for chronic disease	Higher[a]	Medium
		Emergency visits; last 12 months	None = 113 (30%); 1 = 90 (24%); 2–5 = 107 (28%); >5 = 67 (18%)	None = 194 (54%), 1 = 94 (26%), 2–5 = 56 (16%), >5 = 15 (4%)	$p < 0.0001$, when controlled for chronic disease	Higher[a]	
		Examinations	None = 86 (23%); 1 = 97 (26%); 2–5 = 132 (35%); >5 = 64 (17%)	None = 154 (40%); 1 = 111 (30%); 2–5 = 78 (21%); >5 = 32 (9%)	$p = 0.002$, when controlled for chronic disease	Higher[a]	
Castelo, 2012[46]	Psychosocial	≥4 GP visits; last 12 months	23 (42%)	165 (25%)	aRR = 1.92 (1.11–3.41)	Higher[a]	Low
Fujii, 2012[47]	Psychosocial	Physician visits; last 6 months	Mean (SD) = 8.4 (10.5)	Mean (SD) = 3.3 (5.6)	$p < 0.05$	Higher[a]	Medium
		Emergency visits; last 6 months	43%	17%	$p < 0.05$	Higher[a]	
		Hospitalization; last 6 months	18%	8%	$p < 0.05$	Higher[a]	
Huang, 2014[48]	Psychosocial	≥3 outpatient visits; last 3 months	41%	26%	adjusted Ratio of means = 1.50 (1.23–1.84)	Higher[a]	Medium
		Hospitalization; last 3 months	15%	4%	aPR = 2.87 (1.64–5.00)	Higher[a]	
Chiavegatto Filho, 2015[49]	Psychosocial	Health professional visit; last 12 months	n/a	n/a	aOR depression = 1.63 (1.14–2.33); anxiety = 1.85 (1.40–2.45)	Higher[a]	Medium
Freire, 2009[50]	Hearing impairment	Physician visits; last 2 months	55%	43%	PR = 1.3 (1.10–1.51)	Higher[a]	Medium
		Hospitalization; last 12 months	17%	8%	PR = 2.1 (1.42–3.14)	Higher[a]	
Fuentes-López, 2020[51]	Hearing impairment	GP visits	n/a	n/a	aOR = 1.78 (1.18–2.66)	Higher[a]	Medium
Albanese, 2011[38]	Intellectual	Use of community healthcare services; last 3 months	n/a	n/a	Pooled aPR 0.93 (0.90–0.97) [aPR Cuba = 0.87 (0.76–0.98); Peru rural = 1.12 (0.72–1.75)][c]	Mixed[a]	Low

(Table 4 continues on next page)

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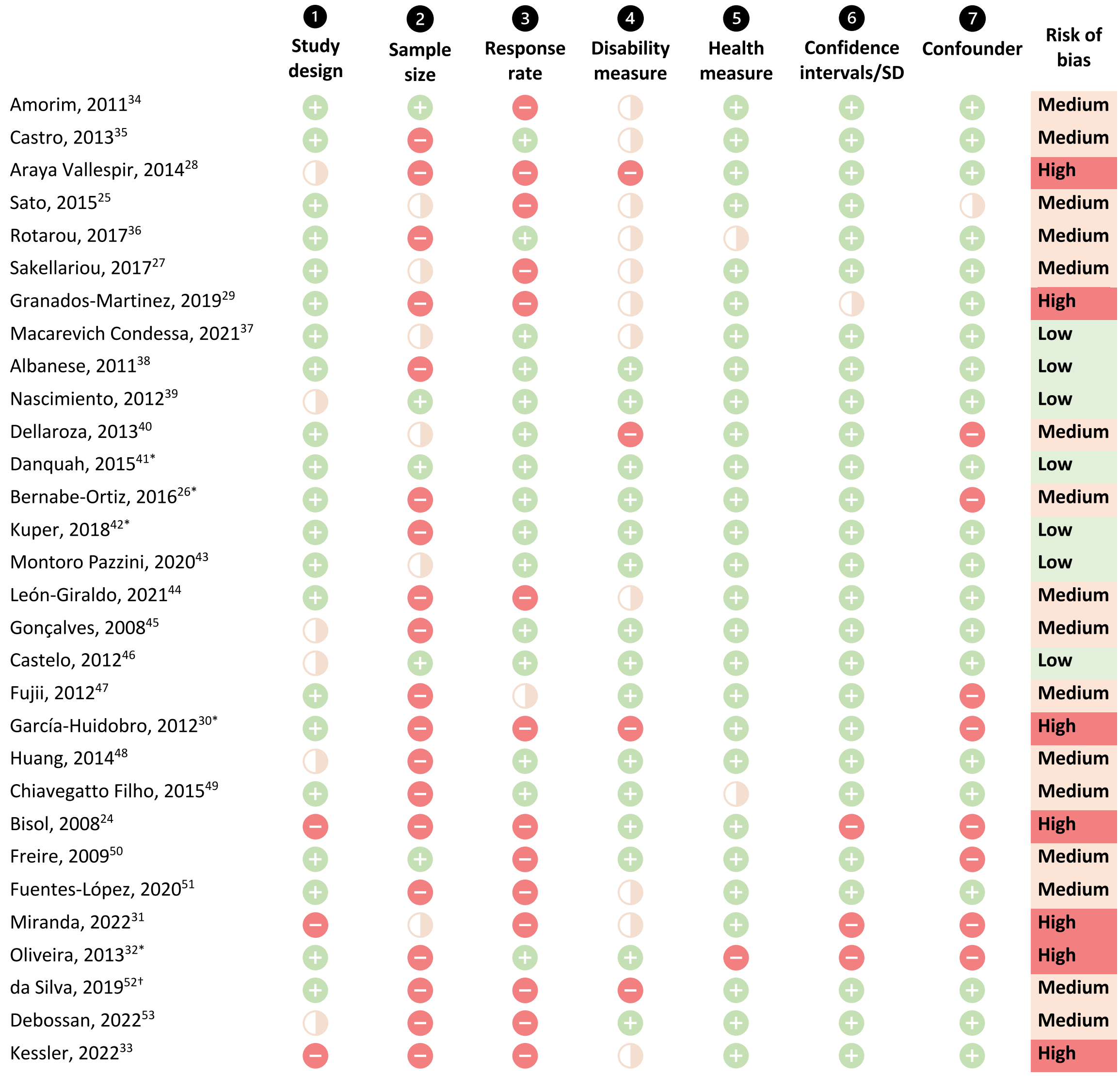
First author, year	Type of disability	Description of health access measure	Health access measure among participants		Measure of effect (95% CI)/p-value	Summary direction of effect	Risk of bias
			With disabilities	Without disabilities			
Silva, 2019[52]	Intellectual	Hospital readmissions; last 12 months	Yes = 33 (29%); No = 79 (71%)	Yes = 36 (6%); No = 574 (94%)	aOR = 1.08 (1.05–1.29)	Higher[a]	Medium
Debossan, 2022[53]	Physical	Dental visits ever	Yes = 27 (39%), No = 43 (61%)	Yes = 49 (70%), No = 21 (30%)	aOR = 0.19 (0.43–0.08)	Lower[a]	Medium
II. Coverage							
Sato, 2015[25]	Any type of disability	Receipt of influenza vaccination	75%	74%	PR = 1.01 (0.81–1.26)	Null	Medium
Sakellariou, 2017[27]	Any type of disability	Receipt of a Pap test (25–65 years); last 3 years	48%	63%	aOR = 0.698 (0.65–0.75)	Lower[a]	Medium
		Receipt of mammogram (50–75 years); last 3 years	46%	61%	aOR = 0.771 (0.72–0.82)	Lower[a]	
Bernabe-Ortiz, 2016[26]	Functional limitation	Sought healthcare for health problem	Always = 61%; sometimes = 26%; never = 13%	Always = 64%; sometimes = 30%; never = 6%	p = 0.20	Lower	Medium
Kuper, 2018[42]	Functional limitation	Received treatment, if have any general health condition	357 (61%)	149 (53%)	aOR = 1.4 (1.0–1.9)	Higher[a]	Low
		Sought treatment for health problem; last 12 months	254 (76%)	78 (72%)	aOR = 1.2 (0.7–2.1)	Higher	
		Sought antenatal care (15–49 years); last 5 years	n/a	n/a	aOR = 0.4 (0.1–1.0)	Lower[a]	
		Children vaccinated (5–9 years)	94%	88%	aOR = 2.6 (0.3–20.2)	Higher	
Fuentes-López, 2020[51]	Hearing impairment	No receipt of gynecological check-up; last 3 years	97%;	84%	PR = 1.2 (1.1–1.2)	Lower[a]	Medium
		No receipt of Pap test; last 3 years	65%	42%	PR = 1.6 (1.3–1.8)	Lower[a]	
		No receipt of mammogram test; last 3 years	43%	37%	PR = 1.2 (0.7–1.6)	Lower	
III. Affordability							
Rotarou, 2017[36]	Any type of disability	Difficulty paying for treatment due to cost	11%	5%	aOR = 1.91 (1.74–2.09)	Lower[a]	Medium
León-Giraldo, 2021[44]	Functional limitation	Catastrophic health expenditure	n/a	n/a	aOR = 1.04 (1.01–1.06)	Higher catastrophic health expenditure[a]	Medium
IV. Quality							
Kuper, 2018[42]	Functional limitation	General feeling of being completely disrespected	47 (9%)	13 (4%)	aOR versus “completely respected” = 1.9 (1.0–3.7)	Lower[a]	Low
		Difficult to understand information given	121 (22%)	42 (14%)	aOR versus “easy” = 1.6 (1.1–1.4)	Lower[a]	
		Difficult to be understood by health provider	106 (20%)	43 (14%)	aOR versus “easy” = 1.3 (0.8–1.9)	Lower	

Abbreviations: BADL, basic activities of daily living; GP, general practitioner; IADL, instrumental activities of daily living; n/a, not available; PAP test, Papanicolaou test. [a]Strong or some evidence against a null association. [b]Dominican Republic = 0.94 (0.84–1.05); Puerto Rico = 1.04 (0.99–1.09); Peru rural = 1.38 (0.97–1.96); Venezuela = 0.98 (0.89–1.09); Mexico urban = 1.10 (0.89–1.13); Mexico rural = 1.01 (0.89–1.09). [c]Dominican Republic = 0.97 (0.83–1.12); Puerto Rico = 0.95 (0.89–1.02); Peru urban = 0.89 (0.72–1.09); Venezuela = 0.86 (0.73–1.00); Mexico urban = 0.92 (0.80–1.06); Mexico rural = 0.93 (0.78–1.12).

Table 4: **Summary of health access outcomes (n = 23).**



	1 Study design	2 Sample size	3 Response rate	4 Disability measure	5 Health measure	6 Confidence intervals/SD	7 Confounder	Risk of bias
Amorim, 2011[34]	⊕	⊕	⊖	◐	⊕	⊕	⊕	Medium
Castro, 2013[35]	⊕	⊖	⊕	◐	⊕	⊕	⊕	Medium
Araya Vallespir, 2014[28]	◐	⊖	⊖	⊖	⊕	⊕	⊕	High
Sato, 2015[25]	⊕	◐	⊖	◐	⊕	⊕	◐	Medium
Rotarou, 2017[36]	⊕	⊖	⊕	◐	◐	⊕	⊕	Medium
Sakellariou, 2017[27]	⊕	◐	⊖	◐	⊕	⊕	⊕	Medium
Granados-Martinez, 2019[29]	⊕	⊖	⊖	◐	⊕	◐	⊕	High
Macarevich Condessa, 2021[37]	⊕	◐	⊕	◐	⊕	⊕	⊕	Low
Albanese, 2011[38]	⊕	⊖	⊕	⊕	⊕	⊕	⊕	Low
Nascimiento, 2012[39]	◐	⊕	⊕	⊕	⊕	⊕	⊕	Low
Dellaroza, 2013[40]	⊕	◐	⊕	⊖	⊕	⊕	⊖	Medium
Danquah, 2015[41]*	⊕	⊕	⊕	⊕	⊕	⊕	⊕	Low
Bernabe-Ortiz, 2016[26]*	⊕	⊖	⊕	⊕	⊕	⊕	⊖	Medium
Kuper, 2018[42]*	⊕	⊖	⊕	⊕	⊕	⊕	⊕	Low
Montoro Pazzini, 2020[43]	⊕	◐	⊕	⊕	⊕	⊕	⊕	Low
León-Giraldo, 2021[44]	⊕	⊖	⊖	◐	⊕	⊕	⊕	Medium
Gonçalves, 2008[45]	◐	⊖	⊕	⊕	⊕	⊕	⊕	Medium
Castelo, 2012[46]	◐	⊕	⊕	⊕	⊕	⊕	⊕	Low
Fujii, 2012[47]	⊕	⊖	◐	⊕	⊕	⊕	⊖	Medium
García-Huidobro, 2012[30]*	⊕	⊖	⊖	⊖	⊕	⊕	⊖	High
Huang, 2014[48]	◐	⊖	⊕	⊕	⊕	⊕	⊕	Medium
Chiavegatto Filho, 2015[49]	⊕	⊖	⊕	⊕	◐	⊕	⊕	Medium
Bisol, 2008[24]	⊖	⊖	⊖	⊕	⊕	⊖	⊖	High
Freire, 2009[50]	⊕	⊕	⊖	⊕	⊕	⊕	⊖	Medium
Fuentes-López, 2020[51]	⊕	⊖	⊖	◐	⊕	⊕	⊕	Medium
Miranda, 2022[31]	⊖	◐	⊖	◐	⊕	⊖	⊖	High
Oliveira, 2013[32]*	⊕	⊖	⊕	⊕	⊖	⊖	⊖	High
da Silva, 2019[52]†	⊕	⊖	⊖	⊖	⊕	⊕	⊕	Medium
Debossan, 2022[53]	◐	⊖	⊖	⊕	⊕	⊕	⊕	Medium
Kessler, 2022[33]	⊖	⊖	⊖	◐	⊕	⊕	⊕	High

Legend: SD, standard deviations. Full description of quality assessment criteria in Table 1. *Criterion 8 (cases and controls are comparable) was ⊕ except from Oliveira, 2013 ◐ and criterion 9 (clear case control definitions) was ⊕ for all. †Criterion 10 (groups comparable at baseline) was ◐ and criterion 11 (losses to follow up presented and acceptable) was .⊕

Fig. 3: Quality assessment and risk of bias across studies (n = 30).

and likelihood of reporting extreme results. There was a high level of heterogeneity in the measurement of disability and healthcare access, which made comparison across studies difficult. Although countries included in this review ratified the UNCRPD, most data were collected under a biomedical model of disability, despite the call for supporting both the individual and social dimension of disability.[60] Additionally, both disability and healthcare access outcomes were often self-reported. This could imply a risk of reporting bias among participants and further limit the robustness of the evidence. We also excluded participants with mild disabilities (eg, depressive symptoms alone) and despite these being systematically excluded, we could have introduced some selection bias by trying to differentiate mild from severe disabilities. Moreover, our review did not include grey literature and might have some level of publication bias.

Although the joint analysis of all people with disabilities reinforces the issue of health equity faced by this group, disability is diverse. Health needs vary by several factors (eg, health conditions, impairment type, age, gender, environment, residence, etc.) and even throughout the lifecourse.[1] Healthcare access among people with intellectual or learning disabilities was likely under-represented in this review. This finding supports the urgent call to improve data collection on people with intellectual and psychosocial disabilities, including in the LAC region.[12] Similarly, other groups of people with disabilities are not represented in this analysis. For instance, people living in large institutional settings such as care homes, prisons, etc., which have been found to be often excluded from censuses and household surveys in Latin America and the Caribbean.[12] Furthermore, disability could overlap with vulnerabilities of other minority groups (eg, indigenous people, afro-descendants, migrants, etc.) and due to lack of data, an intersectional analysis could not be conducted.[12] Future studies should report on healthcare access among people with disabilities by gender, impairment type, residence, and intersecting identities.

Despite these limitations, we present the most comprehensive literature and analysis from a region with limited evidence available. This systematic review has important strengths. We registered a study protocol and conducted the search strategy in several languages (English, Spanish and Portuguese). We also searched for studies in multiple databases and independently assessed information. In contrast with Bright and Kuper's and other previous reviews,[8,9] our analysis included 23% of studies in non-English language (n = 7) and 17% from high-income countries (n = 5), which would have not been included in other reviews.

In conclusion, people with disabilities appear to experience health inequities related to general healthcare access in Latin America and the Caribbean. Our findings provide some evidence that confirms the higher utilization of healthcare among people with disabilities in LAC, than those without disabilities. But important data and quality gaps exist in current research, especially in coverage, affordability, and quality of healthcare. Further harmonization of disability and health access data collection is urgently needed to assess health equity among populations with and without disability, including those with invisible disabilities. A health research agenda going forward on health equity and universal health coverage will facilitate evidence-based policy making in inclusive health for people with disabilities in Latin America and the Caribbean.

Contributors

DRG, HK and LMB conceived the study. DRG developed the search strategy and conducted the search. DRG, HK, LMB, SR, KA, and VR conducted the first and second screenings of titles and abstracts. DRG, HK, LMB, and KA performed full text screening. DRG, SR, and KA conducted data extraction and bias evaluation. DRG wrote and revised the manuscript drafts. All authors made intellectual contributions and critically reviewed and accepted the final manuscript before its submission.

Data sharing statement

The protocol of this systematic review can be found in PROSPERO under the following number: CRD42021235797.

Declaration of interests

We declare no competing interests.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.lana.2024.100701.

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A Atenção Primária à Saúde e o cuidado aos usuários com COVID-19 nas regiões brasileiras

Primary Health Care and COVID-19 patient care across regions in Brazil

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Abstract *The aim of this study was to describe the role of PHC in the delivery of care to COVID-19 patients, identifying facilitating factors and constraints to the response of PHC teams to the pandemic. We conducted a cross-sectional survey-based study with a nationally representative sample of primary health care centers (PCCs). A total of 907 PCCs from the country's five regions participated in the study. Data was collected between July and November 2021 using an online survey. The results show that PCCs in the South and Southeast were better prepared to respond to the pandemic in terms of availability of personal protective equipment and communications facilities, while PCCs in the North and Northeast performed better for health surveillance actions, educational activities, contact tracing, case monitoring and notification of cases in the influenza surveillance system. Seventy per cent of PCCs administered COVID-19 vaccines at national level and 28% and 25% had to suspend the first and second doses of the vaccine, respectively. The findings show that primary care services played an important role in the response to the pandemic despite challenges caused by the lack of national coordination.*

Key words *Primary Health Care, SARS-CoV-2, COVID-19, Health care, Working conditions*

Resumo *O objetivo foi caracterizar a atuação da atenção primária à saúde (APS) no cuidado aos usuários com COVID-19, identificando fatores facilitadores e os constrangimentos para a resposta das equipes de APS no enfrentamento à pandemia. Estudo transversal com amostra representativa das unidades básicas de saúde (UBS) brasileiras, na forma de inquérito. Participaram do estudo 907 UBS das cinco regiões do país. A coleta de dados foi entre julho e novembro de 2021, por meio de questionário on-line. Os resultados mostram que as UBS das regiões Sul e Sudeste tiveram melhores condições de enfrentamento da pandemia em termos de equipamentos de proteção e estrutura de comunicação e as UBS das regiões Norte e Nordeste tiveram melhor desempenho nas ações relacionadas à vigilância em saúde, atividades educativas, busca ativa de contatos, monitoramento de casos e notificação no sistema de vigilância de síndrome gripal. O processo de vacinação contra a COVID-19 ocorria em 70% das UBS em nível nacional, 28% tiveram que suspender a vacinação da primeira dose por falta do imunizante e 25% da segunda dose. Conclui-se que a APS brasileira realizou importante trabalho no enfrentamento à pandemia apesar das dificuldades decorrentes da ausência de uma coordenação nacional.*

Palavras-chave *Atenção Primária à Saúde, SARS-CoV-2, COVID-19, Atenção à saúde, Condições de Trabalho*

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Introdução

A pandemia de COVID-19 se constituiu no mais grave evento sanitário dos últimos cem anos, com mais de 700 mil mortes no Brasil e de 6,9 milhões no mundo, segundo dados oficiais, embora a Organização Mundial da Saúde (OMS) estime que o número real de mortes associadas direta ou indiretamente à pandemia, pode chegar a 15 milhões[1].

Esperava-se que países com sistemas de saúde públicos e universais apresentassem melhores respostas no enfrentamento à pandemia, em grande medida pela estrutura desses sistemas que contam com amplas redes de atenção[2]. Embora isso não tenha sido evidenciado, melhores performances foram associadas a países de alta renda[3], com população de até 14 milhões de habitantes, maiores gastos em saúde em relação ao Produto Interno Bruto e níveis mais altos dos índices de governança pública[4].

Embora o governo federal brasileiro tenha realizada uma gestão temerária, ao adotar uma estratégia de propagação do SARS-CoV-2[5], o Sistema Único de Saúde (SUS) foi reconhecido, por todos os setores da sociedade como fundamental, impedindo um ainda maior número de mortes.

Ainda que tenha havido importante centralidade e maior investimento financeiro no atendimento hospitalar, com aumento do número de leitos, compra de respiradores e ampliação de unidades de terapia intensiva, na maior parte dos municípios brasileiros, a Atenção Primária à Saúde (APS) foi a linha de frente deste cuidado. As diversas maneiras de enfrentamento da pandemia na APS em âmbito nacional e internacional foram condicionadas por modelos organizacionais desse nível de atenção e sua inserção nos sistemas nacionais de saúde, assim como pelas conjunturas sociopolíticas locais. Com poucas exceções, pode-se dizer que se perdeu a oportunidade de uma maior atuação da APS[6].

Neste artigo busca-se caracterizar a atuação da APS no cuidado aos usuários com COVID-19, identificando fatores facilitadores e os constrangimentos que podem ter influenciado a capacidade de resposta das equipes de APS.

Métodos

Este artigo é parte da pesquisa intitulada "Desafios da Atenção Básica no enfrentamento à pandemia de COVID-19 no SUS - 2ª onda". Trata-se de um estudo transversal, na forma de inquérito, com amostra representativa das Unidades Básicas de Saúde (UBS) do país, registradas no Cadastro Nacional dos Estabelecimentos de Saúde (CNES), em dezembro de 2020.

Para fins de cálculo do tamanho da amostra, os estratos foram definidos como domínios de estudo. Em cada região, o tamanho da amostra foi calculado por meio da expressão algébrica para estimação de proporções:

$$n = \frac{P\,(1 - P)}{(d/z)^2}$$

em que P é a proporção populacional a ser estimada, tomada como sendo 0,5 o erro de amostragem a ser tolerado, e z=1,96 o valor da curva normal, correspondente ao nível de 95% para o intervalo de confiança[7].

Nas regiões Norte e Centro-Oeste, o tamanho da amostra foi de 100 unidades, na região Sul de 150 unidades e no Sudeste e Nordeste, a amostra foi de 200 unidades, correspondendo a um erro amostral de 10, 8 e 7 pontos percentuais, respectivamente.

Considerando uma taxa de resposta de 80%, foram sorteadas 945 unidades. Constituiu-se, ainda, uma reserva de unidades sorteadas antecipadamente para cada região, caso as perdas em alguma das regiões fossem superiores ao esperado. Optou-se posteriormente, por considerar as 945 unidades sorteadas como sendo o tamanho da amostra a ser obtido e, dessa forma, para compensar as unidades excluídas por não pertencerem à população de estudo, foram utilizadas reservas, tendo sido contatadas 985 unidades, para a realização da pesquisa.

A fração referente a esse processo de amostragem, em cada estrato i, foi calculada por:

$$f_i = \frac{n_i}{N_i}$$

sendo n_i o tamanho da amostra sorteada e N_i, o tamanho da população. As diferentes probabilidades de sorteio utilizadas nos estratos para a seleção dos serviços da amostra foram compensadas pela introdução de pesos na etapa de análise de dados, definidos pelo inverso das frações de amostragem. Desta forma, para a região Norte foi utilizado peso igual a 20,74056, para o Nordeste 50,73106, o Sudeste 39,18846, o Sul 23,04500 e o Centro-Oeste 19,59848.

Através de contato telefônico com a UBS sorteada foi identificado o respondente, preferencialmente o gerente ou responsável pela UBS ou outro profissional de nível superior. Caso esses profissionais não quisessem responder, a unidade foi considerada como perda. O questionário ficou disponível na ferramenta de captura de dados eletrônicos REDCap[8] entre julho e novembro de 2021. Para o recorte desse artigo foram selecionadas perguntas sobre: tamanho e estrutura física da UBS, disponibilidade de EPI; disponibilidade de insumos; estrutura de comunicação; cuidado referente às estratégias de acompanhamento dos pacientes com COVID-19; organização do trabalho; capacitação da equipe; transporte dos pacientes, vigilância em saúde e processo de vacinação.

A análise descritiva consistiu na caracterização da população de estudo quanto às diversas variáveis levantadas no inquérito, por meio da estimação de proporções e respectivos intervalos de confiança (nível de confiança de 95%), para cada uma das regiões e para o total do país. Diferenças entre as proporções observadas nas regiões foram estabelecidas pelo teste qui-quadrado com correção de Rao & Scott para amostras complexas, e consideradas significantes aquelas em que o valor de *p* foi menor que 5%. As estimativas foram calculadas considerando os pesos de delineamento aplicados às unidades da amostra, correspondentes ao inverso das frações de amostragem utilizadas nos estratos.

A pesquisa foi aprovada no Comitê de Ética e Pesquisa da FSP/USP com o CAAE 31414420.8.0000.5421 e parecer 4.827.811, de 5 de julho de 2021.

Resultados

Das 945 UBS sorteadas, participaram 907 UBS (95,8%), sendo 125 (Norte), 226 (Nordeste), 248 (Sudeste), 186 (Sul) e 122 (Centro-Oeste). Entre os respondentes, 64% (IC95%: 61-67) eram gerentes das UBS e 52% (IC95%: 48-55) atuavam na unidade há mais de três anos.

A Tabela 1 apresenta informações relacionadas a estrutura física e de comunicação das UBS. No que se refere ao número de equipes da Estratégia Saúde da Família (ESF), 63% (IC95%: 59-66) das UBS têm apenas uma equipe e 42% (IC95%: 39-45) possuem dois ou menos consultórios. Em relação ao uso de prontuários eletrônicos, 25% (IC95%: 23-29) afirmam não utilizar nenhum sistema, sobretudo nas regiões Norte 46% (IC95%: 37-54) e Nordeste 39% (IC95%: 32-45). Em relação a "Estrutura de comunicação", o Brasil possui 50% (IC95%: 48-53) de UBS com telefone fixo e 28% (IC95%: 25-31) com celular. Os menores percentuais foram encontrados na região Nordeste com 15% (IC95%: 11-20) de telefone fixo e 20% (IC95%: 16-26) de celulares. Ainda assim, foi no Nordeste onde ocorreu o maior uso de ferramentas on-line para o acompanhamento dos pacientes diagnosticados com COVID-19, em que o uso de WhatsApp ocorreu em 73% (IC95%: 67-78) das unidades e recursos de chamada de vídeo em 27% (IC95%: 22-33). Houve incremento da infraestrutura de comunicação das UBS em nível nacional, visando ampliar as tecnologias de acesso remoto aos usuários e, também, implementação ou reforço do acesso a internet em 31% das UBS (IC95%: 28-34), com destaque para o Nordeste com 39% (IC95%: 33-46).

A Tabela 2 apresenta os resultados da disponibilidade de EPI, Insumos e Capacitação da equipe da UBS. Em nível nacional 45% (IC95%: 42-48) das unidades afirmaram ter disponível sempre todos os EPI questionados (máscara N95, máscara cirúrgica, *face shield*/óculos de proteção e avental impermeável), os piores resultados foram encontrados nas regiões Norte 34% (IC95%: 26-42) e Nordeste 36% (IC95%: 30-42). Em referência aos "Insumos" o Nordeste é a região com a pior disponibilidade 8% (IC95%: 5-12) e a região Sul com a melhor 31% (IC95%: 24-38). Capacitação para uso de EPI e capacitação para enfrentamento à COVID-19 ocorreu, respectivamente, em 57% (IC95%: 56-60) e 54% (IC95%: 50-57) das UBS em nível nacional, com menores valores nas regiões Norte e Nordeste

Consultas presenciais nas UBS continuaram a ocorrer em 64% (IC95%: 60-67) das UBS do Brasil. Segundo 85% (IC95%: 83-88) dos respondentes foram criadas unidades exclusivas para o atendimento de COVID-19 no município da UBS que se somaram à rede de UBS. Para casos confirmados ou suspeitos foram definidos fluxos específicos em 90% (IC95%: 87-92) das UBS. As equipes NASF-AB 73% (IC95%: 69-77) e equipes de Saúde Bucal 81% (IC95%: 78-84) participaram das ações de cuidado desenvolvidas nas unidades. O atendimento a pacientes graves pelas UBS foi mais elevado na região Sul 48% (IC95%: 41-55). Existiam referência para encaminhamento dos casos de COVID-19 em 98% (IC95%: 97-99) das UBS, sendo que 73% (IC95%: 70-76) das UBS do Brasil realizaram os encaminhamentos necessários. O transporte de pacientes graves era realizado por órgãos do estado em 96% (IC95%: 94-97) das UBS (Tabela 3).

No que concerne a Vigilância em Saúde, os maiores percentuais estão relacionados ao incentivo ao isolamento social 98% (IC95%: 97-99),

Tabela 1. Estrutura física e de comunicação disponível nas UBS. Brasil, 2021.

			Norte % (IC95%)	Nordeste % (IC95%)	Sudeste % (IC95%)	Sul % (IC95%)	Centro-Oeste % (IC95%)	Brasil % (IC95%)
Número de equipes	0	p<0,001	2 (0-6)	2 (1-5)	15 (11-20)	11 (7-17)	2 (1-7)	7 (6-9)
	1		58 (50-67)	71 (65-78)	57 (51-63)	57 (50-64)	60 (51-68)	63 (59-66)
	2		21 (15-29)	10 (7-15)	10 (7-15)	16 (11-22)	17 (11-25)	13 (11-15)
	3		11 (7-18)	6 (3-10	6 (3-9)	9 (6-14)	11 (6-18)	7 (6-9)
	4 ou mais		8 (4-14)	11 (8-16)	12 (8-16)	6 (4-11)	10 (6-17)	10 (8-13)
Número de consultórios	2 ou menos	p<0,001	47 (39-56)	51 (44-57)	34 (29-40)	32 (26-39)	41 (33-50)	42 (39-45)
	3 ou mais		53 (44-61)	49 (43-56)	66 (60-71)	68 (61-74)	59 (50-68)	58 (55-61)
Prontuário Eletrônico	Sim, e-SUS	p<0,001	48 (39-57)	53 (46-59)	55 (49-61)	41 (35-49)	69 (60-77)	53 (49-56)
	Sim, outro sistema		6 (3-12)	9 (6-13)	27 (21 - 32)	56 (49 - 63)	20 (14-29)	22 (19-25)
	Não		46 (37-54)	39 (32-45)	19 (14-24)	2 (1-6)	11 (6-18)	25 (23-29)
Estrutura de Comunicação (disponibilidade)	Telefone fixo	p<0,001	18 (13-26)	15 (11-20)	79 (73-84)	93 (88-96)	62 (53-70)	50 (48-53)
	Celular	p<0,001	26 (19-35)	20 (16-26)	29 (24-35)	41 (35-49)	35 (27-44)	28 (24-31)
	Conexão de internet	p<0,001	77 (69-83)	91 (86-94)	98 (95-99)	98 (95-99)	98 (93-99)	93 (91-95)
	Qualidade da internet adequada	p<0,001	58 (50-67)	78 (73-83)	77 (72-82)	82 (75-87)	71 (63-79)	76 (73-79)
Melhoria de Infraestrutura na UBS após COVID-19	Telefone celular	p=0,001	18 (13-26)	12 (9-17)	19 (15-25)	26 (20-33)	26 (19-35)	18 (16-21)
	Telefone fixo	p<0,001	5 (2-10)	6 (4-10)	26 (21-32)	30 (24-37)	21 (15-30)	17 (15-30)
	Novos computadores	p=0,337	18 (13-26)	16 (12-21)	21 (17-27)	18 (13-25)	23 (16-31)	19 (16-22)
	Acesso ou reforço da qualidade da internet existente	p<0,001	24 (17-32)	39 (33-46)	25 (20-31)	23 (17-29)	34 (27-43)	31 (28-34)
	Acesso à plataforma zoom, *meet*, *teams* disponibilizado pela gestão	p=0,060	33 (25-42)	35 (29-41)	44 (38-50)	44 (37-51)	37 (29-46)	39 (36-46)

Fonte: Autores.

monitoramento dos casos 90% (IC95%: 87-91) e acompanhamento do isolamento 81% (IC95%: 82-87). Os piores achados estão relacionados à coleta de testes de diagnóstico sendo 30% (IC95%: 39-33) RT-PCR e 31% (IC95%: 28-33) para teste rápido de antígeno (Tabela 3).

Em relação ao processo de vacinação contra COVID-19, 70% (IC95%: 67-76) das UBS do Brasil faziam a administração de vacinas quando responderam ao *survey*. Este percentual é significantemente diferente do percentual das UBS do Centro-Oeste em que apenas 39% (IC95%: 30-47) estavam administrando o imunizante. Enquanto a cadeia de frio foi um problema relatado em somente 4% (IC95%: 3-6), a aplicação da 1ª dose foi suspensa por falta do imunizante em 28% (IC95%: 25-31) das UBS, sobretudo na região Sul, com 40% (IC95%: 33-48). Já a segunda dose foi suspensa em 25% (IC95%: 22-28) das UBS (Tabela 3).

A região Centro-Oeste foi aquela onde menos unidades realizaram busca ativa de grupos prioritários 81% (IC95%: 67-90) e de indivíduos que não haviam tomado a segunda dose 77% (IC95%: 62-87). O Nordeste foi a região que menos fez notificações de efeitos adversos 68% (IC95%: 61-74) (Tabela 3).

Discussão

Os resultados da pesquisa mostram o importante trabalho realizado pela APS brasileira, ao mesmo tempo em que realça as dificuldades enfrentadas no cenário da pandemia, incrementadas pela ausência de coordenação nacional. A pesquisa re-

Tabela 2. Disponibilidade de EPI, insumos e capacitações para o enfrentamento da pandemia de COVID-19 nas UBS. Brasil, 2021.

Variáveis			Norte %	Nordeste %	Sudeste %	Sul %	Centro-Oeste %	Brasil %
			(IC95%)	(IC95%)	(IC95%)	(IC95%)	(IC95%)	(IC95%)
EPI (disponibilidade na UBS)	Máscara N95	p<0,001	47 (39-56)	50 (44-57)	67 (61-73)	75 (68-80)	66 (58-74)	60 (57-63)
	Máscara cirúrgica	p=0,028	82 (75-88)	85 (80-89)	91 (87-94)	94 (90-97)	91 (84-95)	88 (86-91)
	Face Shield/ Óculos	p<0,001	60 (51-68)	62 (55-68)	78 (72-83)	89 (84-93)	73 (64-80)	72 (68-75)
	Avental impermeável	p<0,001	57 (48-65)	61 (55-67)	74 (68-79)	74 (70-82)	61 (52-69)	67 (64-70)
	Todos os EPI	p<0,001	34 (26-42)	36 (30-42)	53 (47-59)	58 (51-64)	43 (35-52)	45 (42-48)
Insumos (suficiência na UBS)	Oxímetro	p=0,012	74 (65-80)	73 (67-79)	75 (69-80)	84 (78-88)	75 (67-82)	75 (72-78)
	Oxigênio	p<0,001	28 (21-37)	23 (18-29)	62 (56-68)	79 (73-84)	54 (45-63)	46 (43-49)
	Termômetro infravermelho	p<0,001	46 (37-54)	50 (43-56)	59 (53-65)	68 (61-75)	61 (53-69)	56 (53-59)
	Teste RT-PCR	p<0,001	30 (23-39)	43 (37-50)	46 (40-53)	66 (58-72)	43 (34-52)	46 (43-49)
	Testes rápidos de antígeno	p=0,031	48 (39-57)	47 (41-54)	48 (42-54)	56 (49-63)	45 (36-54)	49 (45-52)
	Todos os insumos	p<0,0001	10 (6-17)	8 (5-12)	19 (15-24)	31 (24-38)	22 (16-30)	16 (14-18)
Capacitação	Capacitação uso EPI	p=0,008	49 (40-58)	51 (45-58)	64 (58-70)	57 (50-64)	65 (56-73)	57 (54-60)
	Capacitação enfrentamento COVID-19	p=0,020	45 (36-54)	49 (42-55)	61 (55-67)	52 (45-60)	57 (48-66)	54 (50-57)

Fonte: Autores.

flete também as diferenças regionais e a heterogeneidade do processo de trabalho das equipes de Saúde da Família no país. A APS é fundamental para oferecer atenção de qualidade nas infecções habituais e na COVID-19, ao mesmo tempo em que realizam importantes funções de saúde pública. Diretrizes apropriadas e baseadas em evidências desempenham um papel fundamental para garantir que a qualidade dos cuidados seja mantida, particularmente durante pandemias[9].

Na organização do trabalho na UBS para o cuidado dos usuários com casos ou suspeita de COVID-19, de forma geral, pode-se observar um gradiente entre a região Sul, que se destacou em relação às demais regiões, principalmente as do Norte e Nordeste. As regiões Centro-Oeste e Sudeste apresentaram resultados intermediários. A região Sul destacou-se predominantemente nas ações e serviços de atendimento individual, com melhor capacidade, disponibilidade de equipamentos, insumos para testagem e infraestrutura.

Por outro lado, as regiões Norte e Nordeste ficaram em evidência em relação aos aspectos coletivos da APS e do trabalho em equipe nas ações educativas e comunitárias, monitoramento dos casos, além da vacinação contra a COVID-19 e a busca ativa de usuários em atraso para a segunda dose.

Estudo de Castro *et al.*[10] demonstrou a disseminação da COVID-19 pelo Brasil por padrões distintos, resultando no que chamaram de "epidemias simultâneas de COVID-19". Suas constatações demonstram que à medida que o vírus se deslocava para o interior, uma maior demanda por recursos escassos e distantes se intensificou, sem possibilidade de evitar fatalidades. Os autores exemplificam diferenças regionais apontando o caso do estado do Ceará no Nordeste, com circulação silenciosa do vírus por cerca de um mês (final de abril a meados de maio de 2020) antes de o primeiro caso ser oficialmente detectado. Este estado teve alta taxa de espalhamento do vírus, mas foi o antepenúltimo estado em óbitos o que sugere que mesmo com a propagação contínua do vírus, as ações locais foram bem-sucedidas na prevenção de mortes.

Os resultados do presente estudo também apontam para ações de cuidado e vigilância sendo executadas com maior frequência em UBS do Nordeste. O fato de que ações de mitigação foram

Tabela 3. Organização do trabalho, vigilância e vacinação desenvolvidos nas UBS para o enfrentamento da pandemia de COVID-19. Brasil, 2021.

Variáveis			Norte % (IC95%)	Nordeste % (IC95%)	Sudeste % (IC95%)	Sul % (IC95%)	Centro-Oeste % (IC95%)	Brasil % (IC95%)
Cuidado (Formas de acompanhamento dos casos COVID-19)	Criação de unidade exclusiva para atendimento	p=0,485	90 (83-94)	85 (79-89)	83 (78-88)	88 (83-92)	85 (78-91)	85 (83-88)
	Telefonemas	p<0,001	70 (61-77)	81 (75-86)	90 (85-93)	89 (84-93)	91 (84-95)	85 (82-87)
	WhatsApp	p<0,001	66 (57-73)	73 (67-78)	56 (50-62)	71 (64-77)	66 (57-73)	66 (63-69)
	Chamada de vídeo	p=0,007	19 (13-27)	27 (22-33)	17 (13-22)	17 (12-23)	16 (11-24)	21 (18-24)
	Consultas presenciais na UBS	p=0,127	74 (65-81)	60 (54-66)	67 (60-72)	63 (56-70)	61 (53-70)	64 (60-67)
	Visitas domiciliares	p=0,018	77 (69-83)	70 (64-76)	67 (60-72)	59 (52-66)	58 (49-67)	67 (64-70)
	Apoio NASF-AB	p=0,460	71 (60-79)	76 (69-82)	71 (63-77)	68 (58-76)	76 (65-84)	73 (69-77)
	Apoio Saúde Bucal	p=0,590	81 (72-87)	84 (78-88)	79 (73-83)	82 (75-87)	80 (72-86)	81 (78-84)
Organização Trabalho	Ampliação horário atendimento	p<0,001	30 (22-38)	27 (21-33)	15 (11-19)	20 (15-27)	18 (12-26)	21 (19-24)
	Fluxos específicos COVID-19	p<0,001	82 (74-87)	86 (81-90)	95 (91-97)	94 (89-96)	89(82-94)	90 (87-92)
	Atendimento usuário grave COVID-19	p<0,001	38 (30-46)	20 (15-26)	30 (24-36)	48 (41-55)	34 (27-43)	30 (27-33)
	Referência para encaminhamento	p=0,506	99 (94-99)	98 (95-99)	98 (96-99)	97 (94-99)	96 (90-98)	98 (97-99)
	Consegue encaminhar	p=0,067	69 (60-76)	71 (65-77)	78 (73-83)	69 (62-75)	69 (60-76)	73 (70-76)
Transporte (casos graves)	Feito por órgãos do Estado	p=0,619	94 (89-97)	95 (91-97)	97 (94-98)	97 (94-97)	96 (90-99)	96 (94-97)
Vigilância	UBS é informada de casos confirmados por outros serviços	p=0,259	71 (63-78)	80 (74-84)	80 (75-85)	77 (70-82)	73 (64-80)	78 (75-81)
	UBS é informada de internações de seus usuários	p=0,007	55 (46-64)	72 (66-78)	69 (62-74)	62 (55-69)	58 (49-67)	67 (64-70)
	UBS notifica casos no e-SUS VE	p=0,035	76 (69-83)	72 (65-77)	72 (66-77)	60 (53-67)	65 (56-73)	70 (67-73)
	Coleta material RT-PCR	p<0,001	22 (16-31)	20 (16-26)	35 (29-41)	49 (42-56)	27 (20-36)	30 (27-33)
	Coleta material para teste rápido (antígeno)	p=0,0001	29 (22-37)	22 (17-28)	36 (31-42)	40 (33-47)	37 (29-46)	31 (28-34)
	Incentiva o isolamento social	p=0,504	98 (94-99)	99 (96-99)	98 (95-99)	98 (95-99)	96 (90-98)	98 (97-99)
	Busca ativa de contatos	p<0,001	80 (72-86)	88 (83-92)	82 (77-87)	73 (66-79)	76 (68-83)	82 (80 -85)
	Acompanhamento isolamento	p=0,088	83 (76-89)	89 (84-92)	81 (76-85)	83 (77-88)	83 (75-87)	84 (82-87)
	Monitoramento de casos	p<0,001	92 (86-96)	94 (90-97)	85 (81-89)	84 (78-88)	91 (84-95)	90 (87-91)
	Atividades educativas	p<0,001	91 (85-95)	96 (92-98)	81 (75-85)	80 (73-85)	86 (79-91)	87 (86-89)

continua

tomadas tão logo os primeiros casos foram reconhecidos, fez com que os efeitos da pandemia tenham sido amenizados. Apesar das respostas terem sido bastante distintas pelos estados, dada a ausência de medidas centralizadas emanadas do governo federal, houve uma importante redução no número de óbitos pela COVID-19 nesta região, como resultado das medidas de distanciamento físico e de ações na saúde tomadas pelos governos estaduais[11].

Tabela 3. Organização do trabalho, vigilância e vacinação desenvolvidos nas UBS para o enfrentamento da pandemia de COVID-19. Brasil, 2021.

Variáveis			**Norte %**	**Nordeste %**	**Sudeste %**	**Sul %**	**Centro-Oeste %**	**Brasil %**
			(IC95%)	**(IC95%)**	**(IC95%)**	**(IC95%)**	**(IC95%)**	**(IC95%)**
Vacinação COVID-19	UBS faz vacinação contra COVID-19	p<0,001	70 (62-78)	80 (74-85)	71 (65-76)	62 (55-69)	39 (30-47)	70 (67-73)
	Prática de "Xepa"	p=0,154	50 (40-60)	40 (33-48)	46 (39-54)	41 (32-50)	55 (41-69)	44 (40-48)
	Todos os profissionais da UBS se vacinaram	p=0,123	95 (88-98)	95 (91-97)	99 (96-100)	95 (89-98)	89 (77-96)	96 (94-97)
	Houve problema com cadeia de frio	p=0,309	7 (3-14)	5 (3-9)	4 (2-8)	2 (0-7)	2 (0-14)	4 (3-6)
	Aplicação 1° dose foi suspensa por falta de vacina	p<0,001	14 (9-22)	30 (24-36)	24 (19-30)	40 (33-48)	30 (23-39)	28 (25-31)
	Aplicação 2° dose foi suspensa por falta de vacina	p=0,103	17 (11-24)	26 (21-32)	25 (20-30)	30 (23-37)	25 (18-33)	25 (22-28)
	Vacinação suspensa por falta de seringas	p=0,546	0	3 (1-7)	3 (1-7)	1 (0-6)	0	2 (1-4)
	Busca ativa grupos prioritários	p=0,011	93 (86-97)	96 (92-98)	89 (83-93)	90 (82-94)	81 (67-90)	92 (90-94)
	Busca ativa para quem não tomou 2° dose	p=0,019	89 (80-94)	95 (91-97)	89 (83-93)	87 (79-92)	77 (62-87)	91 (88-93)
	Lista usuários com HAS/DM foi utilizada	p<0,001	92 (84-96)	95 (91-97)	84 (78-89)	82 (74-88)	85 (72-93)	89 (86-91)
	Faz notificação de efeito adverso	p<0,001	73 (62-81)	68 (61-74)	89 (84-93)	92 (86-96)	87 (74-94)	79 (75-82)
	Ampliação de trabalhadores	p=0,181	49 (39-59)	45 (38-53)	39 (32-47)	39 (31-48)	28 (17-42)	42 (38-46)

Fonte: Autores.

A insuficiência de EPI foi descrita na literatura, sobretudo nos meses iniciais da pandemia. Estratégias utilizadas para suprir a falta de EPI foram direcionados para profissionais que estivessem diretamente em contato com casos confirmados de COVID-19[12-15]. Neste estudo fica evidente que durante os picos de contaminação e transmissão de COVID-19 as UBS sofreram com a falta de EPI, sobretudo máscaras do tipo N95/PFF2.

Estudo de Giovanella *et al.*[16] observou que em junho de 2020 a disponibilidade de EPIs na APS era suficiente em apenas 24% dos casos, no presente estudo este percentual foi de 45% (IC95%: 42-48). O mesmo estudo mostrou que naquela data, insumos essenciais para o cuidado do paciente com COVID-19 eram escassos, 34% dos respondentes afirmaram ter oxímetros suficientes, oxigênio 35%, termômetros infravermelhos 19% e testes RT-PCR 45%. Em comparação, este estudo encontrou disponibilidade de oxímetro em 75% (IC95%: 72-78) das UBS, oxigênio 46% (IC95%: 43-49), termômetros infravermelhos 56% (IC95%: 53-59) e testes RT-PCR 46% (IC95%: 43-49).

O cuidado aos pacientes com COVID-19 alterou o funcionamento das unidades. Estudos[17,18] apontam para alterações no fluxo e a criação de espaços e equipes específicas para estes casos, visando reduzir a circulação e agilizar o atendimento.

Formas de cuidado e vigilância, sobretudo o monitoramento dos pacientes com COVID-19, através de meios de comunicação como telefonemas e WhatsApp, e o incentivo ao isolamento e busca ativa de contatos, foram amplamente implementadas nas UBS brasileiras, sobretudo em unidades do Nordeste. Tais estratégias foram estimuladas pelos órgãos de saúde em outros países, sobretudo em processos de triagem e acompanhamento da evolução clínica dos casos[10,19-23]. Ações com foco na vigilância dos casos executados pela APS no Brasil foram incentivadas em países como China, Canadá, Malásia, Etiópia, Nigéria e Índia[10,24-29].

Fernandez *et al.*[30] descrevem a utilização da telemedicina e do uso de redes sociais para monitoramento das famílias, assim como a exclusão digital, como desafios para os profissionais da APS. Lotta *et al.*[31] apontam que as tecnologias, não substituem o contato face a face e a abordagem relacional e próxima que as ESF fazem nos territórios em que atuam.

O uso de telemedicina facilitou a continuidade do atendimento aos usuários com COVID-19, mas não sem desafios. É essencial que exista infraestrutura adequada para otimizar a consulta remota[32]. Os baixos níveis de educação e alfabetização digital, juntamente com as barreiras linguísticas, representaram os desafios predominantes para os pacientes. Os profissionais e os serviços de saúde apresentaram preocupações relacionadas à alfabetização digital, fluxos de processos clínicos e responsabilidades legais. A falta de um modelo integrado de teleassistência cobrindo diagnósticos, prescrições e fornecimento de medicamentos espelha a fragmentação existente na prestação de cuidados[33].

Quanto ao início do processo vacinal, diferentes estratégias foram adotadas. Na região Centro-Oeste o processo foi realizado sobretudo em locais distintos a UBS. Ainda que em outros locais tenha havido a implementação de distintos pontos de vacinação[34], a realização em somente 39% (IC95%: 30-47) das UBS chama a atenção. Em todas as regiões houve a necessidade de suspensão da administração das vacinas, tanto no caso da primeira dose, quanto no caso da segunda, chegando a serem suspensas, na região Sul, em 40% e 30% das UBS respectivamente. Segundo Hallal[35] caso o governo federal tivesse dado a devida prioridade à compra de vacinas, 75% das vidas perdidas por COVID-19 poderiam ter sido salvas.

Estudo de Melki *et al.*[36] realizado na Tunísia, relata que a APS desempenhou um papel importante nos estágios iniciais da pandemia, ainda que tenha sido marginalizada da estratégia nacional contra a COVID-19, tal qual ocorreu no Brasil, onde foram priorizadas ações de fortalecimento às estruturas hospitalares. Estudo desenvolvido por Yang *et al.*[37], na China, apontou que os médicos da APS deveriam encaminhar imediatamente os casos suspeitos para hospitais especializados para diagnóstico e tratamento, uma vez que a APS possuía pouca infraestrutura e capacidade técnica para lidar com os casos.

Por outro lado, a capilaridade das UBS e das ESF no território brasileiro são vantagens que poderiam ter sido melhor aproveitadas no enfrentamento da pandemia de COVID-19[17,18]. Estudo de Cirino *et al.*[38], demonstrou o protagonismo da APS no enfrentamento da pandemia da COVID-19, ainda que aponte como desafios a reorganização dos processos locais e ambiência, fornecimento de suprimentos, comunicação institucional e articulação com os demais serviços da rede de atenção à saúde.

Conclusão

A presente pesquisa apresenta uma visão geral de como a APS atuou no enfrentamento a pandemia de COVID-19 e no cuidado aos usuários. Observa-se que, mais de um ano após o início da pandemia no Brasil, permaneceram importantes problemas na oferta de insumos, equipamentos e EPI, com piores resultados nas regiões Norte e Nordeste.

Houve a necessidade de readequação das práticas de cuidado pelas UBS visando o enfrentamento da pandemia, adotando formas de cuidado virtual, mudanças dos processos de trabalho, separação de fluxos dos usuários com síndromes respiratórias, e atendimento e monitoramento dos casos por meio digital. As ações de vigilância em saúde, como o incentivo ao isolamento social e o monitoramento dos casos, foram destaque positivo, ainda que a realização de testes diagnósticos tenha sido abaixo do ideal. Em relação ao processo de vacinação, o desafio ocorreu pela disponibilidade de doses.

Os resultados evidenciam a necessidade de investimentos na estrutura das UBS, especialmente nas regiões mais vulneráveis do país, visando o fortalecimento da comunicação, disponibilidade de EPI e insumos, capacitação da equipe e ampliação da capacidade de testagem, além de melhorias no sistema de vigilância. Embora este estudo retrate um período e pode não representar as mudanças em curso à medida que a pandemia progrediu, com adaptações nas políticas e organização das UBS, acredita-se que os resultados fornecem aos gestores do SUS e tomadores de decisão, evidências e aprendizados que podem contribuir para a formulação de políticas públicas mais efetivas no combate à COVID-19 e a outras pandemias que possam acontecer.

Colaboradores

PHS Mota: desenho e planejamento do estudo; coleta de dados, análise e interpretação; escrita e revisão do manuscrito. FR Santana: coleta de dados; análise e interpretação; escrita e revisão do manuscrito. MLF Rizzotto: coleta de dados; análise e interpretação; escrita e revisão do manuscrito. GC Cury: desenho e planejamento do estudo; coleta de dados; revisão do manuscrito. L Giovanella: desenho e planejamento do estudo; coleta de dados, revisão do manuscrito. LA Facchini: desenho e planejamento do estudo; coleta de dados, revisão do manuscrito. A Bousquat: desenho e planejamento do estudo; coleta de dados, análise e interpretação; revisão do manuscrito.

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ARTIGO
ARTICLE

A colaboração interprofissional na atenção primária à saúde na perspectiva da ciência da implementação

Interprofessional collaboration in primary health care from the perspective of implementation science

La colaboración interprofesional en la atención primaria de salud desde la perspectiva de la ciencia de la implementación

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Resumo

O objetivo foi analisar as percepções de trabalhadores da atenção primária à saúde (APS) sobre a colaboração interprofissional na perspectiva da ciência de implementação. Trata-se de estudo qualitativo que utilizou a entrevista em profundidade como técnica de produção de dados. Foram entrevistados 15 trabalhadores (três agentes comunitários de saúde, um auxiliar de enfermagem, três enfermeiros, três gerentes, três médicos e dois técnicos de enfermagem) de unidades básicas de saúde no Município de São Bernardo do Campo, São Paulo, Brasil. O roteiro da entrevista baseou-se em três dimensões do Quadro Conceitual Consolidado para Pesquisa de Implementação (CFIR; Consolidated Framework for Implementation Research*). Foi realizada análise de conteúdo temática. Na dimensão características da colaboração interprofissional, os entrevistados destacaram a complexidade, e sua possível influência, na implementação e sustentabilidade dessa prática. Na dimensão cenário interno, foram identificados fatores que influenciam a colaboração interprofissional: como se utiliza o tempo destinado a comunicação formal/reuniões de equipe; interações sociais entre os profissionais; e características da liderança, como* feedback*, autonomia e participação nas decisões. Na dimensão características dos indivíduos, os participantes destacaram a colaboração interprofissional direcionada para a qualidade do cuidado e a necessidade de integração entre os núcleos de saberes. Assim, ações para aperfeiçoar a qualidade da comunicação, a construção coletiva em equipe e o aprimoramento da liderança podem contribuir para melhorar a colaboração interprofissional na APS e potencializar seus impactos na atenção à saúde.*

Ciência da Implementação; Atenção Primária à Saúde; Equipe de Assistência ao Paciente; Gestão de Ciência, Tecnologia e Inovação em Saúde

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Introdução

A colaboração interprofissional é um processo que envolve profissionais de diferentes áreas da saúde, com articulação de distintos saberes para a produção do cuidado [1]. Um estudo realizado na atenção primária em saúde (APS) do Sistema Único de Saúde (SUS) identificou dois tipos de colaboração interprofissional: colaboração em equipe e colaboração em rede e com a comunidade [2].

Uma revisão de literatura reúne prática interprofissional colaborativa e trabalho em equipe [3]. Outra revisão analisa as quatro modalidades do trabalho interprofissional: trabalho em equipe, colaboração interprofissional ou prática interprofissional colaborativa, coordenação e trabalho em rede [4]. Esses autores destacam que o trabalho em equipe é o núcleo do trabalho interprofissional, caracterizado por objetivos comuns, identidade compartilhada, clareza de papéis, interdependência e corresponsabilização dos profissionais da equipe. A interação e a comunicação interprofissional são reconhecidas como dimensões constitutivas do trabalho interprofissional [2,3,5].

Neste estudo, adotamos a concepção de colaboração interprofissional que apresenta alguns elementos-chave do trabalho interprofissional apontados anteriormente, porém de forma menos sistematizada e com menor intensidade [4]. A colaboração interprofissional também constitui uma estratégia valorizada pelos modelos de atenção universal, que priorizam a integralidade [6], atributo essencial de modelos de APS [7]. Ao promover a interação entre os diferentes profissionais da saúde, a colaboração interprofissional contribui para reduzir a morbidade e as hospitalizações [8], além de proporcionar maior satisfação dos pacientes e melhores desfechos em saúde na APS [9].

Investimentos na implementação da colaboração interprofissional em equipes de APS têm sido feitos por gestores de diversos países, incluindo o Brasil, que desde 1994 implantou as equipes de saúde da família (EqSF) [10,11]. Cada EqSF é composta por médicos, enfermeiros, auxiliares ou técnicos de enfermagem e agentes comunitários de saúde (ACS). A partir de 2022, mais de 40 mil equipes passaram a ser responsáveis pelo cuidado de aproximadamente 134 milhões de pessoas em todo o território nacional [11].

A Política Nacional de Atenção Básica [12] (PNAB) destaca que a provisão de atenção integral e contínua é o propósito central da Estratégia Saúde da Família (ESF). Para atingir esse objetivo, os profissionais da ESF devem atuar de forma interdisciplinar, coadunando conhecimentos de diferentes disciplinas e áreas de formação, e buscar a realização do trabalho interprofissional no sentido mencionado, para o planejamento compartilhado do cuidado em saúde e a integração das ações. Cabe ressaltar que as abordagens interprofissional e interdisciplinar são distintas, mas complementares e têm potencial para melhorar a qualidade da atenção à saúde.

Vários estudos têm analisado a colaboração interprofissional em equipes de APS, em países de alta renda [13]. No Brasil, ainda são poucos os que se concentram na colaboração interprofissional na ESF. Matuda et al. [5] analisaram as percepções dos profissionais da APS sobre a colaboração interprofissional no Município de São Paulo e identificaram a interação entre as categorias profissionais e as metas de produção como temas relacionados à colaboração interprofissional.

Araújo et al. [14] realizaram um estudo de casos comparados e entrevistaram profissionais da ESF no Município de Sobral (Ceará, Brasil) e de unidades de saúde na cidade de Coimbra, em Portugal, utilizando um instrumento desenvolvido com base no modelo de D'Amour et al. [1] para caracterizar a colaboração interprofissional. No entanto, esses estudos não tiveram como objetivo analisar a implementação da colaboração interprofissional na ESF.

Nos últimos 10 anos, a ciência da implementação tem sido amplamente utilizada como método para investigar as barreiras à adoção sistemática de práticas baseadas em evidência. Isso visa melhorar a adoção e a sustentabilidade dessas práticas, impactando diretamente a qualidade e a efetividade das ações em saúde [15]. Paralelamente, a ciência da implementação busca compreender por que a adesão a certas inovações foi bem-sucedida em alguns lugares e malsucedida em outros [16,17].

Dessa forma, consideramos a ciência da implementação uma ferramenta valiosa para identificar barreiras e facilitadores para a instauração da colaboração interprofissional em serviços de APS. Isso pode ocasionar implicações práticas tanto para a gestão local quanto para os trabalhadores envolvidos.

Este é um dos primeiros estudos a utilizar um instrumento da ciência da implementação para investigar a colaboração interprofissional na APS. O objetivo deste estudo é analisar a percepção de trabalhadores da APS sobre os fatores que influenciam a adesão da colaboração interprofissional, a partir da perspectiva da ciência da implementação.

Método

Trata-se de pesquisa qualitativa, descritiva e exploratória, realizada em unidades básicas de saúde (UBS) no Município de São Bernardo do Campo (São Paulo). São Bernardo do Campo tem uma população estimada em 844.483 habitantes [18]. Destes, 63,3% estão cadastrados nas 154 EqSF [12].

Seleção dos participantes

Para realizar a amostragem qualitativa, seguimos os pressupostos descritos por Minayo [19]: privilegiar a escolha de sujeitos que tivessem os atributos que se pretende conhecer na pesquisa e considerar um número suficiente e diversificado de participantes que permita reincidência de informações e potencial explicativo dos relatos. Desse modo, foram convidados a participar trabalhadores das EqSF (ACS, enfermeiros, médicos, técnicos/auxiliares de enfermagem) e gerentes de três UBS do Município de São Bernardo do Campo de diferentes regiões, cujas populações adscritas apresentavam distintos graus de vulnerabilidade, conforme o Índice Paulista de Vulnerabilidade Social (IPVS) [20]. Buscamos a diversidade de sujeitos em relação a gênero, idade, profissão, tempo de atuação na ESF e vínculo ou não com a residência de medicina de família e comunidade ou prática multiprofissional em saúde da família, pois consideramos que essas diferenças poderiam enriquecer a coleta e a análise das percepções dos trabalhadores.

Coleta de dados

Como técnica de produção de dados empíricos, utilizamos a entrevista semiestruturada, conduzida a partir de um roteiro composto por questões norteadoras, por permitir a modulação das perguntas em função das verbalizações e reações dos entrevistados, visando compreender a percepção relativa às experiências vividas e alcançar o coletivo no relato individual, no contexto histórico e social [19].

Testamos o roteiro na fase piloto da pesquisa para avaliar a clareza das perguntas e dos termos utilizados. Para isso, entrevistamos três trabalhadores de uma UBS, cujo material transcrito não foi incluído na análise.

Para selecionar as UBS incluídas no estudo, foi adotado o seguinte procedimento: (1) das 31 UBS do Município de São Bernardo do Campo com ESF há mais de dois anos, foram excluídas 10 pelo motivo de os profissionais terem contato próximo com a pesquisadora principal (N.P.K.); (2) a seguir, as 21 UBS restantes foram agrupadas de acordo com o IPVS para a população cadastrada, o que resultou na classificação segundo IPVS "muito baixa", "baixa-média" e "média-alta"; (3) foi selecionada uma UBS de cada uma dessas três categorias. Nas três UBS, foram convidados a participar quatro profissionais por equipe e os gerentes. No total, foram entrevistados 15 trabalhadores da APS. As entrevistas foram agendadas previamente com cada participante, sendo realizadas em ambientes reservados dentro das UBS no horário de trabalho. A coleta aconteceu entre os meses de setembro e outubro de 2021. As entrevistas foram gravadas e transcritas e tiveram duração média de uma hora e 20 minutos. Não houve recusa em participar.

As entrevistas foram conduzidas por uma médica de família e comunidade (N.P.K.) que atuou nas EqSF e, no momento, trabalha na gestão da APS no Município de São Bernardo do Campo. Desse modo, optamos por excluir as UBS nas quais a pesquisadora tinha trabalhado e aquelas diretamente vinculadas à sua atuação enquanto gestora, na tentativa de minimizar o viés de respostas por parte de participantes ligados à pesquisadora N.P.K.

A pesquisadora A.T.C.S. supervisionou o estudo e analisou o material transcrito, em conjunto com N.P.K. A.T.C.S. é médica de família e comunidade, atuou na assistência e na gestão no Município de São Paulo e desenvolve pesquisas na área de APS e gestão em saúde. A.C.C.G.G. e M.P. atuam na área de educação interprofissional, sendo que A.C.C.G.G. tem foco em APS, e M.P. em gestão do trabalho e educação interprofissional. P.C.D.S. tem atuação reconhecida em avaliação de tecnologias em saúde.

• Instrumento de coleta de dados

Para compor o roteiro de entrevista, utilizamos dimensões e constructos do Quadro Conceitual Consolidado para Pesquisa de Implementação (CFIR; *Consolidated Framework for Implementation Research*), um dos instrumentos mais frequentemente aplicados em pesquisa de implementação. O CFIR é constituído por 39 constructos organizados em cinco dimensões, incluindo características da intervenção/inovação, cenário externo, cenário interno, características dos indivíduos e processo [21].

A seleção dos constructos utilizados foi feita de acordo com os objetivos da pesquisa [16] e a intervenção/inovação estudada foi a colaboração interprofissional. Foram selecionadas três dimensões do CFIR: (1) Características da Intervenção, para compreender as dificuldades percebidas na implementação da colaboração interprofissional; (2) Cenário Interno, para descrever fatores relacionados ao ambiente de trabalho na APS que poderiam influenciar a implementação e sustentabilidade da colaboração interprofissional; e (3) Características dos Indivíduos, para contemplar as inter-relações entre os profissionais, e deles com a organização, dada a relevância da interação social e comunicação na colaboração interprofissional [21].

Essas três dimensões foram selecionadas por serem relevantes para identificar barreiras e facilitadores para a instauração da colaboração interprofissional em serviços de APS. No entanto, optamos por não investigar a dimensão "cenário externo", que analisa as interações do serviço com organizações externas, políticas externas e incentivos à adoção da intervenção; e a dimensão "processo", que analisa a implementação desde o planejamento até a avaliação [21], porque a colaboração interprofissional na APS já havia sido instaurada desde o início da ESF em meados dos anos 1990. Essas duas dimensões poderiam estar sujeitas a viés de memória e limitariam a seleção dos participantes àqueles que estivessem atuando nas EqSF desde o início da implantação das equipes.

As entrevistas foram conduzidas com base em um roteiro constituído pelos seguintes tópicos: características sociodemográficas dos participantes, aspectos relacionados ao trabalho na APS e na ESF, além da caracterização da implementação da colaboração interprofissional, norteada pelas três dimensões do CFIR mencionadas anteriormente.

Análise dos dados

O material transcrito foi submetido à análise de conteúdo temática, realizada por duas pesquisadoras, que seguiram as etapas predefinidas: pré-análise, exploração do material e tratamento dos resultados e interpretação [19]. Foram adotados procedimentos como condensação, codificação e elaboração das categorias e temas segundo a lógica dedutiva. O software NVivo 1.6.1 (https://www.qsrinternational.com/nvivo/home) foi utilizado para apoiar a análise de conteúdo.

Procedimentos para aumentar a confiabilidade

Para adaptação e validação do roteiro no eixo das dimensões do CFIR, enviamos a tradução e a adaptação para a apreciação de dois pesquisadores que atuam na área de ciência da implementação. Além disso, solicitamos o *feedback* dos participantes sobre o material transcrito.

Procedimentos éticos

A pesquisa foi aprovada pelo Comitê de Ética em Pesquisa do Hospital das Clínicas da Universidade de São Paulo (parecer nº 4.406.541). O sigilo e a privacidade dos dados foram garantidos aos participantes. Todos os entrevistados assinaram o Termo de Consentimento Livre e Esclarecido. Como garantia de anonimato, os nomes dos participantes foram substituídos por letras M (médico/a), E (enfermeiro/a), T (técnico/a ou auxiliar de enfermagem), A (ACS) ou G (gerente).

Resultados e discussão

Dos 15 trabalhadores da ESF participantes, a maioria era mulher (73%) e tinha idade entre 22 e 59 anos. A média de tempo de atuação na APS do município foi de oito anos; e na EqSF atual, 2,9 anos. Mais informações sobre os participantes estão dispostas no Quadro 1.

A seguir, serão apresentados os achados referentes às dimensões do CFIR e seus respectivos constructos, conforme apresentado na Figura 1.

Dimensão Características da Intervenção

• Constructo – Fonte da colaboração interprofissional

Os participantes descreveram a colaboração interprofissional como uma tecnologia inerente às competências das equipes de APS, desenvolvida localmente e diretamente vinculada ao trabalho integrado de uma equipe de profissionais comprometidos com a qualidade do cuidado ofertado aos usuários.

"...A colaboração interprofissional faz parte do dia a dia na ESF (...) é um trabalho realizado pelos membros da equipe, buscando o melhor para o paciente. É uma troca de informações e de experiências que levam a uma assistência mais integral. Integra a visão do ACS, da enfermeira e é complementada pelos profissionais do NASF [Núcleo de Apoio à Saúde da Família]*..."* (M1).

Quadro 1

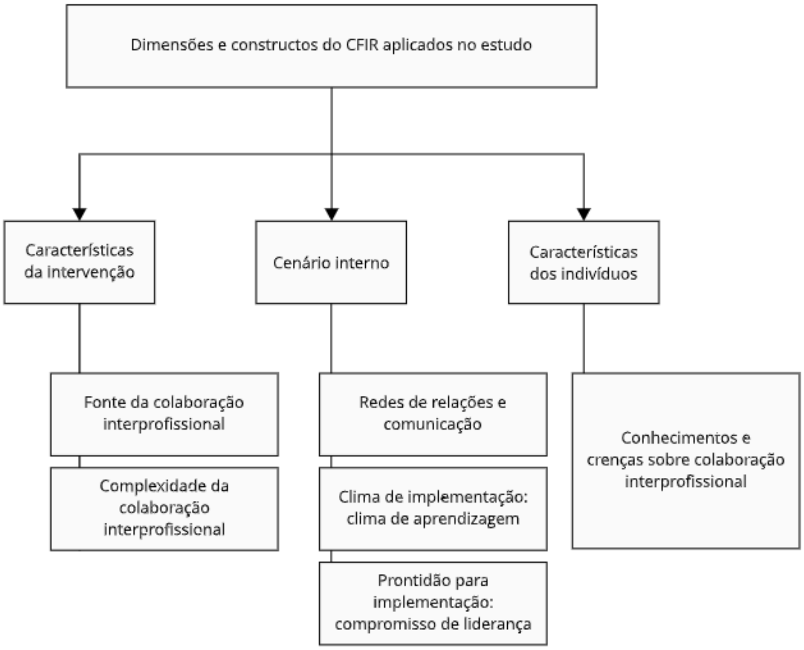
Características dos entrevistados.

Código do participante	Categoria	UBS	Grau de vulnerabilidade da área da UBS conforme IPVS (2010)	Idade (anos)	Sexo biológico
A1	ACS	1	Muito baixo	58	Masculino
A2	ACS	2	Baixo a médio	29	Feminino
A3	ACS	3	Médio a alto	45	Feminino
E1	Enfermeira	1	Muito baixo	33	Feminino
E2	Enfermeira	2	Baixo a médio	38	Feminino
E3	Enfermeira	3	Médio a alto	29	Masculino
G1	Gerente	1	Muito baixo	44	Feminino
G2	Gerente	2	Baixo a médio	47	Feminino
G3	Gerente	3	Médio a alto	47	Feminino
M1	Médica	1	Muito baixo	59	Masculino
M2	Médica	2	Baixo a médio	38	Masculino
M3	Médica	3	Médio a alto	38	Feminino
T1	Técnica de enfermagem	1	Muito baixo	40	Feminino
T2	Auxiliar de enfermagem	2	Baixo a médio	55	Feminino
T3	Técnica de enfermagem	3	Médio a alto	22	Feminino

ACS: agente comunitário de saúde; IPVS: Índice Paulista de Vulnerabilidade Social; UBS: unidade básica de saúde.

Figura 1

Dimensões e constructos do Quadro Conceitual Consolidado para Pesquisa de Implementação (CFIR) identificados na análise de conteúdo.



Considerar a colaboração interprofissional como um dos eixos do trabalho das EqSF com foco na qualidade do cuidado é fundamental para que os trabalhadores da APS estabeleçam espaços de construção e articulação dos saberes e das experiências das diversas categorias profissionais que compõem as equipes. Promover a educação permanente sobre o tema e alinhar conceitos e impactos para o cuidado poderia contribuir para aprimorar a implementação e sustentabilidade, como proposto na PNAB de 2012 [12].

• Constructo – Complexidade da colaboração interprofissional

Para os participantes, a complexidade da colaboração interprofissional se constituiu a partir do reconhecimento da necessidade de compreender o papel de cada componente da equipe, de integrar as ações de saúde incluindo a contribuição dos diversos núcleos de saber que compõem a equipe, de construção de objetivo comum em cada equipe, de lidar com relações de assimetria de poder e de estabelecer canais efetivos de comunicação.

"Pessoas são complexas. (...) E aí, essa parte, cada um tem que tirar um pouquinho da vaidade de lado e ser mais aberto à escuta, né? (...) a médica, por exemplo, é superaberta quando fala alguma coisa, alguma conduta de curativo, porque talvez seja uma coisa que eu tenha um pouco mais de vivência do que ela. Eu acho que quando a equipe consegue estar muito alinhada com um objetivo, quando consegue traçar as expectativas" (E3).

"Eu acho que [os profissionais conhecem o papel um do outro] *muito pouco e a gente teria que dar condições para que isso acontecesse (...). Só que é algo que a gente não consegue efetivar. Por quê? Porque a urgência do serviço atropela (...). Então, vai aprendendo no tranco, né?"* (G3).

"E hoje mesmo eu estava discutindo esse caso com a assistente social e falei assim: 'Então qual o teu papel nessa história?' (...). Porque às vezes a gente quer tanto dela e às vezes não é tudo dela, né?" (M3).

A compreensão limitada sobre o papel de cada trabalhador da EqSF, as dificuldades comunicacionais de expressar ideias e o medo de não ser acolhido [22] podem afetar a qualidade do cuidado ofertado pela equipe, gerar conflitos [23], ações de saúde duplicadas e subutilização das habilidades [24]. Nesse sentido, a capacidade comunicacional do líder, do supervisor e do gerente é essencial para destacar as atribuições de cada trabalhador, levando os profissionais a conhecerem suas funções e as dos colegas [24], o que propicia a redução de disputas de poder, a integração de novos papéis na equipe e a colaboração interprofissional [25]. Os entrevistados descreveram a importância da habilidade comunicacional do líder para a colaboração interprofissional, reconhecendo os saberes e as potencialidades de cada profissional e exercendo uma liderança compartilhada e colaborativa.

"...Quando ele [o líder da equipe, enfermeiro] *tem alguma coisa pra falar, ele chama a gente, ele pergunta, ele fala 'O que é que você acha? Olha, está acontecendo isso'. (...) Então, eu acho que a gente se sente valorizado, né? E ele, e ele sempre está elogiando e falando a importância do nosso trabalho"* (A3).

Cabe destacar que há inter-relação entre os pontos levantados pelos participantes relacionados ao constructo "complexidade da intervenção" (CFIR), às dimensões "visão/objetivos compartilhados" e à "liderança" do modelo de colaboração interprofissional de D'Amour et al. [26]. A compreensão dos objetivos compartilhados pela equipe, o foco na centralidade do cuidado e líderes que promovam participação dos trabalhadores nas decisões são pontos-chave, segundo o modelo referido. Para tanto, é fundamental que os trabalhadores conheçam as atribuições de cada um e se dediquem à construção do cuidado, integrando os núcleos de saberes da EqSF.

Dimensão Cenário Interno

• Constructo – Redes de relações e comunicação

Esse constructo se refere à natureza e à qualidade das redes de interações e de relações formal e informal em uma organização [21]. Para os participantes, os aspectos relevantes relacionados à comunicação foram: qualidade do tempo reservado para comunicação formal entre os profissionais da equipe e aspectos interacionais entre os profissionais.

a) Espaço de comunicação formal

Apesar de os espaços de comunicação formal nas EqSF serem parte da agenda semanalmente, com duração de duas horas, os relatos dos participantes mostraram que a qualidade do encontro tem fundamental importância para que a colaboração interprofissional seja efetiva. De acordo com os participantes, a ausência ou a insuficiência de espaços de comunicação formal constituiu uma barreira para a colaboração interprofissional, com impacto na qualidade do cuidado, particularmente para os casos de maior complexidade acompanhados pela equipe. A influência das interações e da comunicação na implementação da colaboração interprofissional apareceu com maior destaque nas falas dos profissionais de EqSF que cuidam de populações em áreas de maior vulnerabilidade, o que pode estar vinculado não apenas à quantidade de demandas, mas à complexidade dos casos na perspectiva da interseccionalidade.

"Eu acho que, embora a gente tenha um bom diálogo (...), eu sinto que falta tempo para a gente conseguir avaliar, criar processos terapêuticos para os pacientes (...). Então, a demanda é grande..." (E2).

Apesar de as reuniões das EqSF estarem direcionadas para identificação dos problemas, tomada de decisão para programação das ações e avaliação das atividades [27], alguns autores afirmam que profissionais da APS relataram aspectos problemáticos relacionados às reuniões, indicando que elas eram protocolares e com assimetria de poder entre profissionais, o que dificultava a expressão de ideias e gerava conflitos [22]. Nesse sentido, Carvalho et al. [23] identificaram que tais conflitos incluem o desrespeito decorrente de relações assimétricas, o comportamento dos profissionais e a falta de colaboração no trabalho. Savio et al. [28] descreveram o uso de aplicativos de mensagens para atender demandas fora do horário de trabalho, reduzindo a separação entre vida pessoal e trabalho [28] e aumentando o estresse e a sobrecarga. Cabe destacar que a comunicação face a face em encontros presenciais tem a vantagem de possibilitar trocas verbais e não verbais [28] e de tornar a comunicação mais efetiva. Desse modo, a discussão de como aprimorar os espaços de encontro e de reunião das EqSF deve ser realizada. O melhor aproveitamento desses espaços promove redução da sobrecarga, trocas dos núcleos de saberes, elaboração de planos de cuidados e colaboração interprofissional mais efetiva [29].

A comunicação nas EqSF deve ser desenvolvida como um processo de escuta ativa e empática [30], contribuindo para redução de conflitos [31]. Ter momentos para aprimorar a comunicação, com o uso de técnicas específicas e da comunicação não violenta, pode melhorar as relações, aumentar a empatia e confiança, expandir o suporte social e repercutir diretamente na colaboração interprofissional [32]. A comunicação entre os profissionais orientada para as necessidades de saúde dos usuários e da população do território é uma condição *sine qua non* do trabalho em equipe e da prática interprofissional colaborativa [33].

b) Falta de profissionais e rotatividade dos membros das EqSF

Equipes desfalcadas e alta rotatividade de profissionais da APS foram considerados fatores limitantes para a implementação e sustentabilidade da colaboração interprofissional. Esses elementos geram sobrecarga de trabalho, reduzem o tempo de serviço destinado para a sua própria equipe e podem gerar conflitos entre os profissionais.

"Fazer com que as pessoas se relacionem, construam relações e que a gente tenha equipes que possam também ter o seu tempo até para ter as suas dificuldades e depois se reconstruir, porque o que a gente vê sempre é que quando parece que está tudo caminhando bem, aí é um médico que vai embora..." (G3).

Maior tempo de convivência na mesma equipe pode aumentar o amadurecimento do grupo [15]. A alta taxa de rotatividade de profissionais impossibilita a manutenção de equipes integradas, fundamental para a colaboração interprofissional, além de diminuir a produtividade e aumentar custos pelo tempo gasto em treinamentos e novas contratações [34,35].

• Constructo – Clima de implementação: clima de aprendizagem

Esse constructo se relaciona à atuação dos líderes em promover a valorização e contribuição dos membros das equipes nas tomadas de decisão, com espaço seguro para reflexão e avaliação [21]. Nesse sentido, os participantes relataram como aspectos relevantes relacionados ao compromisso de liderança para a colaboração interprofissional: *feedback* realizado pela liderança, promoção de autonomia e liderança participativa.

a) *Feedback* realizado pela liderança

Apesar de os momentos de *feedback* terem sido considerados estratégias voltadas para aprimorar as relações no trabalho, promover aprendizados e melhorar a satisfação com o trabalho, a forma como se tem fornecido o *feedback* pode ser compreendida como uma barreira para a colaboração interprofissional, podendo gerar competição e desmotivação.

"Então, quando eu trabalhava com outro enfermeiro, acredito que a maneira que ele fazia essa cobrança das planilhas e tudo mais acabava gerando (...) um clima meio de que estava competindo [com] *a outra. 'Ah, fulano fez tantas visitas, você não'"* (A2).

Alguns autores defendem que o *feedback* priorize a reflexão e o reconhecimento das fortalezas [36], forneça suporte social, aumentando a motivação [37] e favorecendo a colaboração interprofissional [37,38,39].

• Constructo – Prontidão para implementação: compromisso de liderança

a) Promoção de autonomia

Os entrevistados destacaram a importância de o gerente estimular a autonomia e a redução da dependência nas tomadas de decisões. Alguns trabalhadores referiram que ter autonomia e sentir que o gerente confia no trabalho do profissional impacta o sentimento de reconhecimento e valorização.

"E quando eles escutam, quando eles se interessam pelo assunto (...). A sua voz não fica uma voz que fica tampada (...). Você tem voz, né? Aquilo que você falou é importante" (A3).

"No começo, as pessoas achavam estranho. 'Peraí, é pra gente sentar entre a gente para fazer a nossa escala de recepcionista? É, você que trabalha como recepcionista. Eu posso sentar aqui com você, eu vou olhar'" (G3).

Lideranças que reconhecem e incorporam saberes dos diferentes núcleos [40] de profissionais que compõem as equipes de APS e valorizam as ideias dos membros das equipes [41] contribuem para remover barreiras para a comunicação e favorecem a colaboração interprofissional. Hjalmarson et al. [37], em seu estudo envolvendo equipes de APS, observou que estruturas nas quais os profissionais são encorajados a agir criativamente e líderes os encorajam a construir propostas de soluções para os problemas resultam em maior colaboração interprofissional [37].

Dimensão Características dos Indivíduos

• Constructo – Conhecimentos e crenças sobre colaboração interprofissional

Para os entrevistados, compartilhar as mesmas metas, objetivos e responsabilização sobre o cuidado da população adscrita à equipe constitui condição fundamental para a colaboração interprofissional na ESF.

"É exatamente isso, é você… Todo mundo… ter o mesmo olhar para cuidar do paciente" (G2).

Outro ponto comum observado nos relatos dos participantes foi a relação do trabalho em equipe com a interação e a integração entre os profissionais na forma de trabalhos complementares, união de forças, vínculo, troca de conhecimentos, informações e experiências.

Todas as características de trabalho em equipe apresentadas neste estudo estão presentes na síntese realizada por Reeves et al. [42] sobre elementos que caracterizam trabalho em equipe: identidade compartilhada na equipe, clareza de papéis, objetivos comuns, interdependência, integração, responsabilidade compartilhada e atividade a ser desempenhada [42]. Os resultados convergem com os achados de um estudo com profissionais da ESF do Paraná, que descreveu o trabalho da EqSF como uma atuação coletiva, com integração e interdependência entre os profissionais [43], como vem sendo apontado por outros estudos sobre o tema [33].

a) Percepção sobre membros da equipe

Apesar de todos os profissionais entrevistados integrarem EqSF, alguns participantes não incluíram os técnicos de enfermagem como componentes da EqSF. Muitas vezes, os técnicos de enfermagem são requisitados para realizar outras tarefas na UBS em detrimento de participar das atividades da própria EqSF. Por exemplo, justamente na UBS em que esse profissional foi menos citado como membro da equipe, os técnicos de enfermagem não participam rotineiramente das reuniões de equipe, estavam na escala para outras atividades na UBS.

"Nós temos um médico, um enfermeiro e um ACS. Esses são... esse é o 'core', né? Mas existe a equipe do NASF que participa..." (M1).

A não descrição do técnico de enfermagem como integrante da equipe foi apontada também em um estudo realizado na APS no Paraná [44], que destacou a invisibilidade do trabalho dessa categoria profissional pela própria equipe.

Carvalho et al. [23] analisaram as percepções de trabalhadores da APS e destacaram que as relações assimétricas de poder entre os membros da equipe e a falta de colaboração no trabalho estão relacionadas aos conflitos na equipe. A não participação dos técnicos de enfermagem nas reuniões da EqSF contribui para a percepção descrita anteriormente e para perpetuar sua invisibilidade no trabalho da equipe. Grando et al. [22] apontaram os desafios identificados nas reuniões de EqSF para que esse espaço seja utilizado como uma possibilidade de construção coletiva do cuidado. Os referidos autores observaram que os espaços de reunião são protocolares, centrados em aspectos técnicos e que os profissionais têm dificuldade de expressar ideias e assumir uma postura crítica, que pode levar à segregação por parte do grupo. Esse resultado assinala as limitações acarretadas pela percepção parcial dos membros da equipe acerca de seus integrantes, em especial no que se refere à ausência de reconhecimento do papel de algumas profissões que compõem a equipe de trabalho.

Limitações e forças do estudo

O estudo apresentou como limitação o fato de a pesquisadora principal fazer parte da gestão central de saúde do município e já ter trabalhado em algumas UBS como médica generalista e/ou preceptora, tendo interação social prévia com alguns entrevistados. Isso pode ter aumentado a possibilidade de respostas socialmente aceitáveis, apesar da garantia de sigilo e privacidade das informações. Outra limitação a ser destacada diz respeito à seleção dos participantes, o estudo deixou de incluir a percepção dos trabalhadores das equipes de saúde bucal e dos NASF, equipes que compõem a APS e contribuem para o cuidado integral ofertado à população na ESF. Neste estudo, buscou-se a percepção dos trabalhadores apenas das equipes mínimas da ESF (ACS, técnicos de enfermagem, enfermeiros e médicos). Optou-se por incluir somente trabalhadores das EqSF por considerarmos que elas estão presentes na maior parte dos municípios brasileiros e com maior continuidade desde sua implantação, quando comparadas às equipes de saúde bucal e do NASF.

Uma das forças do estudo é a utilização de um instrumento da ciência da implementação para analisar a colaboração interprofissional no âmbito da APS. Seguindo os pressupostos de estudos em ciência da implementação, a composição da equipe de pesquisa contemplou diversos núcleos de saberes [15] e áreas que se interseccionam para análise e interpretação dos resultados, assim como para o desenho das recomendações. Cabe ressaltar, por fim, que o fato de a pesquisa ter sido realizada no período da pandemia de COVID-19 pode contribuir para aprimorar a colaboração interprofissional na APS em futuros eventos de crise sanitária.

Conclusão

Nossos resultados podem contribuir para elaboração de ações pelos gestores e pelos trabalhadores da saúde para fortalecer a colaboração interprofissional na APS. As ações para aprimorar a implementação e a sustentabilidade da colaboração interprofissional na APS incluem: (1) compreender o próprio papel e o papel dos profissionais das demais áreas em um trabalho que busque produzir colaboração interprofissional em benefício da atenção da população adscrita; (2) garantir espaços efetivos de interação e comunicação, formal e informal, sobretudo em reunião de equipe, para lidar com a complexidade dos casos e as demandas de acordo com a vulnerabilidade da área da EqSF; (3) reconhecer e elaborar estratégias para mitigar as assimetrias de poder; (4) promover educação permanente voltada para habilidades comunicacionais, escuta ativa e empática, garantindo espaço seguro de fala e de escuta; (5) promover educação permanente de líderes e gerentes de unidade para fornecer *feedbacks* que incluam reconhecimento do trabalho, suporte social, aprimoramento de habilidades e conhecimentos, redução de conflitos e motivação para a colaboração interprofissional.

Colaboradores

N. P. Kanno contribuiu com a concepção do estudo, análise dos dados e redação; e aprovou a versão final. M. Peduzzi contribuiu com a concepção do estudo, análise dos dados e revisão; e aprovou a versão final. A. C. C. G. Germani contribuiu com a revisão; e aprovou a versão final. P. C. De Soárez contribuiu com a revisão; e aprovou a versão final. A. T. C. Silva contribuiu com a concepção do estudo, análise dos dados e revisão; e aprovou a versão final.

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Conflitos de interesse

As autoras declaram não haver conflito de interesse.

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Abstract

The objective was to analyze the perceptions of primary health care (PHC) workers about interprofessional collaboration from the perspective of implementation science. This is a qualitative study that used in-depth interview as a data production technique. Interviews were conducted with 15 workers (three community health agents, one nursing assistant, three nurses, three managers, three physicians, and two nursing technicians) from basic health units in the Municipality of São Bernardo do Campo, São Paulo State, Brazil. The interview plan was based on three domains of the Consolidated Framework for Implementation Research (CFIR). Thematic content analysis was used. In the interprofessional collaboration characteristics domain, respondents highlighted the complexity, and its possible influence, as to the implementation and sustainability of this practice. In the inner setting domain, factors that influence interprofessional collaboration were identified, namely: how the time allocated to formal communication/team meetings is used; social interactions between professionals; and leadership characteristics, such as feedback, autonomy and participation in decisions. In the individuals characteristics domain, participants noted interprofessional collaboration geared to quality of care and the need for integration between knowledge centers. Thus, measures to enhance the quality of communication, collective team building and leadership can contribute to improve interprofessional collaboration in PHC and leverage its impacts on health care.

Implementation Science; Primary Health Care; Patiente Care Team; Health Sciences, Technology and Innovation Management

Resumen

El objetivo fue analizar las percepciones de los trabajadores de atención primaria de salud (APS) sobre la colaboración interprofesional desde la perspectiva de la ciencia de implementación. Se trata de un estudio cualitativo que utilizó la entrevista en profundidad como técnica de producción de datos. Fueron entrevistados 15 trabajadores (tres agentes comunitarios de salud, un auxiliar de enfermería, tres enfermeros, tres gerentes, tres médicos y dos técnicos de enfermería) de unidades básicas de salud en el Municipio de São Bernardo do Campo, São Paulo, Brasil. La guía de la entrevista se basó en tres dimensiones del Marco Consolidado para la Investigación sobre la Implementación (CFIR; Consolidated Framework for Implementation Research*). Se realizó un análisis de contenido temático. En la dimensión característica de la colaboración interprofesional, los entrevistados destacaron la complejidad y la posible influencia en su implantación y sostenibilidad. En la dimensión escenario interno, fueron identificados factores que influencian en la colaboración interprofesional: cómo se utiliza el tiempo destinado a la comunicación formal/reuniones de equipo; las interacciones sociales entre los profesionales, y las características del liderazgo, como* feedback*, la autonomía y la participación en las decisiones. En la dimensión de las características de los individuos, los participantes destacaron la colaboración interprofesional orientada a la calidad de la atención y la necesidad de integración entre los núcleos de saberes. Así, las acciones para mejorar la calidad de la comunicación, la construcción colectiva en equipo y la mejora del liderazgo pueden contribuir para mejorar la colaboración interprofesional en la APS y mejorar sus impactos en la atención a la salud.*

Ciencia de la Implementación; Atención Primaria de Salud; Grupo de Atención al Paciente; Gestión de Ciencia, Tecnología e Innovación en Salud

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Violence against women and girls 2

The health-systems response to violence against women

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Health systems have a crucial role in a multisector response to violence against women. Some countries have guidelines or protocols articulating this role and health-care workers are trained in some settings, but generally system development and implementation have been slow to progress. Substantial system and behavioural barriers exist, especially in low-income and middle-income countries. Violence against women was identified as a health priority in 2013 guidelines published by WHO and the 67th World Health Assembly resolution on strengthening the role of the health system in addressing violence, particularly against women and girls. In this Series paper, we review the evidence for clinical interventions and discuss components of a comprehensive health-system approach that helps health-care providers to identify and support women subjected to intimate partner or sexual violence. Five country case studies show the diversity of contexts and pathways for development of a health system response to violence against women. Although additional research is needed, strengthening of health systems can enable providers to address violence against women, including protocols, capacity building, effective coordination between agencies, and referral networks.

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This is the second in a Series of five papers about violence against women and girls

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Introduction

Violence against women is a global public health and clinical problem of epidemic proportions.[1] It is also a gross violation of women's human rights. Violence affects the health and wellbeing of women and their children, with vast social and economic costs.[2–4] Its adverse physical, mental, and sexual and reproductive health outcomes[5,6] lead women who are abused to make extensive use of health-care resources.[4,7] Health-care providers frequently, and often unknowingly, encounter women affected by violence.

The health-care system can provide women with a safe environment where they can confidentially disclose experiences of violence and receive a supportive response. Furthermore, women subjected to intimate partner violence identify health-care providers as the professionals that they trust with disclosure of abuse.[8] However, the crucial part that health-care providers and services can play to address violence against women is often not recognised or implemented. Health systems need to strengthen the role of providers as part of a multisectoral response to violence against women.[9]

This Series paper is based on evidence on the health-care response to violence against women, experience of the implementation of services to address violence against women in diverse countries, and consultations with those involved in the planning or delivery of services in resource-poor settings. We describe the challenges involved in engagement of the health sector and make recommendations to integrate effective care for women experiencing violence.

Rationale for a health-care response

As noted in the 2013 WHO report, *Global and regional estimates of violence against women*,[6] one in three women worldwide who have ever had a partner report physical or sexual violence, or both, by an intimate partner. This violence contributes to the burden of women's ill health in many ways.[5,6] Women with a history of intimate partner violence are more likely to seek health care than are non-abused women.[4,10,11] For example, Bonomi and colleagues[4] showed that women who were physically abused used more mental health, emergency department, hospital outpatient, primary care, pharmacy, and specialty services.

Key messages

- The health-care system has a key part to play in a multisectoral response to violence against women; that role, however, remains unfulfilled in many settings.
- Violence against women needs to have higher priority in health policies, budget allocations, and in training and capacity building of health-care providers.
- Although evidence of effective interventions in health-care services remains scarce, especially for resource-poor settings, there is a global consensus that health-care professionals should know how to identify patients experiencing intimate partner violence and provide first-line supportive care that includes empathetic listening, ongoing psychosocial support, and referral to other services, as well as comprehensive post-rape care for sexual assault victims.
- The health system needs to ensure the enabling conditions for providers to address violence against women, including good coordination and referral networks, protocols, and capacity building.
- No model of delivery of health-care response to violence against women is applicable to all settings, and countries should develop services that take into account resources and the availability of specialised violence-support services.
- Violence against women should be integrated into medical, nursing, public health, and other relevant curricula, and in-service training should ensure that health-care providers know how to respond appropriately and effectively; this training needs to be sustained and supported by ongoing supervision and mentorship.
- Health policy makers should show leadership and raise awareness of the health burden of violence against women and girls and the importance of prevention among health-care providers, managers, and the general public.
- More research is needed to be able to quantify the health burden associated with different forms of violence, and to assess and scale up interventions to prevent, and respond to, violence against women.

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Search strategy and selection criteria

We based this Series paper on the systematic review linked to the WHO 2013 guidelines *Responding to intimate partner violence and sexual violence against women*[13] and the systematic reviews[14] informing the UK National Institute for Health and Care Excellence (NICE) Domestic violence and abuse 2014 guidelines, and other relevant systematic reviews.[15–17] To update the evidence base on interventions for violence against women, we searched PubMed and Google Scholar for relevant trials and systematic reviews from May 1, 2012 (NICE reviews), or Dec 1, 2011 (WHO reviews) to June 30, 2014, with the keywords "intimate partner violence" or "domestic violence" or "gender violence" or "violence against women", and "healthcare" without language restrictions. We have prioritised systematic reviews and trials in our citations.

Women also experience other forms of violence, including rape and other sexual violence at the hands of acquaintances, friends, and strangers; physical and sexual violence from relatives; trafficking; female genital mutilation; early and forced marriage; and murders in the name of so-called honour.[12]

All of these forms of violence can bring women into contact with the health-care system, which must be prepared to respond. This Series paper focuses on intimate partner and sexual violence because they are the most common worldwide and have most evidence for effective interventions.

Data sources

In addition to the literature search (search strategy and selection criteria panel),[13–17] this paper is based on consensus in meetings of experts for the development and implementation of the WHO clinical and policy guidelines,[18,19] and included lessons learned from different countries in building a health system response. Five case studies (appendix) show different challenges, policies, and processes, although not based on formal assessment (table).

See Online for appendix

	Focus	Issues it illustrates
South Africa	Post-rape care	Collaboration between the Ministry of Health and researchers to develop policy, guidelines, and training on sexual violence
Brazil	From post-rape abortion to sexual violence to intimate partner violence	Role of women's ministries and the process of change over time
Spain	Intimate partner violence and sexual violence	Role of a legal framework and development of a national health-care response
India	Sexual violence	Model led by a non-government organisation in public health hospitals
Lebanon	Intimate partner violence	Challenges of implementation of a health-system response when violence against women is not recognised as a problem

Table: **Summary of country case studies**

What can health systems do?

The main role of health-care systems for women, and their children, facing the health effects of violence is to provide supportive care. This supportive care can contribute to prevention of violence recurrence and mitigation of the consequences, address associated problems, such as substance misuse and depression, and provide immediate and ongoing care. The health system also has a part to play in primary prevention (ie, prevention of violence occurring before it starts), through documenting violence against women, emphasising its health burden, and advocating coordinated action with other sectors (figure 1).

Implementation of health-care policies and training programmes for providers to address violence against women face individual and system barriers.[20–23] Evidence suggests that information dissemination or training in isolation do not create consistent, sustainable change,[23–25] and that a comprehensive systems approach is needed.[23,24–29]

Figure 2[30] provides an overview of the necessary elements at the level of the providers and services, and of the health system more broadly, organised by core components (or building blocks): service delivery, health workforce, health information, infrastructure and access to essential medicines, financing, and leadership and governance.[31]

Many countries have begun to address violence against women in health care with varying success, as shown by the case studies (appendix). The case studies also show that progress in the integration of violence against women into health systems is slow and incremental. In many countries, social and cultural barriers need to be overcome (eg, Lebanon [appendix]), and in most countries, health system barriers such as high staff turnover and limited resources must be addressed (eg, India and South Africa [appendix]). Traditional biomedical approaches are inadequate and inappropriate to address violence against women,[32] so changes will be needed (eg, India [appendix] and Spain [panel]).[33–39]

What can health providers do?

Overview

The appropriate response by health-care providers will vary depending on the women's level of recognition or acknowledgment of the violence, the type of violence, and the entry point or level of care where the survivor is identified. Actions by health-care providers include identification, initial supportive response to disclosure or identification, and provision of clinical care, follow-up, referral, and support for women experiencing intimate partner violence, in addition to comprehensive post-rape care and support for victims of sexual assault.

Different women will have different needs, and the same woman will have different needs over time. She might present with an injury to the accident and emergency department, with depression or functional

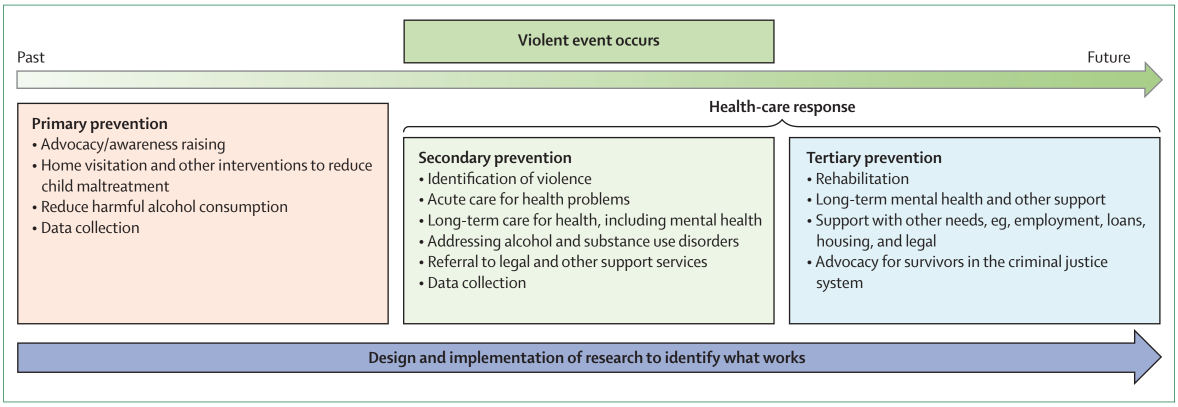

Figure 1: The role of the health system to address violence against women

symptoms in primary health care, with an unwanted pregnancy or for a termination of pregnancy in sexual and reproductive health-care services, or with various physical problems to an outpatient department in a secondary or tertiary hospital. In addition to provision of clinical care for the condition presented, identification of violence as the underlying problem is important.

Identification of intimate partner violence

Identification of women and girls who are, or have been, subjected to violence is a prerequisite for appropriate treatment and care, and referral to specialised services where these exist.

Identification in health-care settings could be increased if all women were asked about intimate partner violence; however this is only effective (and safe) if followed by an appropriate response. Disclosure is low relative to best estimates of prevalence of partner violence[17] and some studies have reported that, despite training for universal screening, most providers ask selectively.[23,40] WHO does not recommend universal screening,[13] rather it recommends that health-care providers should be trained in how to respond and be aware of the mental and physical health indicators associated with violence, and ask about violence when they are present.[13] Insufficient evidence exists for a universal screening policy, with three randomised clinical trials that directly tested screening programmes reporting no evidence of reductions in violence or improvement in health outcomes.[17] Moreover, in settings or countries where prevalence of present violence is high and referral options are scarce, universal enquiry might bring little benefit to women and overwhelm health-care providers. A systematic review[41] of studies in high-income countries reported that most women (whether or not they have experienced intimate partner violence) find routine questions about abuse acceptable. However, a systematic review[41] of health-care professionals noted that they are less willing to undertake screening or routine enquiry than women are to be questioned.

Disclosure of violence is more likely if women are asked in a compassionate and non-judgmental manner, in private, and in an environment where the person feels safe and confidentiality can be protected.[8,11] Clinicians can be trained on when and how to ask, and how to provide a first-line response consisting of empathetic listening, validation of the patient's experience, and support, consistent with what women have been reported to want.[8,13]

However, intimate partner violence is a very stigmatised problem and women and girls often have realistic fears for their safety if they disclose the violence, so specific conditions must be met. These conditions include that women can be asked safely, that the abusive partner is not present, that providers are regularly trained in how to ask and respond, and that protocols, standard operating procedures, and a referral system are in place.[13]

Initial response to intimate partner violence

So far, research has not addressed the effectiveness of the initial response to disclosure or identification. However, a meta-analysis of qualitative studies suggests that women want health-care providers to provide first-line support: attentive listening, sensitive non-judgmental enquiry about their needs, validation of women's disclosure without pressure, enhancement of safety for the woman and her children, and provision of support and help to access resources (eg, India [appendix]).[8] WHO guidelines recommend that all health-care providers be trained in women-centred first-line support, to respect a woman's right to decide on her own pathway to safety.[13] This approach is consistent with so-called psychological first aid, a first response to individuals undergoing traumatic events.[42,43] A supportive response from a well trained provider can act as a turning point on the pathway to safety and healing.[44]

Ongoing response to intimate partner violence

Women need different responses at various points in the course of violence and relationships.[44,45] A prerequisite for a woman to accept help is her awareness or

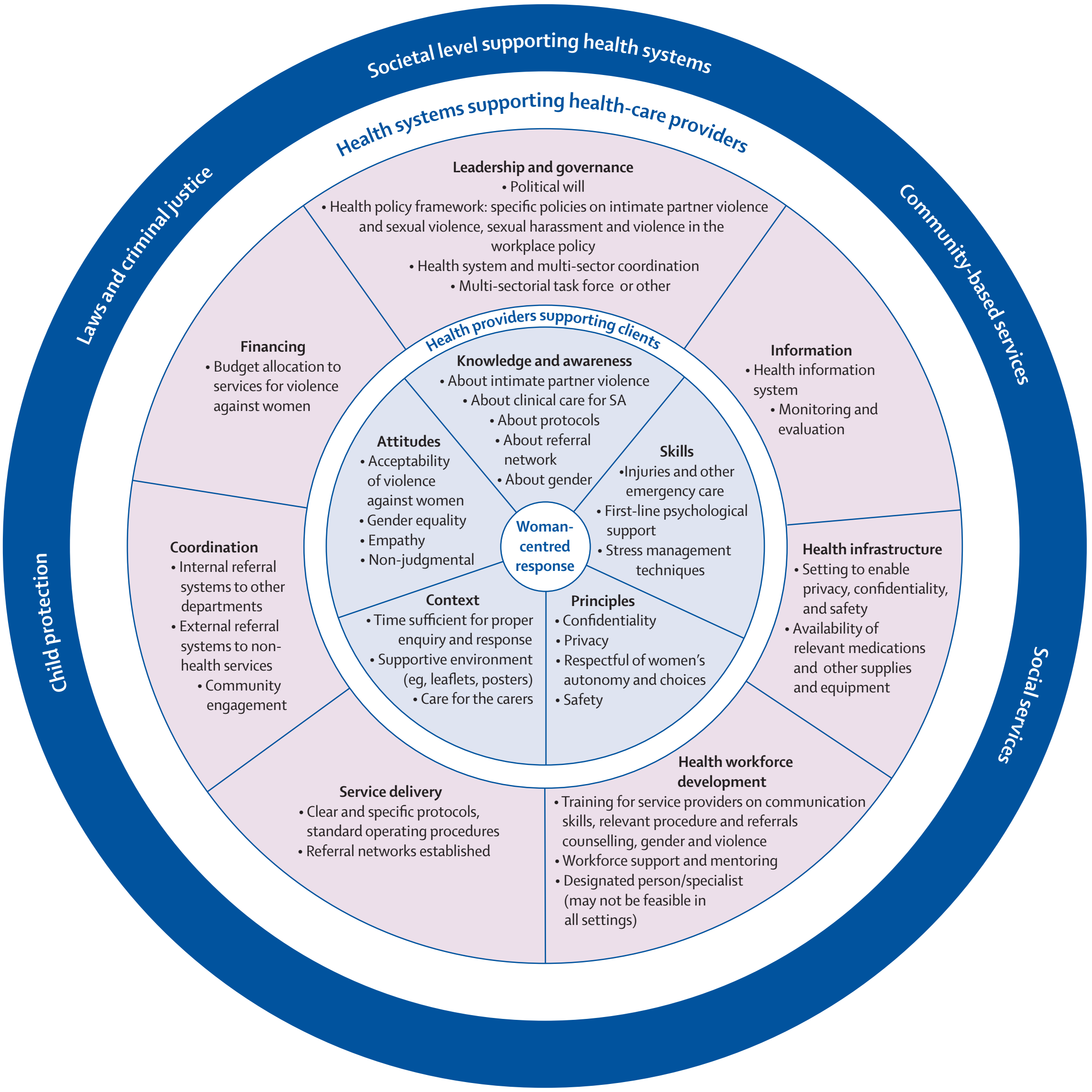

Figure 2: **Elements of the health system and health-care response necessary to address violence against women**
Adapted from Colombini and colleagues,[30] by permission of BioMed Central. SA=sexual assault.

recognition that what she is experiencing is abuse (figure 3).[44–46] Health-care providers can help women to name what is happening to them as abuse through inquiry and validation of their experiences. They can help to empower women to make even small changes that might improve their self-efficacy.[46] Furthermore, health-care providers can provide ongoing support and potentially empower women to take action to safely improve their lives (figure 3).

Beyond first-line support, other health-care interventions are supported by evidence, such as advocacy by health-care providers with additional training or by specialist partner violence advocates,[15,16,47,48] safety planning,[47,49] motivational interviewing,[50] and cognitive behaviour techniques and other trauma-informed mental health interventions.[16,51–53]

Advocacy interventions aim to help abused women directly by providing them with information and support to help them to access community resources. These interventions usually link survivors with legal, police, housing and financial services, and many also include psychological or psychoeducational support. Trials of advocacy or support interventions for women facing intimate partner violence in high-income countries report some reduction in violence and possible improvement in mental health outcomes.[47,48] The health-care provider might continue to offer ongoing support, but the patient also benefits from the

Panel: Sexual and domestic violence against women in the Spanish health-care system

Country context

The health-care system's commitment to address violence against women has been a central element in Spain's multisectoral response to sexual and domestic violence. A strong legal and normative framework are provided by the *Organic Act 1/2004 of 28 December on Integrated Protection Measures against Gender-Based Violence*[33] that was passed unanimously by the Spanish Parliament, the creation of the State Observatory for Violence against Women to monitor the magnitude of the problem and progress, and the establishment of a national gender-based violence awareness and prevention plan (2006).[34] This plan was developed by a multisectoral group involving government, civil society organisations, and other experts. The plan covers primary, secondary, and tertiary prevention, and includes objectives for the judicial system, security forces, health services, social services, information systems, education system, and the media. Cross-cutting areas include research, training and funding measures, mobilisation of actors, coordination, follow-up, and evaluation. By law, all regional governments must include service provision for gender-based violence in the Regional Health Service.[35]

Health system context

Spain has taken a systematic and standardised approach to the implementation of a health-care system response to violence against women. The incorporation of care for violence against women in the 2006 National Health System portfolio was a key driver. Ministry and National Health System leaders created a commission against gender-based violence to provide technical support, coordinate actions, and assess healthcare performance across the National Health System regions (autonomous communities).[35] This commission operates through the Observatory on Women's Health and includes several working groups:

- Epidemiologic Surveillance Group, to reach consensus on indicators and standardised records design.
- Healthcare Aid Protocols Group, to develop a common protocol.
- Ethical and Legal Aspects Group, to address confidentiality and safety.
- Healthcare Professionals' Training Group, to develop educational objectives, and training content, materials, and quality criteria.
- Performance Evaluation Group, to develop information systems, implementation of protocols, processes, training, and coordination and continuity of care in addition to accreditation and dissemination of good practices.

Progress

Health-care protocols

A Common Protocol for the Healthcare Response to Gender-Based Violence was published in 2007,[36] establishing standardised performance guidelines for the National Health System. Each region adapts the Common Protocol to its own context and offers information on local resources. The Common Protocol was updated in 2012[37] to include recommendations for the treatment of children exposed to domestic violence and for other people at risk such as disabled women, immigrants, pregnant women, and mentally disabled people.

Health professional training

A training of trainers strategy has been implemented with resource materials and quality control criteria.[38,39] The National Healthcare School and Women's Institute provide support for the training of trainers, including core and advanced training. Many health-care professionals have undergone training, with priority given to primary care providers, but also hospital professionals, emergency care service providers, midwives, and mental health professionals. The training duration and content differ according to their roles. Regions have developed their own training plans, integrated in programmes of continuous education, and delivered at workplaces through regional teams of trainers. Funding is provided by the regional health services and Ministry of Health.

Knowledge sharing

Good practices are identified, collected, and disseminated to share across regions.

Challenges

- There is a need to sustain and reinforce basic training, awareness, and competence to manage victims, and training should be extended to hospital professionals; support and supervision by experts are also needed after the training.
- Intersectoral coordination to establish clear referral pathways to relevant services should be further improved, especially for women who have been sexually assaulted.
- Continued work is needed to improve information systems and data management, including incorporation of gender-based violence in electronic clinical reporting and protection of confidentiality.
- Research and assessment are needed to show the outcomes of interventions for women and their children, including changes in women's status, their health and wellbeing, and use of resources.

Lessons learned

- Brief workshops and clinical case sessions are highly valued.
- Raising of awareness and training of professionals increases detection and improves the health-care response.
- Inter-institutional and intersectoral coordination improves case management.
- Women and victims' associations should be taken into account when processes to help victims are developed.
- Institutional leadership helps with the implementation of measures.
- Structural conditions should be improved, since excessive caseloads and too little time are obstacles for identification and care in some settings, in addition to the need for financing of training and support resources.
- Interventions should include mechanisms for communication of the evidence generated and the best practices to health-care professionals.

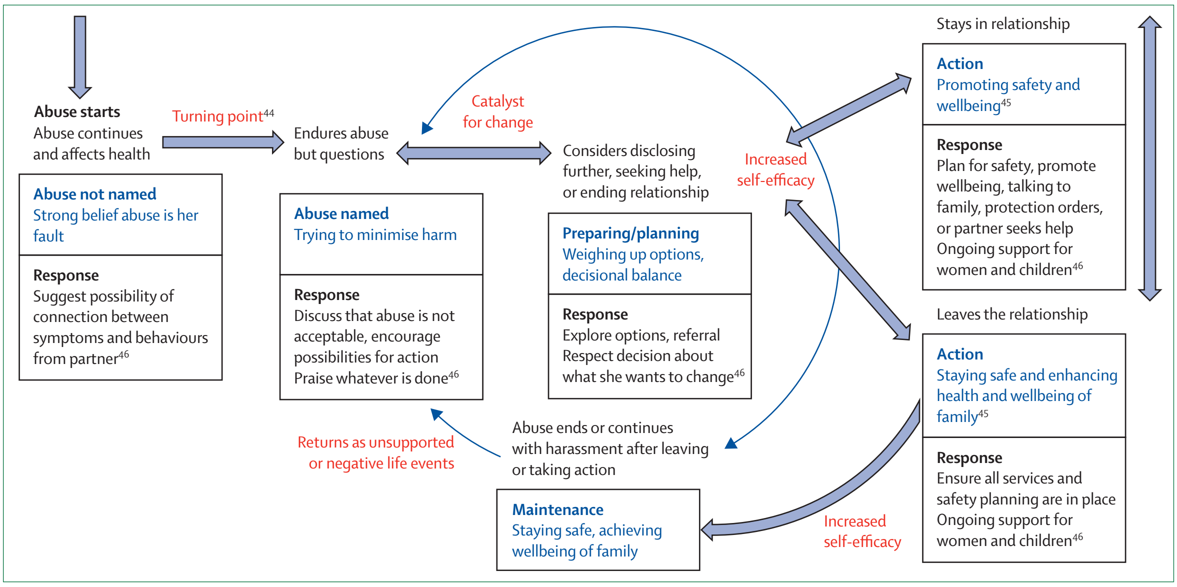

***Figure 3:* Women's (non-linear) trajectory to safety: health professional's response to women's readiness for action**

Women's pathway to safety is not linear and health professionals need to respond at different time points to where a woman is currently at, in terms of her readiness to take action.

expertise of a domestic violence advocate or support worker.[23,40] Little evidence[49] exists for safety planning that is delivered face to face by health practitioners or by telephone counsellors. Various counselling approaches, such as motivational interviewing and empowerment counselling strategies, provide support and can help women to discuss safety and reduce depressive symptoms.[46,47,50]

Referral for intimate partner violence

Linking of health-care providers with specialist support or advocacy services increases the likelihood of the providers asking about, and identifying, patients with a history of violence.[23,54] Furthermore, trauma-informed cognitive behavioural therapy has been shown to work for women who have post-traumatic stress disorder and who are no longer experiencing violence.[13] Evidence suggests that children who have been exposed to intimate partner abuse are likely to benefit from referral for psychotherapeutic interventions,[55] but more research is needed to develop effective interventions for these children.

Consensus evidence suggests that health services need to work closely with specialist services, including the police, to enhance safety for women and children.[27]

Clinical care for sexual assault

Comprehensive post-rape care includes a set of clinical interventions to prevent pregnancy and possible infection with HIV or other sexually transmitted infections for those who seek care after an assault. This care is time sensitive so should be available in all secondary and tertiary care facilities and from primary health-care providers.[13,56,57] Collection of forensic evidence when relevant, trauma-informed mental health care, and access to safe abortion are important services for survivors of sexual violence. Long-term follow-up for mental health problems might also be needed for some women.[58]

Many survivors of sexual violence, however, face challenges to access essential medicines and post-rape services at health facilities.[59] These challenges can be because of scarcity of resources at health-care centres, fear of stigma, or further episodes of violence from the perpetrator. In rural areas, the distance to health-care centres and absence of adequately skilled staff are also barriers.[60] The stigmatising and discriminatory attitudes and practices of health providers themselves can be another barrier. Some countries have developed protocols and guidelines to improve access to post-rape care services,[61,62] but scarcity of training and equipment, poor coordination of services, and associated so-called out-of-pocket costs can make access to these services a challenge.[63] Access to a trained provider, coordination between services, including the police, and awareness about the importance of women seeking care immediately after the incident will increase access to, and use of, care.[64] What can health systems do in primary prevention? The health system can raise awareness about the need to address violence against women by reporting and publicising data for the prevalence, health burden, and costs of violence, and contribute to efforts to counter the acceptability of such violence. However, evidence to guide health-care organisations in primary prevention activities is scarce.[65] Although most primary prevention involves actions outside of the health sector (as explained by Lori Michau and colleagues in this Series[66]), the health system can contribute to prevention of child maltreatment, for example through home visits and parenting programmes,[67] and actions to reduce, and provide treatment for, alcohol and substance use problems.[68] Antenatal classes for fathers to improve relationships and prevent violence are being used in Hong Kong, but need further assessment.[69]

Health sector interventions with children (and their mothers) who witness domestic violence or who are abused[70,71] can potentially contribute to primary prevention because of the association between exposure to domestic violence and an increased risk of perpetration or experience of partner violence in adolescence and adulthood.[72,73]

How can services best be delivered?

Overview

Different models exist for the delivery of health care to women experiencing violence. Whatever model is used, a functional health system is needed for providers to deliver an effective and safe health-care response. All elements of the health system should adequately address violence against women (figure 2).

Leadership, political will, and governance

Violence against women is absent from many national health policies or budgets, and neither is health care always included in national plans to address violence against women. In some countries, no data exist and the issue is still not recognised. In others, the issue is not seen as a priority because of restricted health budgets and competing priorities. Recognition of the problem is an important first step, which can lead to the establishment of mechanisms to address violence against women, such as interdepartmental task forces or other coordinating bodies, or development of a national health policy and budgetary allocation. Ministries of women's affairs or gender and the women's movement have played an important part to engage the health sector in some settings (eg, Brazil [appendix]). In countries where they exist, there is a crucial role for national organisations that accredit health-care facilities or produce guidance on the commissioning of health services. A visible health-care response will not only encourage disclosure of violence against women to clinicians, but can convey a message to society as a whole that this violence is unacceptable.

Workplace prevention strategies that affect the climate, processes, and policies in a system or organisation[74] could be implemented in health workplaces, such as respectful relationship training, bystander education,[65] and displaying of posters that convey the unacceptability of violence against women.[75] The health-care system should prevent violence against women in the health workplace by putting policies (eg, on sexual harassment) in place, and training health-care workers on, and promotion of, respectful relationships in the workplace and with patients. Health-care organisations are large employers, especially of women (who can experience violence themselves), so personnel policies should also take this into account (eg, domestic violence leave). Further strategies that need testing include appointment of health centre champions, who will assist with improvements to the workplace climate, and peer support to address violence against women.[23,40]

Coordination

Women who experience violence can also have safety, social support, economic security, housing, and legal protection needs, so a multisectoral response is necessary. Irrespective of the point of entry, coordination within the health-care system and between the health system and other sectors is fundamental to provision of a holistic, seamless service.[65] In practice, however, many differences in language, goals, and institutional cultures need to be overcome.[76] Some countries, such as Philippines, Malaysia, and Malawi have developed specific guidelines to support a multisectoral response.[77–79]

Examples also come from high-income countries where the health system has taken a lead role in a multisectoral response to domestic violence. Bacchus and colleagues[35] reviewed intervention models based on health care in seven European countries, and drew out key lessons for successful implementation, including committed leadership and organic growth from the bottom up, regular training of health-care professionals with feedback mechanisms, mandatory or motivated training attendance, creation of a pool of trainers for sustainability, and development of clear referral pathways between health care and the specialist domestic violence sector, to ensure input from survivors and document the process.

Involvement of women's organisations and the community can raise awareness about violence and services available, and promote more respectful and equitable attitudes towards women and against violence. Where women's organisations exist, they are often a valuable resource for health systems.

Human resources and capacity building

Many low-income and middle-income countries struggle with scarcity of sufficiently qualified health-care providers, high staff turnover, and overstretched clinicians. This resource shortage is a barrier to designated staff taking on additional roles and implementation of services with specialist gender-based violence providers.[79]

Training of health-care providers is central for any strategy to address violence against women in the health-care system. All staff working in health-care services need training to ensure an appropriate and safe initial response to women experiencing violence, and to provide acute care for sexual assault patients, although different responsibilities need different levels of training. Some evidence from high-income countries suggests that well trained providers can address this issue adequately and improve outcomes.[46,80]

Capacity building needs to include clinical knowledge and skills to respond to intimate partner violence and sexual violence, in addition to attitudes and values related to gender equality and violence against women.[13] This process cannot, however, be confined to a single training event, because brief educational interventions improve knowledge but do not change behaviour.[81] Ongoing support and reinforcement are needed to develop and maintain the competencies of the staff and be part of their continuing professional development education.

For example, Feder and colleagues[54] reported on a combined role where a domestic violence advocate provided care to survivors of abuse, but was also central to training and provided continuing support to primary care practices. The case study in India (appendix) describes a non-government organisation providing specialised services within a secondary hospital and training health professionals in the same hospital and other hospitals. This model has been replicated now in several other public hospitals in Mumbai and elsewhere in India.

The epidemiology of, and health-care response to, violence against women need to be integrated into the undergraduate and post-graduate curricula of nurses, doctors, midwives, and public health practitioners.[13]

Health-care delivery

Care for women subjected to violence can be delivered in health centres and clinics, district and regional hospitals, or multi-agency or hospital-based one-stop crisis centres. Colombini and colleagues[82] have classified these approaches as provider integrated (where one provider delivers all services), facility integrated (where all services are available in one facility), or systems-level integrated (a coherent referral system between facilities). So far, there has been little assessment of these different models or approaches. The WHO clinical and policy guidelines on the health-system response to violence against women summarise the advantages and disadvantages of different models.[14] No one model works in all contexts and the choice will depend on the availability of human resources, funding, and referral services. WHO recommends that, as much as possible, care for women experiencing intimate partner violence and sexual assault should be integrated into primary health-care services.[14]

The one-stop crisis centre model is, however, increasingly promoted in low-income and middle-income countries, despite not being well assessed or appropriate for all settings. This model is implemented in varying ways. In Malaysia, a hospital-based model has been used and is perhaps most effective in urban areas, but several challenges to implementation have been identified, such as budgetary and staffing constraints.[30] The appendix describes Dilaasa, a one-stop centre in Mumbai, India, based on a partnership between a non-government organisation and a public hospital.

Some countries have developed guidelines and standard operating procedures for providers and health-care systems, specifying the steps to follow in cases of sexual assault or domestic violence. Experience with implementation of these types of guidance or protocols suggests that they can help providers who might not feel comfortable addressing these issues, and provide a framework for actions to be taken, but this has not been formally assessed.[83]

Protocols and guidelines can support providers by letting them know what actions to take. They should include clear guidance on documentation of violence against women (since this evidence is necessary to pursue legal action), maintaining confidentiality, enhancing safety of the survivor, and sharing of information without consent only when absolutely necessary, consistent with the country's legal framework.

Health-care infrastructure

At a minimum, a private and confidential space for consultation and a safe place for keeping records must be available (more detail in appendix). The necessary drugs (eg, emergency contraception for post-rape care) and other supplies and equipment also need to be available.

Financing

The existence of a specific budget allocation for violence against women services and for training and support of front-line clinicians underpins an effective response and is essential (eg, India [appendix]). This allocation creates capacity within health services, and represents a commitment from policy makers and managers of health-care services to address this important issue.

The existence of an explicit health budget line for the response to violence against women makes the service visible and provides a mechanism to monitor costs over time (more details in appendix). The very act of budgeting for system development and service delivery signals that violence against women services are a normal part of health service delivery and promotes a sustainable funding stream.

To support a health-care response to violence against women, costs will be incurred, such as those associated with possession of the appropriate equipment, supplies, and infrastructure, training of health workers, and provision of care, including specialist care. The existence of dedicated staff (including nurses and counsellors) who are paid by the health facilities in which the services for violence against women are integrated is a crucial step for the long-term sustainability of any interventions, and to increase staff motivation.

Monitoring and assessment

Monitoring and assessment are important to strengthen a health system's response to violence against women. They provide local information for training of health practitioners (eg, feeding back referral data), to monitor progress, help with funding, and, ultimately, contribute to knowledge of what works. Progress can be monitored in terms of budget allocation (which suggests the level of commitment), staff training, proportion of health centres that can provide first-line support, and post-rape care, among others.

Challenges and lessons learned from country implementation

Few countries have developed a comprehensive health-care policy integrated into a multisectoral societal response to violence against women, although some are moving in that direction. For example, Spain's 2004 gender-based violence law led to the development of standard health-care protocols, training of providers, and indicators to monitor progress at the national level for regional adaptation and implementation (panel). In other countries, such as Brazil, India, and South Africa (appendix), sexual violence has been the entry point, in part because post-rape care includes explicit clinical interventions. All three countries have faced challenges as they seek to expand their services to include intimate partner or domestic violence.

The biomedical model that predominates in most health-care settings does not help with the disclosure of domestic violence by women or enable an appropriate response from providers. Violence is often seen as solely a social or criminal-justice problem, and not as a clinical or public health issue.[84] Linked to this is the failure to understand inequalities, in particular those faced by women, as social determinants of health, and how the health system itself can reproduce (or help to change) some of these inequalities.[32,85] Health providers, both male and female, might share the predominant sociocultural norms that sanction male dominance over women and the acceptability of violence—attitudes that reinforce violence against women.[86–88] Additionally, although many policy responses to domestic violence acknowledge gender inequality as a root cause of intimate partner violence and sexual assault against women, other forms of discrimination faced by women and girls are often invisible. The overrepresentation of indigenous women and non-white women (in dominant white societies) in violence statistics in many countries is an expression of the intersection of several types of discrimination—eg, by gender, class, caste, race, and (dis)ability—that needs to be addressed in health policies.[89]

Disrespect and abuse of women, especially in reproductive health services or when they are transgressors of social norms, is documented.[90] Health-care providers should model non-abusive behaviours in their interactions with patients (and other staff and colleagues) by, for example, listening respectfully, validating the patient's experience, and not imposing treatments or solutions. To respond to violence against women, the health-care system must deal with the violence that is perpetrated within health care.

The scarcity of resources available to the health sector worldwide, and especially in poor countries, is a major challenge. However, effective responses to violence against women can occur with available resources through the development of partnerships (eg, India [appendix]), while advocacy continues for additional funding consistent with the magnitude of the health effects of violence against women.

Discussion

Violence against women is a global health problem that needs an integrated health-system response. The evidence base for effective interventions, however, is small and comes largely from a handful of high-income countries. In high-income countries, intimate partner violence and sexual assault services developed separately, and have struggled to integrate. In low-income and middle-income countries, where resources are more scarce, the primary care provider will be confronted with both forms of violence, with a large proportion of sexual violence perpetrated by partners. Clinicians should therefore be equipped to deal with both issues. In some countries, sexual violence might be especially difficult to disclose (eg, Lebanon [appendix]), while in others it seems to be an easier entry point to health services than intimate partner or domestic violence (eg, India, Brazil, and South Africa [appendix]) because of a medicolegal mandate, such as in India, or because it fits a biomedical model.

Women who have experienced violence can access services through different entry points, and one model does not fit all settings or countries.[13,82] The services used most frequently by women, such as antenatal care, family planning, gynaecological, and post-abortion services,[91] and children's services offer obvious entry points, as does family medicine where this exists. Emergency services are likely to see women with injuries or who have been raped. HIV counselling and testing services and mental health or psychiatric settings also need to know how to respond.[92,93] One limitation of current intervention models, for both women and men, is their typically vertical nature. Intimate partner violence, child abuse, and services to treat alcohol and drug misuse problems are usually delivered in professional silos, despite often involving the same individuals and families.[93,94] Medical service models often promote a simple health-care response with inadequate attention to multimorbidity.[95] Only a few trials that reported an intervention effect for intimate partner violence also integrated interventions for comorbidities.[96]

A second, related, limitation is that present models of health care often do not adequately take into account the context—family and social—in which individuals are located.[88] These limitations can be overcome through engagement with the community, challenging of gender and other discriminations, and through a patient-centred[97] approach based on each woman's needs. Changing the wider social context, especially where violence against women is widely accepted, is a crucial element (eg, in Lebanon [appendix]).

Ultimately, a societal response to violence against women needs engagement with perpetrators, including legal sanctions against sexual violence and against intimate partner violence, which is still tolerated in some societies. Evidence from high-income countries suggests that perpetrators of intimate partner violence, including femicide perpetrators, are frequently seen in health-care settings and that, therefore, an opportunity to intervene exists,[98–100] especially in mental health, drug and addiction, general practice, and emergency services, in addition to health system employee assistance programmes,[101] although no evidence exists yet for the effectiveness of these interventions.

A functional and well financed health system is necessary to both prevent violence against women and to respond to victims and survivors in a consistent, safe, and effective manner to enhance their health and wellbeing.

Conclusions

The health system has a key part to play in a multisectoral response to violence against women. Governments need to develop or strengthen multisectoral national plans of action to address violence against women that include health system actions, budgets, and staffing.

Violence against women needs to receive higher priority in health policies, budgets, and the training of health-care providers and public health officials. To overcome this largely hidden epidemic, health policy makers and programme planners should draw on the growing evidence of effective interventions in high-income countries and experience of programme implementation in low-income and middle-income countries, combined with new research in all settings.

A non-judgmental, compassionate, and equitable response to women experiencing violence, with an emphasis on their safety and wellbeing and that of their children, is needed, in addition to improvement of longer term outcomes. An effective health-system response needs to complement society-wide policies to prevent violence. These society-wide policies need to include adequate allocation of national budgets and senior level commitment. International funders should support the efforts of ministries of health and others to address violence against women.

All clinicians, including primary care, sexual and reproductive health (eg, family planning and post-abortion care), and mental health service providers should be trained pre-service and in-service to, at least, know when and how to ask about violence, what first-line care to provide, and how to refer for additional support. Although recognition of this goal might not be realistic in many settings, colocation in health services of champions or advocates for prevention of violence against women can enhance the care received by women and support health-care providers.

Services should be monitored to assess access, acceptability, and quality of care provided to female survivors of violence. These services should collect information in a safe and confidential way, but also use it to inform policies, monitor services, and improve their response.

Research is needed to identify what works, assess promising practices, and develop new strategies for prevention and responses to violence against women, with a particular focus on low-income and middle-income settings.

An effective health-care response to violence against women can contribute to achievement of the Millennium Development Goals, in particular those on gender equality and reduction of maternal and child mortality and HIV.[102] The post-2015 agenda should include strategies to reduce, eliminate, and respond to violence against women. An inadequate response to violence against women from health-care services has economic and social costs.

The time has come for health systems to play their part in a multisectoral response to violence against women that is consistent with their countries' commitments to promotion of public health and human rights.

Contributors

CG-M led the writing of the manuscript with substantive inputs from KH and GF. All authors have reviewed and commented on drafts and all have read and agreed on the final manuscript. We thank the authors of the case studies (AFLd'O [Brazil], Padma Bhate-Deosthali [India], Jinan Usta, [Lebanon], Ruxana Jina [South Africa]; and M Carmen Fernández-Alonso [Spain]).

Declaration of interests

CG-M is a staff member of WHO. The author alone is responsible for the views expressed in this publication and they do not necessarily represent the decisions or policies of WHO. We declare that we have no competing interests.

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Brazil's unified health system: the first 30 years and prospects for the future

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In 1988, the Brazilian Constitution defined health as a universal right and a state responsibility. Progress towards universal health coverage in Brazil has been achieved through a unified health system (Sistema Único de Saúde [SUS]), created in 1990. With successes and setbacks in the implementation of health programmes and the organisation of its health system, Brazil has achieved nearly universal access to health-care services for the population. The trajectory of the development and expansion of the SUS offers valuable lessons on how to scale universal health coverage in a highly unequal country with relatively low resources allocated to health-care services by the government compared with that in middle-income and high-income countries. Analysis of the past 30 years since the inception of the SUS shows that innovations extend beyond the development of new models of care and highlights the importance of establishing political, legal, organisational, and management-related structures, with clearly defined roles for both the federal and local governments in the governance, planning, financing, and provision of health-care services. The expansion of the SUS has allowed Brazil to rapidly address the changing health needs of the population, with dramatic upscaling of health service coverage in just three decades. However, despite its successes, analysis of future scenarios suggests the urgent need to address lingering geographical inequalities, insufficient funding, and suboptimal private sector–public sector collaboration. Fiscal policies implemented in 2016 ushered in austerity measures that, alongside the new environmental, educational, and health policies of the Brazilian government, could reverse the hard-earned achievements of the SUS and threaten its sustainability and ability to fulfil its constitutional mandate of providing health care for all.

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Introduction

2018 marked the 30th anniversary of Brazil's seventh constitution,[1] the 40th anniversary of the Alma-Ata Declaration,[2] and the 70th anniversary of the Universal Declaration of Human Rights.[3] In Brazil, the 1988 Constitution represented an instrument of change and a social movement that established health as a right of the Brazilian population, incorporating important elements of the Declaration of Human Rights and the Alma-Ata Declaration into the social contract. The constitution mandated the state's responsibility to deliver health care to all, paving the way to the unified health system (Sistema Único de Saúde [SUS]). It also initiated the journey to universal health coverage, with the aim of improving health outcomes in a health system that was highly fragmented and characterised by wide inequities in access to health care and health outcomes.

Since its creation in 1990, the SUS has made consistent progress towards delivering universal and comprehensive health care to the Brazilian population, helping to reduce inequalities in health-care access and the achievement of better outcomes, but not without challenges.[4,5] Despite the successes, the SUS is now at a crossroads.[6,7] Austerity measures introduced in 2016 (Constitutional Amendment 95) imposed a strict limit on the growth of public expenditure until 2036 at an amount based on the value of its previous financial year adjusted for inflation,[8,9] threatening further expansion and sustainability of the SUS (appendix pp 2–5),[6] with adverse consequences for equity and health outcomes.

In this Health Policy, we present an overview of the first 30 years of the SUS (appendix pp 2–5), highlighting legal and organisational trajectories, achievements, and remaining challenges, followed by an analysis of future financial scenarios and associated health outcomes until 2030 (the target year for the UN Sustainable Development Goals) to show the consequences of fiscal entrenchment for the Brazilian health system.

The fiscal, economic, environmental, education, and health policies (eg, for adolescents and primary health care [PHC]) introduced by the Bolsonaro administration in 2019 pose a number of risks to the SUS. We discuss these threats and explore policy options that need to be introduced to sustain the SUS.

30 years of the SUS

Following the establishment of its principles in the 1988 Constitution and its creation in 1990, the legal mechanisms for the operationalisation and expansion of the SUS were progressively developed over 30 years (appendix pp 2–5). Major health programmes were launched to tackle persistent and emerging infectious diseases, high maternal and child mortality (table 1), and new challenges driven by four important transitions: first, migration from rural to urban areas, leading to disorganised growth of municipalities with limited infrastructure;[10] second, opening of the Amazon frontier in the 1980s;[11] third, rapid demographic transition with declining total fertility (which fell from 4·4 births per woman in 1980 to 1·7 births per woman below replacement level in 2015) and the ageing population;[12,13] and, fourth, epidemiological transition, with increases in mortality and morbidity from non-communicable diseases.[14,15]

The SUS helped to achieve a narrowing of health inequalities with improvements in coverage and access to health care across the country, but large variations

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See **Online** for appendix

	1990	2000	2010	2015
Demographic and epidemiological indicators				
Total population (n)	149 352 145	175 287 587	196 796 269	205 962 108
Annual population growth (%)	1·80%	1·45%	0·97%	0·85%
Proportion of population aged 65 years or older (%)	4·04%	5·07%	6·73%	7·96%
Total fertility rate (births per woman)	2·91	2·30	1·81	1·74
Life expectancy at birth (years)	65·34	70·02	73·77	75·20
Access to water sources (% of population)	88·5%	93·5%	96·9%	98·1%
Access to sanitation facilities (% of population)	66·6%	74·7%	80·5%	82·8%
Mortality due to non-communicable diseases between 30 years and 70 years of age (%)*	NR	25%	19%	17%
Mortality due to suicide (per 100 000 population)	NR	5·2	5·9	6·3
Mortality due to road traffic injury (per 100 000 people)	NR	15·9	20·8	22·6
Neonatal mortality (per 1000 livebirths)	25·7	17·1	10·4	8·2
Mortality in children aged 5 years or younger (per 1000 livebirths)	64·2	35·8	19·8	15·7
Infant (birth to 1 year) mortality (per 1000 livebirths)	53·4	31·3	17·7	14·0
Maternal mortality ratio (per 100 000 livebirths)	104	66	65	44
Prevalence of undernourishment (% of population)	NR	12%	2·5%	2·5%
Prevalence of overweight				
In men (%)	36·2%	44·8%	53·0%	56·8%
In women (%)	40·6%	47·0%	52·4%	54·9%
Economic indicators				
Unemployment (% of total labour force)	NR	13·9%	8·5%	8·5%
Poverty headcount ratio at US$1·90 a day (2011 purchasing power parity; % of population)	21·6%	11·6%	4·7%	3·4%
GDP (million $)	461 952	655 421	2 208 872	1 796 187
Total health expenditure (% of GDP)†	6·7%	7·0%	8·3%	8·3%‡
Health expenditure per capita (constant 2010 $)§	535·1	614·5	931·6	984·9‡
Health expenditure per capita†¶				
Public (%)	43·1%	40·3%	45·8%	46·0%‡
Private (%)	56·9%	59·7%	54·2%	54·0%‡
Out-of-pocket health expenditure (% private expenditure on health-care services)	NR	63·6%	50·4%	47·2%‡
Private insurance expenditure (% private expenditure on health-care services)	NR	34·3%	47·0%	49·7%‡
Gini index (World Bank estimate)	60·5	58·4	52·9	51·3
Health-system indicators				
Births attended by skilled health staff (% of total)	87·6%	98·6%	98·9%	99·1%
Vaccine coverage				
BCG (% of 1-year-old children)	79%	99%	99%	99%
Measles (% of children aged 12–23 months)	78%	99%	99%	96%
Diphtheria, pertussis, and tetanus (% of children aged 12–23 months)	66%	98%	99%	96%
Haemophilus influenzae type b, third dose (% of children aged 12–23 months)	NR	90%	99%	96%
Polio, third dose (% of 1-year-old children)	58%	99%	99%	98%
Hepatitis B virus, third dose (% of 1-year-old children)	NR	94%	96%	96%
Antiretroviral therapy coverage (% of people with HIV)	NR	27%	38%	57%

Data were extracted from the World Development Indicators database[16] and the UN Sustainable Development Goals Database.[17] NR=no record. GDP=gross domestic product. *Percentage of 30-year-old people who would die before their 70th birthday from any of cardiovascular disease, cancer, diabetes, or chronic respiratory disease, assuming that they would experience current mortality rates at every age and would not die from any other cause (eg, injuries or HIV and AIDS). †Estimates for all years are based on WHO Global Health Observatory data (2017).[18] §Data are from 2014. ‡Estimated using GDP (constant 2010 US$ millions) and population size provided by World Bank,[19] and health expenditure as percentage of GDP. ¶Public and private health expenditure estimates for 1990 are based on Paim et al (2011).[20]

Table 1: **Demographic, economic, and health-system indicators in Brazil from 1990 to 2015**

remained between municipalities regarding the infrastructure, human resources, management capacity, and access to effective health-care services.[21,22]

Changes in governance and organisation

Implementation of the SUS began after the enactment of Laws 8080 and 8142 in 1990, incorporating the principles of universality, integrality, decentralisation, and community participation, with the transfer of responsibility and funds to provide health care from the federal to state and municipal governments, reorienting political power and responsibility to local governments. Decentralisation of power was accompanied by the creation of tripartite and bipartite inter-managerial commissions, with the participation of federal, state, and municipal governments for shared decision making on health policies, and health conferences and councils as mechanisms for social participation (table 1; appendix pp 2–5).

As part of the decentralisation process, Brazilian municipalities were required to create a health department for administration of the health-care facilities, and assume the responsibility for the cofinancing of health programmes and the delivery and management of health-care services. The 5570 municipalities of Brazil are responsible for the provision of PHC and health surveillance and guarantee patient access to general and specialised hospital care, including emergency care and mental health services.[23] Decentralisation also involved the creation of health regions (a contiguous group of cities and towns with shared social, economic, and infrastructure context with the purpose of integrating the organisation and planning of health-care services and actions), the development of guidelines for integrated health planning, and the establishment of regional management boards, coordinated by state health secretariats in partnership with municipal authorities.[24]

The expansion of universal health-care access in Brazil has coincided with the evolution of a segmented health system, comprising a publicly funded, national, single-payer system and a private sector health-care system, accessed primarily by patients with a high income and paid by out-of-pocket payments and private insurance (panel).[25,26] In 1999, the National Agency for Health Surveillance was established to control the quality of medicines, health products, and health services. In 2000, the National Agency for Supplemental Health was created to regulate the private insurance sector (appendix pp 2–5).

Changes in financing

Since its creation the SUS has been underfunded. Brazil is the only country with a universal health system where public health expenditure (around 44%) is lower than private sector expenditure (around 56%; table 1).[18,19] All citizens are entitled to the services provided by the SUS, which is the major source of health care for low-income groups and those without access to private health plans. Patients with a high income will often use private sector services but switch to the SUS for complex interventions, such as cancer care.[27]

The 1988 Federal Constitution of Brazil stated that 30% of the social security budget, minus the cost of unemployment benefits, should be allocated to the public health sector by the federal government until the approval of the Annual Budget Law, which established the annual share of the federal budget directed to the public health sector (appendix pp 2–5). The Brazilian Constitution stipulates that the public funds to finance health care should come from federal, state, and municipal government budgets; however, financing sources for the SUS have not been clearly defined in the social security budget and this funding has systematically been allocated to other sectors. In September, 2000, a constitutional amendment (appendix pp 2–5) defined the minimum amount of health-care funding as 15% of yearly revenue for municipalities, 12% for states, and a federal share according to gross domestic product growth.[28] Federal health-care spending in 2017 was 15% of net revenue, but Constitutional Amendment 95, introduced in 2016, limits expenditure for 2018–36 to the amount in 2017, with spending adjusted for inflation.[6]

Since 1998, several initiatives that aimed to increase funding for the SUS have been developed (appendix pp 2–5); for example, the creation of the Provisional Contribution on Financial Transactions tax ensured the allocation of around 30% of the federal budget to health-care services between 1997 and 2007. The tax stabilised health-care funding from federal resources at the same amount as that for 1995, with reductions in other social contributions (eg, the Contribution for the Financing of Social Security).[29]

Between 1989 and 2014, real health expenditure per capita increased by 149%, but the growth of both the public and private health-care sectors was widely different

Panel: The financing and use of public and private sectors in health care

The 1988 Federal Constitution of Brazil acknowledges the role of the private sector in the health system. Families can deduct health expenditures from taxable income and employers can deduct the total amount paid as health benefits from their taxable profits. Non-profit health-care providers are subsidised by the federal government through tax exemptions. Altogether, tax incentives for individuals, employers, and not-for-profits represent around 30% of the federal government health expenditure.

A benefit incidence analysis, which estimated health-care use for each income quintile of the population multiplied by the average public expenditure of health service types, showed that those in low-income quintiles received more health services from the Sistema Único de Saúde (SUS), and that public funds primarily benefited this group when compared with higher income quintiles. For inpatient, outpatient, and dental services, estimates of health service use indicated a benefit to poorer populations. Subsidies for these services were also pro-poor. The SUS was the major source of health care for those in low-income quintiles and those without access to private health insurance, although with substantial regional differences. Access to private health insurance was lowest in northern Brazil (the poorest region) and highest in southern Brazil (the richest region).

at different time periods (table 1). For example, in the 1990s health expenditure per capita increased by 15%, mainly driven by a growth in private sector expenditure following the expansion of private health insurance coverage for the middle-income population groups who were dissatisfied with the quality of the SUS.[30,31] However, between 2000 and 2014, when the growth of health expenditure per capita was 60%, expenditure in the public sector health-care system grew by 83% compared with 45% growth in the private sector (table 1).

Changes in health-care services

The implementation of the SUS marked a shift in the model of health care through the rapid expansion of comprehensive PHC centres and the development of health networks for mental health services, emergency care, and specialised outpatient services. The community health workers programme was established in 1991 to service the poorest areas in northeastern Brazil, followed by the family health programme in 1994, which set standards for staff numbers for family health teams, comprising a general physician, a nurse, a nurse assistant, and community health agents, which provide acute services, health promotion, disease prevention, chronic disease management, and maternal and child services. Family health teams became the core of PHC in the SUS with major expansion in the subsequent years.[32] However, the SUS had inadequate staffing, hampering equitable expansion.

For more on the **community health workers programme** see http://www.saude.gov.br/acoes-e-programas/saude-da-familia/agente-comunitario-de-saude

For more on the **family health programme** see http://www.saude.gov.br/acoes-e-programas/saude-da-familia

The number of family health teams progressively expanded from about 2000 in 1998 (the first available data) to 42 975 in 2018,[33] increasing the provision of services from 7 million (4% of the population) to 130 million (62% of the population) people, incorporating more than 264 000 community health agents and 26 000 oral health teams.[34–36] In 2006, the family health programme was renamed the Family Health Strategy (FHS) to reflect its role as the cornerstone of the public health system,[37] and in 2007 multiprofessional specialties, known as family health support teams, were established to support PHC teams.

Evidence suggests that the expansion of the FHS improved the health of the population, with reductions in morbidity and mortality.[38–41] However, disparities in FHS coverage remain across income and geographical groups.[35] To address the shortage of doctors, disparities in coverage, and access to PHC services, the More Doctors programme (Programa Mais Médicos) was launched in 2013. The programme increased the number of doctors working in PHC in 4058 municipalities by 18 000, expanded PHC coverage to include a further 15% of the Brazilian population (an additional 20 million people),[42–44] and enhanced the quality of care and improved patient satisfaction.[45]

In addition to PHC, the SUS offers comprehensive hospital services, including complex treatments. Hospital beds in the SUS accounted for 76·1% of all hospital beds in Brazil in 2006, which declined slightly to 69·3% of beds in 2017, but hospitals in the SUS face organisational challenges, such as a lack of autonomy and accountability, inefficient financing and payment systems, inefficient use of resources, variable quality of care, lack of integration within health networks, and suboptimal management.[46]

Other changes in health-care delivery by the SUS include the development of specialised reference centres and health-care networks comprising PHC facilities and hospitals.[47–49] For example, the psychiatric reform process[50] included pioneering innovations in mental health services with the creation of community-based centres for psychosocial support. In addition, an emergency services network has been established by bringing ambulance services, emergency response coordinators that monitor hospital occupancy, and pre-hospital emergency services together (appendix pp 2–5).

However, access to specialist care remains a major bottleneck resulting in unmet demand, queues, long waiting times, and delays in diagnoses. Additionally, supplier-induced demand, overuse, and excess use of diagnostics exacerbate the situation.[51] As a response, the public and private sectors are developing integrated PHC, secondary care, and tertiary care networks,[52] and introducing outsourcing and establishing public–private sector partnerships, such as the Brazilian social health organisation (Organizaçao Social de Saúde) in which funding and facilities are paid for by the public but the management and staff are from the private sector.[46]

The SUS has implemented several initiatives to better regulate health products and to improve their availability and affordability (appendix pp 2–5), including the Generic Drugs policy, an essential drugs list, and promoting local production of strategic health products.[53] The national immunisation programme was expanded to provide 19 vaccines for 20 diseases, accounting for about 95% of all doses given to the population.[54] Access to essential medicines has increased over time,[55] reducing avoidable hospitalisation and mortality.[56] However, catastrophic expenditures for medicines is still a main cause of family budget overload, mainly affecting the low-income families.[57]

Judicialisation of health care, invoking the constitutional right to health as a mechanism to compel the government to provide health products and services, has proved a challenge to medicine access.[58] Between 2008 and 2015, federal government expenditure for claims related to medicines rose from 70 million to 1 billion Brazilian reais.[59] Most of these lawsuits were filed by private lawyers, representing one individual attempting to access high-cost medicines for the treatment of genetic diseases or cancer not covered by the SUS, raising equity concerns.[60] However, regional differences in the people who make use of judicial pathways exist; in some regions, individuals with low incomes, who use litigation as an instrument to improve access to care, are the majority of litigants.[61,62]

	1998	2003	2008	2013*	p value
All centres					
Doctor visit within the past 12 months	54·69% (54·15–55·23)	62·82% (62·32–63·32)	67·68% (67·24–68·12)	74·20% (73·41–74·98)	p<0·001
Any USC	71·22% (70·27–72·15)	79·27% (78·44–80·06)	73·64% (72·91–74·36)	77·07% (76·19–77·93)	p<0·001
USC=health post or centre	41·93% (40·61–43·27)	52·70% (51·53–53·86)	57·01% (55·99–58·02)	47·87% (46·52–49·22)	p<0·001
USC=hospital	34·58% (33·31–35·87)	27·07% (25·95–28·22)	21·47% (20·54–22·44)	21·03% (20·06–22·02)	p<0·001
USC=private or other	23·49% (22·70–24·29)	20·23% (19·61–20·87)	21·52% (20·87–22·19)	31·11% (29·91–32·33)	p<0·001
Sought service within the past 2 weeks	12·99% (12·71–13·26)	14·59% (14·34–14·84)	14·50% (14·24–14·77)	17·54% (16·90–18·19)	p<0·001
Not treated first time	3·68% (3·44–3·93)	3·59% (3·36–3·82)	3·75% (3·53–3·98)	4·75% (4·09–5·52)	p<0·001
Hospitalised within the past 12 months	6·94% (6·80–7·09)	7·01% (6·88–7·15)	7·11% (6·97–7·27)	7·03% (0.0665–7·42)	Not significant
Dentist within the past 2 years	51·76% (51·18–52·34)	57·83% (57·33–58·34)	64·93% (64·48–65·38)	63·69% (62·85–64·53)	p<0·001
SUS centres					
Doctor visit within the past 12 months	49·27% (48·68–49·85)	57·74% (57·16–58·31)	63·26% (62·75–63·77)	69·32% (68·40–70·22)	p<0·001
Any USC	68·55% (67·40–69·68)	78·14% (77·15–79·10)	72·39% (71·52–73·24)	76·03% (75·00–77·04)	p<0·001
USC=health post or centre	55·30% (53·61–56·98)	67·66% (66·24–69·04)	73·81% (72·61–74·99)	61·13% (59·72–62·51)	p<0·001
USC=hospital	33·92% (32·32–35·56)	24·87% (23·51–26·27)	18·15% (17·02–19·34)	20·34% (19·26–21·46)	p<0·001
USC=private or other	10·78% (10·19–11·39)	7·48% (7·13–7·84)	8·04% (7·68–8·41)	18·53% (17·52–19·59)	p<0·001
Sought service within the past 2 weeks	11·14% (10·85–11·43)	12·86% (12·58–13·13)	12·90% (12·62–13·19)	15·96% (15·29–16·65)	p<0·001
Not treated first time	5·03% (4·70–5·38)	4·79% (4·49–5·10)	5·09% (4·79–5·40)	6·28% (5·40–7·29)	p<0·01
Hospitalised within the past 12 months	6·59% (6·42–6·76)	6·59% (6·44–6·74)	6·75% (6·57–6·92)	6·54% (6·13–6·98)	Not significant
Dentist within the past 2 years	44·83% (44·23–45·43)	51·52% (50·98–52·06)	59·19% (58·70–59·68)	58·19% (57·27–59·10)	p<0·001

Results are weighted proportions from nationally representative surveys done in 1998, 2003, and 2008 (National Household Survey [PNAD]),[63] and 2013 (National Health Survey [PNS]).[64] All within-group (all centres and SUS-only centres) time trends are statistically significant (statistical Wald tests were done pairwise within each row and confidence intervals are listed in parentheses), except hospitalisations within the past 12 months, which showed no change for either group. SUS=Sistema Único de Saúde. USC=Usual source of care. *The 2013 survey altered some questions and used a different sampling strategy compared with the previous national surveys.

Table 2: **Proportions of the population using health-care services across all Brazilian health-care institutions and SUS-specific centres from 1998 to 2013**

Major achievements of the SUS

The SUS has contributed substantially to increased health service use, better health outcomes, and improved health equity.[14,65] Compared with neighbouring countries in Latin America, other upper-middle-income countries, and countries of the Organisation for Economic Co-operation and Development, Brazil has achieved large improvements in access to water and sanitation, immunisation coverage, and life expectancy at birth (appendix p 12). Health-care access has improved and service use has increased for the entire Brazilian population (table 2);[66] for example, based on the 2013 National Health Survey, among those who sought health care, about 95% received care the first time they sought it, a figure that has been largely consistent from 1998 to 2013.[67] These measures of access are similar to those observed in high-income countries.[68,69]

Expansion of PHC coverage, underpinned by the family health programme and the subsequent FHS, has led to large improvements in health outcomes,[32,38,40,41,70–72] with substantial declines in infant mortality[39,73,74] and avoidable hospitalisations,[72,75,76] a reduction in racial inequality in mortality, and a fall in amenable mortality, especially in municipalities with stronger governance—for example, the municipalities of state capitals including Rio de Janeiro, São Paulo, Curitiba, Recife, and Belém.[70]

As with improvements in health outcomes, user satisfaction with the SUS has improved, although challenges remain. In 1998, the proportion of users assessing hospital services as better than average ranged from 80·7% (North region) to 87·7% (South region) for SUS hospitals, and from 89·4% (North region) to 95·3% (Southeast region) for private hospitals. In 2013, satisfaction with both SUS and private hospital services declined, ranging from 69·4% (North region) to 87·5% (Southeastern region) for SUS hospitals and from 87·8% (Northeast region) to 93·3% (South region) for private services (appendix p 13).

Projected population health effects of changes in future financing of the SUS

Over the past 30 years, the SUS expanded access to health services accompanied by falling inequalities in population health indicators, but its future performance is threatened by demographic, epidemiological, economic, political, and social transitions faced by Brazil.

	ln (infant mortality)			Proportion with family health strategy coverage			Proportion of mothers attending ≥7 antenatal care visits		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
ln (federal health transfers)	–0·027 (0·014)*	–0·288 (0·065)†	–0·004 (0·018)	0·174 (0·006)†	0·180 (0·007)†	0·173 (0·008)†	0·019 (0·003)†	0·035 (0·004)†	–0·009 (0·004)†
ln (federal transfers)-by-family allowance coverage interaction	··	··	–0·110 (0·059)	··	··	0·005 (0·019)	··	··	0·137 (0·013)†
ln (federal transfers)-by-municipality size 2 interaction	··	–0·052 (0·081)	··	··	0·011 (0·006)	··	··	0·004 (0·004)	··
ln (federal transfers)-by-municipality size 3 interaction	··	0·153 (0·069)*	··	··	0·008 (0·007)	··	··	0·003 (0·004)	··
ln (federal transfers)-by-municipality size 4 interaction	··	0·305 (0·065)†	··	··	–0·023 (0·007)†	··	··	0·003 (0·004)	··
ln (federal transfers)-by-municipality size 5 interaction	··	0·317 (0·065)†	··	··	–0·089 (0·008)†	··	··	–0·030 (0·004)†	··

SEs (shown in parentheses) are clustered at the municipality level. All regression models control for an interaction term between baseline levels and a linear time trend in the indicator, for year and municipal fixed effects, for year and state fixed effects, and for the variables ln (municipal gross domestic product per capita), family allowance (Bolsa Família) coverage (% of the total population), private insurance coverage (% of the total population), and political alignment between mayor and governor. Regressions for infant mortality and antenatal care visits are weighted by the municipal average number of births computed over the sample period. Full details are provided in the appendix. ln=natural logarithm. Municipality size 2=5000–9999 inhabitants. Municipality size 3=10 000–19 999 inhabitants. Municipality size 4=20 000–49 999 inhabitants. Municipality size 5=≥50 000 inhabitants. *p<0·05. †p<0·001.

***Table 3:* Regression model results of the relationship between federal health transfers to municipalities and selected health indicators in Brazil (2004–15)**

To assess how these transitions could affect four health indicators until 2030 (the target year for the UN Sustainable Development Goals), we considered four hypothetical scenarios of federal transfer of funds to municipalities. In the first, federal health transfers to municipalities were maintained constant at the amount transferred in 2015 until 2030. In the remaining three scenarios, we assumed transfers would grow at the same rate as gross domestic product (GDP): 1% per year in the second scenario, 2% in the third, and 3% in the fourth. For each of the four scenarios, we simulated the performance of the four indicators (all targets of Sustainable Development Goal 3) until 2030. We present in detail our methods, assumptions, and robustness checks in the appendix (pp 6–11). The first indicator considered was infant mortality, a commonly used measure of population health;[77] second, the proportion of births whose mother attended seven or more antenatal care centre visits, a measure of preventive health services; third, FHS coverage, a measure of access to PHC; and last, amenable mortality (premature deaths under the age of 75 years that could have been avoided, given effective and timely health care) due to cardiovascular diseases, the main cause of death in Brazil among those aged 60 years or older (using codes I05–I09, I15, I20–I25, and I60–I68 of the International Classification of Diseases, 10th revision),[78] a measure of care quality.[79]

Overall, increases in federal transfers of funds to municipal governments were associated with a reduction in infant mortality, greater FHS coverage, and more frequent antenatal care centre visits (table 3). Each 10% increase in federal funding to municipalities was associated with an increase in FHS coverage of 1·74 percentage points, and an increase of 0·19 percentage points of the proportion of mothers completing seven or more antenatal care centre visits. We replicated the most saturated regressions, adding interactions between federal transfers and dummies that indicate different municipality sizes. In the case of infant mortality the estimated effects of funding changes were highest in the smallest municipalities and there were no significant differences between the effect of transfer of funds in the first and second size categories. The magnitude of the effect of altered funding decreased significantly in the municipalities in the third size categories and were not statistically different from zero in the fourth and fifth categories. An analogous pattern of larger effects for small population municipalities was also observed for the FHS coverage and for antenatal care centre visits (table 3). These results suggest that federal subsidies are much more effective in smaller municipalities, which are more reliant on federal funds than are larger municipalities.

Because the Bolsa Família (cash transfer) scheme aims to help the poorest families, and because the benefit incidence analysis showed that public health services and public spending under the SUS mostly benefit low-income families, we replicated the saturated model outlined previously and added an interaction between altered federal health funding and family allowance coverage (table 3). The results showed that the effect of federal health funding on infant mortality was much stronger when the cash transfer programme coverage was wider, suggesting that in poorer regions the return of the federal health investments in tackling the infant mortality was higher. Similar results were observed for the proportion of mothers frequently attending antenatal care centre visits. Notably, one of the conditionalities of the family allowance programme is that pregnant women

	Model 1	Model 2	Model 3	Model 4	Model 5
ln (federal transfers)	0·019 (0·013)	–0·047 (0·016)*	0·393 (0·057)*	0·187 (0·047)*	0·346 (0·079)*
ln (federal transfers)-by-family allowance coverage interaction	··	0·338 (0·059)*	··	··	0·208 (0·066)*
ln (federal transfers)-by-IQIM interaction	··	··	–0·093 (0·014)†	··	–0·056 (0·016)*
ln (federal transfers)-by-municipality size 2 interaction	··	··	··	–0·089 (0·053)	–0·093 (0·053)
ln (federal transfers)-by-municipality size 3 interaction	··	··	··	–0·113 (0·049)†	–0·112 (0·049)†
ln (federal transfers)-by-municipality size 4 interaction	··	··	··	–0·191 (0·047)*	–0·169 (0·048)*
ln (federal transfers)-by-municipality size 5 interaction	··	··	··	–0·199 (0·047)*	–0·144 (0·048)*

SEs (shown in parentheses) are clustered at the municipality level. All regression models control for an interaction term between baseline levels and a linear time trend in the indicator, for year and municipal fixed-effects, for year and state fixed-effects, and for the variables ln (municipal gross domestic product per capita), family allowance (bolsa família) coverage (% of the total population), private insurance coverage (% of the total population), and political alignment between Mayor and Governor. Additionally, all models are weighted by the municipality average population aged 60 years or older (municipality average computed over the sample period). Full details are provided in the appendix. ln=natural logarithm. IQIM= Municipal institutional quality index. Municipality size 2=5000–9999 inhabitants. Municipality size 3=10 000–19 999 inhabitants. Municipality size 4=20 000–49 999 inhabitants. Municipality size 5=≥50 000 inhabitants. *p<0·001. †p<0·05.

Table 4: **Regression model of the associations between federal health transfers to municipalities and amenable cardiovascular disease mortality among people aged 60 years or older**

must register in the prenatal care programme and follow the schedule of visits, which is thought to contribute to improved antenatal care centre attendance.

Considering the absolute difference in infant mortality between the smallest (<5000 people) and the largest (≥50 000 people) municipalities, simulated results indicated that in scenario one, the difference would increase from 0·8 points in 2015 to 1·2 points in 2030 (an increase of about 0·4 deaths per 1000 births). By contrast, in scenario four (where funding increased by 3% per year), this difference in infant mortality would decrease from 0·8 points in 2015 to –0·6 points in 2030 (appendix p 14). Inequality in simulated infant mortality was assessed through the use of an inequity ratio (a ratio between infant mortality in the smallest and the largest municipalities), which provides a measure of the differences in the regional distribution of infant mortality.[80] In scenario one, the inequity ratio increased from 1·07 in 2015 to 1·10 in 2030. By 2030, the inequity ratio for scenario two was 1·049, 0·998 for the third scenario, and 0·953 for the fourth scenario. Focusing on smaller municipalities, the ratio of simulated infant mortality in scenario one to that in scenario four was 1·14 for the smallest municipality (<5000 people) and 1·17 for municipalities with 5000–9999 inhabitants.

Analysis of antenatal care centre visits showed that a decline in the proportion of mothers attending the antenatal care centre frequently (≥7 visits) would only be observed by 2030 in scenario one, and these declines would be negligible for larger municipalities (appendix p 15). In 2015, the proportion of mothers frequently attending the antenatal care centre was 0·7123; this was modelled to reach 0·7122 in scenario one and 0·725 in scenario four. The inequity ratio between the smallest and the largest municipalities was less pronounced than that observed for infant mortality; it increased from 1·10 in scenario one to between 1·11 and 1·12 for the other three scenarios.

The simulated effects of funding changes on FHS coverage were larger than those observed for frequent antenatal care centre visits. Regardless of the municipality size, FHS coverage would be reduced in scenario one (appendix p 15). Analysing the data from all municipalities, the proportion of the population covered by the FHS in 2015 was 0·88 and this value decreased to 0·87 in 2030 in scenario one but increased to 0·94 in scenario four. Municipalities with fewer than 20 000 inhabitants would have the largest declines in health-care coverage in scenario one but the largest increases in the other three scenarios (table 4).

To account for the capacity of municipalities to manage resources (municipal institutional quality index [IQIM]),[81] we added an interaction term between the amount of federal health transfers and IQIM (table 4; model 3) to the model, which indicated that an increased capacity of the municipality to manage resources (higher IQIM) was associated with a greater reduction in amenable cardiovascular disease mortality in scenarios two, three, and four (figure). The point estimate of federal funding remained stable when we added interaction terms for municipality size and coverage of the family allowance programme (table 4; model 5). The addition of interactions between federal funding and dummy terms representing different municipality sizes revealed that smaller municipalities would have the smallest reductions in amenable cardiovascular disease mortality (table 4; model 4).

Discussion: looking ahead

Our results indicate a deterioration of all four health indicators in scenario one, where funding does not increase. Most importantly, the deterioration was larger among smaller municipalities, exacerbating geographical inequalities, and thus reversing a recent trend of overall improvements.[4]

In 1990, the World Summit for Children adopted a target to reduce infant mortality by a third or to 70 deaths per 1000 livebirths, whichever was the greater reduction, by the year 2000.[82] Brazil registered a 42% decline in infant mortality between 1990 and 2000 and an incidence

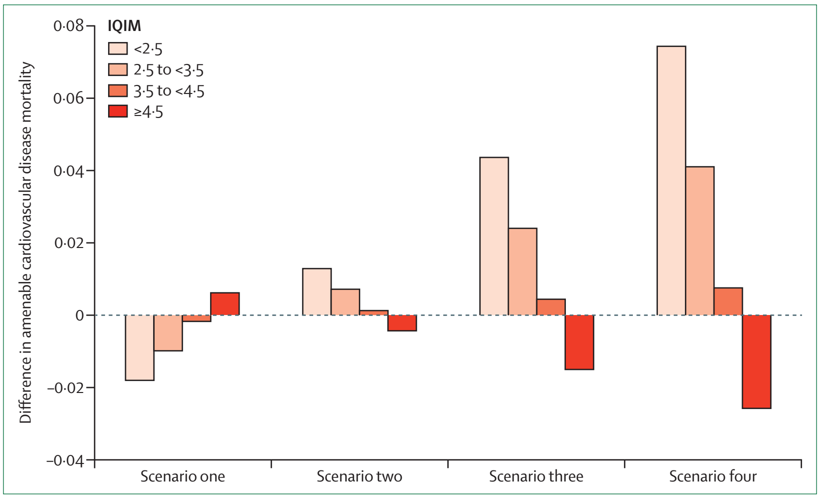

***Figure:* Effect of different amounts of federal funding on the difference between modelled amenable cardiovascular disease mortality in 2030 and the observed mortality in 2015**

Graph shows the difference in cardiovascular disease amenable mortality under the different funding models categorised by IQIM values. Scenario one=federal health transfers are maintained constant at the amount transferred in 2015 until 2030. Scenario two=federal health transfers grow by 1% per year. Scenario three=federal health transfers grow by 2% per year. Scenario four=federal health transfers grow by 3% per year. IQIM=municipal institutional quality index

of 27·6 deaths per 1000 livebirths after the 10 year period, surpassing the set target. Brazil had the second best performance in reducing mortality in children younger than 5 years from 1990 to 2006,[83] and it was among the few countries to meet Millennium Development Goal 4, to reduce child mortality by two-thirds between 1990 and 2015.[83,84] Moreover, after 1995, the inequality in the number of infant deaths between poorer and richer areas started to decline, and the municipalities with the highest infant mortality observed the largest declines in the number of deaths.[85] However, the results from our simulated scenarios show that the austerity measures, implemented in 2018, are likely to reverse this decline and worsen regional infant mortality inequalities, affecting the poorest areas by 5% compared with 2015, the first increase in this indicator since 1990.[86]

Increased inequalities with regard to FHS coverage and of the proportion of mothers frequently attending an antenatal care centre were also observed in our simulated funding scenarios. The reduction in FHS coverage is likely to have a larger effect in smaller versus larger municipalities because the municipal governments rely on the FHS to provide PHC to the population. The benefits of the FHS on health outcomes are essential in smaller municipalities.[34] As for the effect of funding alterations on antenatal care centre visits, although modest in magnitude, the results suggest that scenario one, in which funding would remain constant from 2015 to 2030, would contribute to an increasing difference in service access between larger and smaller municipalities.

Cardiovascular diseases are the main cause of death in Brazil;[79] however, between 1996 and 2007 a 20% decline in the age-standardised cardiovascular disease mortality occurred. In part, this decrease was due to a reduction in the number of smokers and better access to PHC through the FHS.[20,41,70] A decline in amenable cardiovascular disease mortality among people aged 60 years or older was observed between 2004 and 2015: on average, mortality declined by about 6% during this period, with 598·8 amenable cardiovascular disease deaths per 100 000 people aged 60 or older occurring in 2015. Declines in infant mortality and cardiovascular disease mortality have different pathways, mainly due to their different risk factors, chronicity of conditions, and level of care where conditions are treated (eg, primary *vs* secondary care). Treatment that can reduce cardiovascular disease mortality, available through secondary care, is also likely to be more expensive and not always available in smaller and less wealthy municipalities. Although our simulated scenarios indicated small effects on amenable cardiovascular disease mortality, increases in federal funding were associated with mortality reductions in municipalities that have a better quality of public sector management. Therefore, changes in federal transfers are likely to have an effect on infant mortality (directly associated with PHC), particularly in small municipalities, and on amenable cardiovascular disease mortality (associated with both primary and secondary care), particularly in municipalities that have good capacity to manage resources.

Our study has some limitations. First, we used administrative data in our analysis, which might have been under-reported. We accounted for possible under-reporting in our models (appendix pp 6–11), by adjusting the cardiovascular disease data for ill-defined causes of death, and we excluded 459 very small municipalities, which are unlikely to change the magnitude or direction of our results, because they had no information on federal health-care funding. Second, and most importantly, our simulated scenarios were not built to precisely quantify the effects of austerity measures, but to indicate probable trends in selected outcomes. Third, we argue that our results provide a very conservative picture of the effect that changes in federal funding for health care can have. Brazil already has a low infant mortality, and thus further declines over time are not as sizeable as when the infant mortality was above 30 deaths per 1000 livebirths.[87] The simulations held all other factors constant and varied only the federal health funding per capita, but reduced funding or closure of other social programmes following austerity measures is likely. Thus, the negative effect of austerity on infant mortality could be larger than that modelled. Furthermore, the likely reduction in the percentage of mothers who adhere to Brazilian recommendations on the number of antenatal care centre visits under a scenario of restricted federal health funding could affect maternal health, and consequently the number of fetal and neonatal deaths,[88,89] further increasing infant mortality. The reduction in FHS coverage directly affects the provision of PHC, particularly in small municipalities, which is likely to result in further infant mortality increases and a deterioration of other health outcomes.[39] In addition, reduced federal funding per capita is likely to affect services provided at the secondary care centres, which could compromise the provision of essential services needed to mitigate cardiovascular disease-related conditions. However, despite the limitations, our findings are in line with other studies[90] and with the newly released vital statistics and health indicators, which point to increases in infant, child, and maternal mortality and a drastic reduction in vaccination coverage, from 2015 to 2016.[86]

Although the SUS has undoubtedly contributed to improvements in the health and wellbeing of the Brazilian population and helped to reduce health disparities, these gains are fragile. Brazil is undergoing a major sociopolitical and economic transition; the political shift to far-right populism is testing democracy and threatening human rights. This shift, which is often accompanied by austerity policies, is likely to adversely affect the SUS and worsen inequalities.

The new fiscal policy to end targeted funding of the federal budget to health and education risks crowding out investments in these sectors.[91] A comprehensive plan for future health actions under the new Government of Brazil has not been developed, which sends conflicting messages. On one hand, a proposal from the Ministry of Health to further strengthen and expand access to PHC is encouraging.[91] On the other hand, changes and reorganisation of successful health programmes might set back achievements of the past. For example, the end of the cooperation with the Cuban Government for the More Doctors programme could adversely affect the health of the poorest populations. The first initiative to replace 7271 positions of Cubans by Brazilian doctors were filled by 2844 health professionals who were already working in the SUS,[92] which amounted merely to redistributing resources from one area to another.

The changes in relation to reproductive health and adolescents are particularly concerning. At a UN conference in March, 2019, the Brazilian Government rejected the use of the expressions “including universal access to sexual and reproductive health care services” and “the exclusion of sexual and reproductive health care services from universal health coverage programs”, citing that these policies might promote abortion.[93] In addition, the government has banned illustrations from booklets distributed to adolescents that provide instructions on how to use condoms. In the same vein, the Ministry of Women, Family, and Human Rights declined to add the LGBTQ+ community as a group explicitly protected by its mandate, stating that “diversity policies have threatened the Brazilian family”,[94] while the Ministry of Education has provided support to the controversial Schools Without Party scheme, which promotes policies prohibiting teachers from encouraging students to engage in discussions on gender identity, diversity, sex education, and politics.[95] Combined, these policies will probably affect the health and wellbeing of adolescents in a setting where increasing cases of syphilis and other sexually transmitted infections and underage pregnancy among the poorest communities is a major challenge.

A new decree to modify the Disarmament Statute on the registration, possession, and commercialisation of firearms and ammunition[96] will lead to increased availability of guns in a country that has one of the highest incidences of homicide and violent deaths in the world.[95] The pipeline of policies is concerning for health. A working group established by the Ministry of Justice and Public Security is evaluating the convenience and opportunity of reduced tax on cigarettes manufactured in Brazil.[97] In addition, several other new bills and constitutional amendments are currently under discussion at the National Congress to eliminate or considerably reduce the restrictions of the environmental licences for new infrastructure projects and other economic activities, and prevent the demarcation of new indigenous and protected areas, or even revoke existing ones to make way for the expansion of agribusinesses—policies that threaten Brazil’s environmental system.[98]

As a result of the situation in Brazil and our modelled scenarios, we make six recommendations to ensure the sustainability of the SUS and to prevent worsening of health outcomes and further widening of health inequalities. First, the principles of the SUS should be maintained to ensure efficient, effective, and equitable use of public resources. Universality, completeness, and free care in the SUS are fundamental for progressing towards universal health coverage in Brazil. However, the lack of clear definitions and regulatory weaknesses for effective application of SUS principles results in the so-called judicialisation of health, with the Brazilian judiciary accepting individual demands and determining the provision of health services and products that, in many cases, are not regularly offered by the SUS, with consequent inequities.[63] To mitigate judicialisation and ensure equity, national and local lists of health services and products offered by the SUS (with suitable assessment and priority setting) should be defined.

Second, sufficient public financing and efficient allocation of resources essential for sustainability of the SUS must be ensured. The austerity measures, implemented in 2016 will exacerbate chronic underfunding of the SUS, leading to a health system that serves the poorest populations with poor quality of care, with worsening health outcomes, financial protection, and inequities.

Third, health services should be delivered through an integrated network. The FHS model has improved health outcomes and reduced health inequalities in Brazil,[39,73–76] but the lack of integration between primary, secondary, and tertiary services, and suboptimal regulation of the private sector has caused fragmentation, redundancy, and major gaps in health care. An integrated network of public and private health services, underpinned by strong PHC practice could enhance efficiency, effectiveness, and access to health care for the entire population.

Fourth, a new interfederative governance model should be developed. The expansion of the SUS was possible because of the key role of the municipalities in delivering health care. However, decentralisation has financially and technically burdened municipalities with insufficient resources and capacity. New organisational forms are needed to improve the coordination of health care at a regional level, with a new federal pact between federal, state, and municipal governments to promote a balance of power, roles, and responsibilities for managing regional health-care networks. This governance framework should also consider intergovernmental equalisation transfers to reduce disparities among municipalities. Municipalities with smaller populations have lower revenues and higher dependence on intergovernmental transfers. Medium and large municipalities have higher revenues, but attract lower intergovernmental transfers and, on average, use a higher proportion of their revenues for health care. Thus, intergovernmental transfers to small municipalities to address existing inequalities should be from new sources and should not disadvantage medium-sized municipalities.

Fifth, expanding investments in the health sector and strengthening economic, technological, industrial, and social policies and regulatory frameworks that affect the production and valuation of health technologies and services, including intellectual property, are essential. Additionally, the development of health industrial complex policies for improved training and better allocation of human resources is essential to address health needs, and inequalities, along with better career paths for those working in the SUS.[42,43]

Last is the promotion of social dialogue as a strategy crucial for transforming the SUS based on the principle of the right to health, and for learning from national and international experience on strengthening universal health coverage. An open and honest debate and a broad dialogue among government actors, those working in the SUS, academia, and civil society is an important step to develop shared values and a vision to sustain the SUS.

Conclusion

The defence of health as a right, combined with creativity and the ability to overcome adversity, made the SUS an example of health system innovation for Latin America and a reference to the world. That legacy cannot (and should not) be squandered. Looking ahead, as the new context unfolds, the effect of new policies on health outcomes, disparities and the wellbeing of the society as a whole must be critically examined to assess the consequences of fiscal, economic, environmental, education, and health policies on the Brazilian population.

Contributors

RA conceived the study and jointly developed the study outline with GA, MCC, AM, and subsequent inputs from all authors. MCC, RR, NAM-F, MVA and KVMdSN led the economic modelling, and NAM-F undertook the analysis. RA, GA, MCC, and AM wrote the first draft with input from all the authors. All the authors contributed to the subsequent drafts and the final manuscript.

Declaration of interests

We declare no competing interests.

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