

# Analysis of demand and access to services in the last two weeks previous to the National Health Survey 2013 and 2019

## *Análise da demanda e acesso aos serviços nas duas semanas anteriores à Pesquisa Nacional de Saúde 2013 e 2019*

Deborah Carvalho Malta<sup>I</sup> , Crizian Saar Gomes<sup>II</sup> , Elton Junio Sady Prates<sup>III</sup> , Fausto Pereira dos Santos<sup>IV</sup> , Wanessa da Silva de Almeida<sup>V</sup> , Sheila Rizzato Stopa<sup>VI</sup> , Cimar Azeredo Pereira<sup>VII</sup> , Célia Landmann Szwarcwald<sup>V</sup> 

**ABSTRACT:** *Objective:* Compare the demand and use of health services between 2013 and 2019, and analyze the associated sociodemographic and health variables in 2019. *Methods:* Cross-sectional study with data from the National Health Survey (PNS) 2013 and 2019. The prevalence and 95% confidence intervals (95% CI) for the demand and use of health services were estimated. In 2019, the differences in the indicators were analyzed according to sociodemographic variables and the crude and adjusted by sex and age prevalence ratios (RP) were estimated. *Results:* There was an increase of 22% in the demand for health care in the last two weeks, going from 15.3% (95%CI 15.0–15.7) in 2013 to 18.6% (95%CI 18.3–19.0) in 2019. There was a reduction in use in the last two weeks, from 97% (95%CI 96.6–97.4) in 2013 to 86.1% (95%CI 85.4–86.8) in 2019, which was observed for most Federation Units. In 2019, the demand for care was greater among women, the elderly, those with high schooling, individuals with health insurance and poor self-rated health. They obtained greater access to health services in the fifteen days prior to the survey: men, children or adolescents up to 17 years of age, people with health insurance and poor health self-assessment. *Conclusion:* The demand for health services has grown and reduced access in the last 15 days between 2013 and 2019. These differences may have been exacerbated by the austerity measures implemented in the country.

**Keywords:** Access to health services. Health indicators. Health services accessibility. Cross-sectional studies. Public health. Brazil.

<sup>I</sup>Department of Maternal and Child Nursing and Public Health, School of Nursing, Universidade Federal de Minas Gerais – Belo Horizonte (MG), Brazil.

<sup>II</sup>Postgraduate Program in Public Health, School of Medicine, Universidade Federal de Minas Gerais – Belo Horizonte (MG), Brazil.

<sup>III</sup>School of Nursing, Universidade Federal de Minas Gerais – Belo Horizonte (MG), Brazil.

<sup>IV</sup>Instituto René Rachou, Fundação Oswaldo Cruz – Belo Horizonte (MG), Brazil.

<sup>V</sup>Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, Fundação Oswaldo Cruz – Rio de Janeiro (RJ), Brazil.

<sup>VI</sup>Department of Health Analysis and Surveillance of Chronic Non-communicable Diseases, Secretariat of Health Surveillance, Ministry of Health – Brasília (DF), Brazil.

<sup>VII</sup>Directorate of Research, Instituto Brasileiro de Geografia e Estatística – Rio de Janeiro (RJ), Brazil.

**Corresponding author:** Deborah Carvalho Malta. Avenida Professor Alfredo Balena, 190, Santa Efigênia, CEP 30130-100, Belo Horizonte (MG), Brasil. E-mail: dcmalta@uol.com.br

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**RESUMO:** *Objetivo:* Comparar a procura e a utilização dos serviços de saúde entre 2013 e 2019, e analisar as variáveis sociodemográficas e de saúde associadas em 2019. *Métodos:* Estudo transversal com dados da Pesquisa Nacional de Saúde (PNS) 2013 e 2019. Foram estimados a prevalência e os intervalos de confiança de 95% (IC95%) referentes à procura e à utilização dos serviços de saúde. Em 2019, analisaram-se as diferenças dos indicadores segundo variáveis sociodemográficas e foram estimadas as razões de prevalência (RP) brutas e ajustadas por sexo e idade. *Resultados:* Ocorreu aumento de 22% na procura por atendimento de saúde nas duas últimas semanas anteriores à pesquisa, passando de 15,3% (IC95% 15,0–15,7) em 2013 para 18,6% (IC95% 18,3–19,0) em 2019. Houve redução da utilização, nas duas últimas semanas anteriores à pesquisa, de 97% (IC95% 96,6–97,4) em 2013 para 86,1% (IC95% 85,4–86,8) em 2019, o que foi observado para a maioria das Unidades da Federação. Em 2019, a procura de atendimento foi maior entre mulheres, idosos, pessoas com elevada escolaridade, indivíduos que apresentam plano de saúde e com autoavaliação ruim da saúde. Obtiveram maior acesso aos serviços de saúde nos 15 dias anteriores à pesquisa: homens, crianças ou adolescentes até 17 anos, pessoas com plano de saúde e com autoavaliação ruim da saúde. *Conclusão:* Cresceu a demanda por serviços de saúde e reduziu o acesso entre 2013 e 2019. Essas diferenças podem ter sido agravadas pelas medidas de austeridade implantadas no país.

*Palavras-chave:* Acesso aos serviços de saúde. Indicadores de saúde. Acesso aos serviços de saúde. Estudos transversais. Saúde pública. Brasil.

## INTRODUCTION

Access to health services is a constitutional right of the Brazilian population, guaranteed with the creation of the Unified Health System (SUS)<sup>1-3</sup>. Between 1998 and 2013, there was an increase in access to health services, indicating advances in the performance of the public health system<sup>4,5</sup>, as a result of the expansion and consolidation of the SUS.

The use of health services is an important object of investigation in population surveys, aiming to capture the demand of users regarding health needs<sup>6,7</sup>. The concept of using health services includes direct contact with users in activities such as medical and dental appointments and hospitalizations, or indirectly, through preventive exams and diagnostic tests (laboratory, radiological, among others)<sup>7</sup>. Also, according to Travassos<sup>7</sup>, “the use of services can be a measure of access to services, but it is not explained only by it”. However, access is understood as an important determinant of use; the effective use of health services results from a multiplicity of conditions, which include health needs, self-care or the existence of the disease, as well as the severity and urgency of this health problem<sup>7-9</sup>.

Among the factors related to seeking for services, the following stand out: sociodemographic characteristics of users (age, gender, region of residence of users), socioeconomic status (education, income, health insurance), in addition to factors related to service providers, such as available resources (availability of doctors, hospitals, clinics) and types of health systems (public or private, legislation and professional regulations, systems, and others).

Other authors emphasize geographic accessibility, sociocultural factors<sup>8,9</sup>, in addition to aspects related to health and financing policies<sup>10-15</sup>.

The use of health services is stimulated by user demand, depending on their perception of the disease or previous medical diagnosis<sup>7,8</sup>. A study, with data from the National Health Survey (*Pesquisa Nacional de Saúde – PNS*), showed that patients with comorbidities tend to increase their demand for health services, for example, patients with chronic non-communicable diseases (NCDs)<sup>9</sup>.

In this sense, it is important to distinguish health needs, which incorporate socio-environmental determinants, from health service needs, which can be defined according to the knowledge of specialists, or according to the needs defined by users. The latter can also be influenced by service producers, industry, among others<sup>16</sup>. Stevens et al.<sup>17</sup> argue that the interaction between needs, demands, and service offer will define the profile of use of health services.

Political and economic crises can interfere with access to health care. Starting in 2008, the global economic crisis resulted in big cuts in health spending and resulted in the implementation of austerity policies in several European countries; consequently, there was a worsening in the access to health services<sup>18</sup>. In the United States, the economic crisis has resulted in cuts in the health sector and in donations to philanthropic services, with a consequent reduction in access to health care for unemployed families<sup>19,20</sup>.

In Brazil, the austerity policies implemented in recent years, especially in 2016, with the approval of Constitutional Amendment No. 95 (EC95)<sup>21</sup>, led to a sharp decrease in investments in health, education, and science and technology<sup>22-25</sup>. The effects of the reduction in health financing can already be observed in the reduction in the supply of goods and services, in the impact on mortality rates, whose effects tend to be exacerbated and penalize mainly the most vulnerable populations<sup>22,26-30</sup>.

In view of the austerity policies implemented in the country, it is important to monitor the demand for and access to health services through population surveys. National health surveys have historically included questions relating to access to and use of health services, which enable monitoring of these indicators and, consequently, can support evidence-informed management and planning. Thus, the objective was to compare the demand for and use of health services between 2013 and 2019, and to analyze the associated sociodemographic and health variables in 2019.

## METHODS

### STUDY DESIGN AND DATA COLLECTION

This is a cross-sectional study with data from the PNS, carried out in 2013 and 2019, by the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística – IBGE*) in partnership with the Ministry of Health.

The PNS sampling plan was by clusters in three stages of selection. In 2013, the sample was selected by cluster sampling in three stages, with stratification of the primary sampling units (census sectors). In the second stage, in each census sector, a fixed number of households was randomly selected. In the third stage, in each household, a resident aged 18 years old or older was selected with equiprobability<sup>31</sup>. In 2019, the three stages of selection were also carried out, with the difference that, in the third stage, the resident was randomly selected among those aged 15 years old or older, based on the list of residents obtained at the time of the interview<sup>32</sup>.

In 2013, the sample size was calculated at approximately 80 thousand households, with information being collected from 64,348 households<sup>31</sup>. In 2019, the sample consisted of 108,525 households and data were collected from 94,114 households<sup>32</sup>.

Expansion factors were calculated by the inverse product of the selection probabilities at each stage. After weighting the bases by natural expansion factors, a calibration process was carried out based on population projections for Brazil and the Federation Units (FU), including a correction factor for losses. To allow comparisons between the two editions of the PNS, the IBGE recalibrated the PNS 2013 expansion factors<sup>31,32</sup>.

For this study, information on access to and use of health services was obtained through the household informant (proxy informant), who answered the questions for all residents. PNS collected valid information for 205,546 individuals in 2013 and for 279,382 individuals in 2019.

## VARIABLES

The study presents, through a flowchart (Figures 1A and 1B), the questions of the data collection instrument that address the demand for and access to health services in the last two weeks of the surveys, for the years 2013 and 2019. In 2013, the following questions were used: “In the last two weeks, did you look for any place, service or health professional for health-related care?” (Yes/No). Those who answered “Yes” were asked: “This first time you sought health care, in the last two weeks, were you attended?” (Yes/No). Those who were not assisted answered the following question: “Did you seek health care again for the same reason?” (Yes/No). If so: “This last time you sought health care, in the last two weeks, were you attended?” (Yes/No).

In 2019, the flow was similar, but there was a change in the answer options to the question: “This first time you sought health care, in the last two weeks, were you attended?” (I was scheduled for another day or location/No/Yes). For respondents who answered that they were not attended, or for those who were scheduled, the flow remained the same (Figure 1B).

Due to the change in the questionnaire, only two PNS 2013 and 2019 indicators were compared:

- Seeking health care in the two weeks prior to the survey.
- Seeking assistance in the last two weeks and was treated.

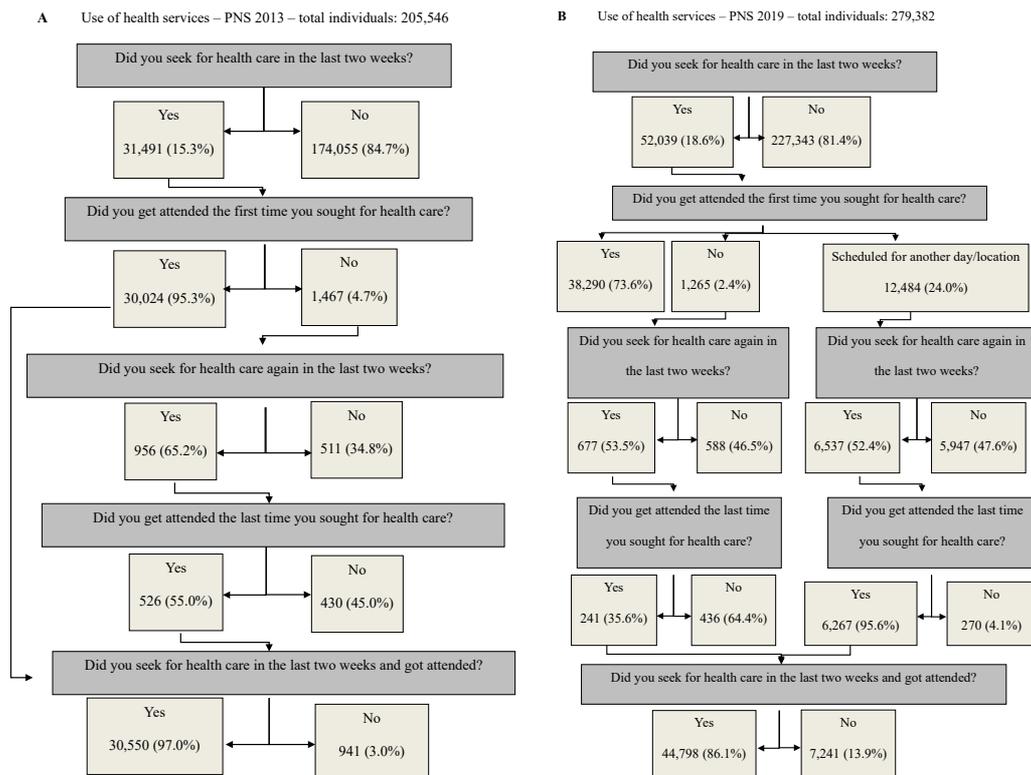


Figure 1. Flowchart of questions related to the demand for and access to health services in the last two weeks prior to the interview date, according to data from the National Health Survey (A) 2013 and (B) 2019.

## STATISTICAL ANALYSIS

The indicators were compared for Brazil, 27 states and capitals, estimating the prevalence and respective 95% confidence intervals (95%CI). Prevalences and respective 95%CI were also estimated by FU to verify differences between 2013 and 2019.

To analyze the sociodemographic and health variables related to indicators of demand and use of services in 2019, the crude and age-adjusted prevalence ratios (PR) were calculated, as well as their respective 95%CI, using regression models of Poisson with robust variance. The following sociodemographic and health variables were analyzed: gender (male and female); age group (0 to 17, 18 to 29, 30 to 39, 40 to 59, and 60 years old and older); education (no education and incomplete elementary/middle school, complete middle school and incomplete high school, complete high school and incomplete higher education, and complete higher education); health insurance (yes and no) and poor health self-assessment (yes and no); race/color (white, black, and brown). It is noteworthy that the option of not including yellow and indigenous people in the analysis is due to the guidance of the IBGE

for the small number of responses in these populations and the high coefficient of variation, which has also been adopted in other PNS analyses<sup>33</sup>.

The main reason for seeking care related to their own health in the last two weeks and the reason for not being attended the first time they sought health care in the last two weeks was also evaluated.

In this study, the Software for Statistics and Data Science (StataCorp LP, CollegeStation, Texas, the United States), version 14.0, was used for data analysis through the survey module, which considers the effects of the sampling plan.

## ETHICAL ASPECTS

The PNS data are available for public access and use, and both surveys were approved by the National Commission for Research Ethics for Human Beings of the Ministry of Health (Opinion No. 328.159 for the 2013 edition, and No. 3.529.376 for the 2019 edition).

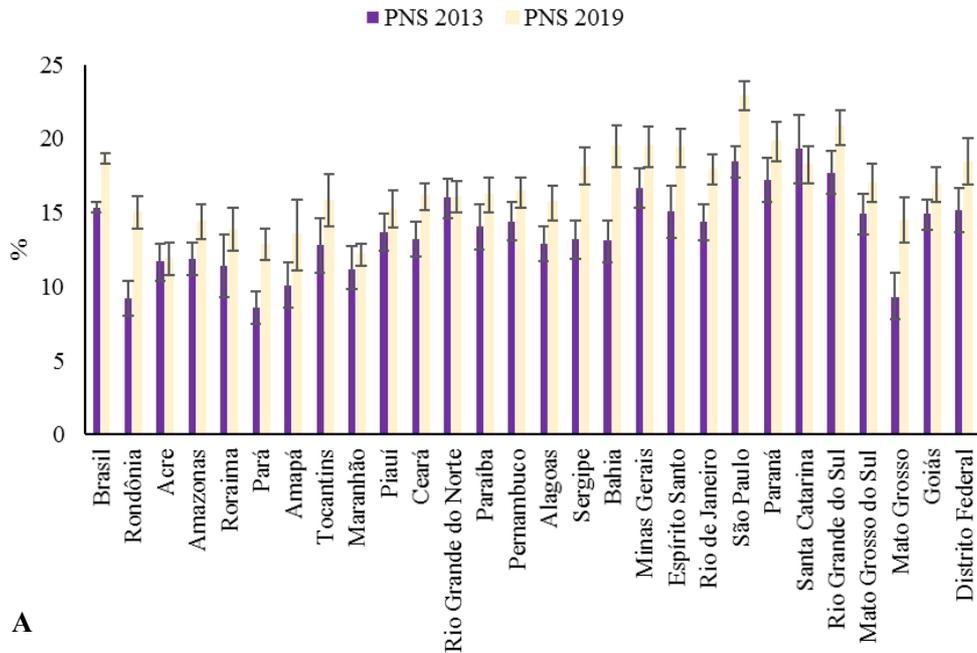
## RESULTS

Figure 1 shows the flow of PNS questionnaires for 2013 and 2019 regarding indicators of demand and access to services in the last 15 days. In 2013, 15.3% sought health services, 95.3% were attended in the first search, and among those who were not assisted, 65.2% returned to seek healthcare services for the same reason. Among those who sought care in the last two weeks (31,491), 97% managed to be attended, regardless of whether it was the first time (30,024) or the last time they sought care (526) (Figure 1A).

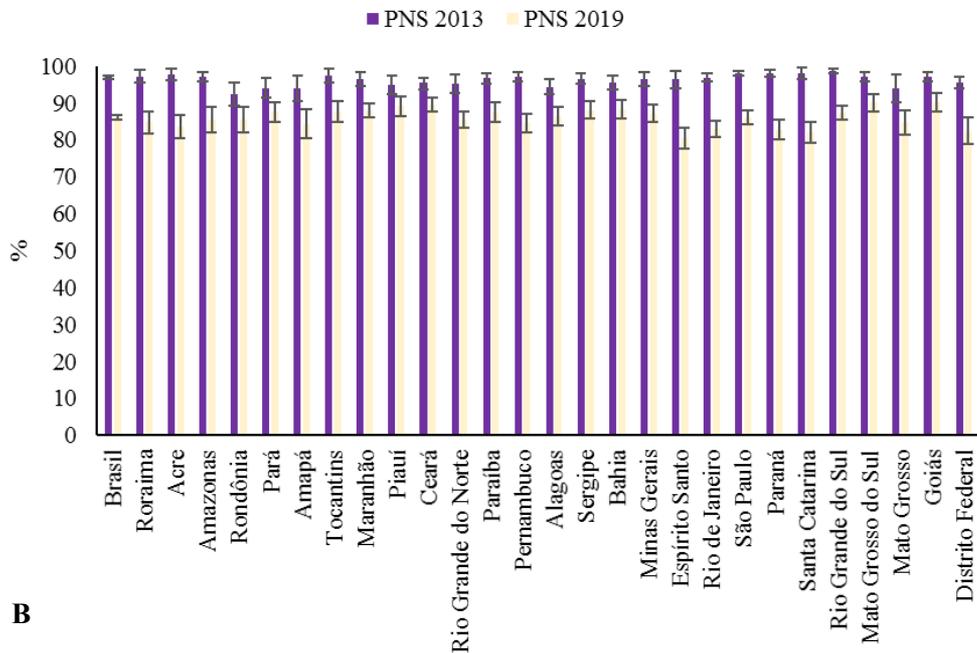
In 2019, 18.6% sought health services, 73.6% were attended in the first time, 2.4% did not go, and 24% were scheduled for another date /place. Of those who were not assisted, 53.5% returned to seek health services for the same reason and 35.6% were assisted the last time they sought it; of those who were scheduled, 52.4% sought services again and, of these, 95.6% were attended. Considering those who were assisted in the first time or in other attempts, 86.1% managed to be assisted in the last two weeks (Figure 1B).

The prevalence of people who sought health care in the last two weeks prior to the interview date increased by 22%, from 15.3% (95%CI 15.0–15.7) in 2013 to 18.6% (CI95 % 18.3–19.0) in 2019 (Figure 2A). There has been an increase in demand for services in recent weeks in most FUs. By comparing the 95%CI, differences were observed in the following UF: Amazonas, Rondônia, Pará, Ceará, Sergipe, Bahia, Alagoas, Espírito Santo, São Paulo, Rio de Janeiro, Rio Grande do Sul, Mato Grosso, and Distrito Federal (Figure 2A).

In the capitals, there was also an increase in demand for care, with statistically significant differences in Aracaju, Belo Horizonte, Brasília, Campo Grande, Cuiabá, Curitiba, Florianópolis, Fortaleza, João Pessoa, Maceió, Porto Velho, Recife, Rio de Janeiro, Salvador, and Teresina (Supplementary Figure 1).



A



B

PNS: National Health Survey (*Pesquisa Nacional de Saúde*).

Figure 2. (A) Prevalence (95% confidence interval) of seeking health care in the last two weeks prior to the interview, and (B) seeking health care in the last two weeks prior to the survey and being attended, in Brazil and in the Federation Units. National Health Survey, 2013 and 2019.

In 2019, the demand for care in the last two weeks was higher among women (PRadj: 1.46; 95%CI 1.42–1.5); it increased from 30 years of age, being higher at 60 years of age and over (PRadj: 1.81; 95%CI 1.73–1.89); it was higher in individuals with a college degree (PRadj: 1.21; 95%CI 1.16–1.27); higher in those who had health insurance (PRadj: 1.44; 95%CI 1.40–1.50); and who self-rated their health as poor (PRadj: 2.06; 95%CI 1.98–2.14). On the other hand, the demand was lower among people of brown race/color (PRadj: 0.89; 95%CI 0.86–0.92) (Table 1).

Considering all attempts, 97% (95%CI 96.6–97.4) of the people managed to receive care in the last two weeks, in 2013, reducing to 86.1% (95%CI 85.4–86.8) in 2019, a drop of 11% between the two surveys (Figure 2B). This reduction occurred in a statistically significant way in all FUs (Figure 2B). There was also a reduction in all capitals, except Aracaju (Supplementary Figure 2).

In Table 2, the search for health care in the last two weeks and being attended was lower in females (PRadj: 0.98; 95%CI 0.97–0.99) and in those who have complete high school and incomplete higher education (PRadj: 0.98; 95%CI 0.96–0.99). On the other hand, it was higher in the age group from 0 to 17 years old, with health insurance (PRadj: 1.02; 95%CI 1.01–1.04) and who self-rated their health as poor (1.05; 95%CI 1.03–1.07). There were no differences by race/color.

The main reason for seeking care in the last two weeks in 2019 was: illness or treatment of illness (48.3%; 95%CI 47.2–49.3); prevention, medical check-up or childcare (16.3%; 95%CI 15.6–17.1); complementary diagnostic exam (10.2%; 95%CI 9.7–10.7); follow-up with a psychologist, nutritionist or other health professional (7.0%; 95%CI 6.5–7.5); dental problem (6.3%; 95%CI 5.9–6.7); accident, injury or fracture (4.6%; 95%CI 4.3–5.0) (Supplementary Figure 3).

Among those who responded that they were not attended the first time they sought health care in 2019, the main reason was not getting a vacancy or getting a password (38.3%; 95%CI 33.2–43.6), followed by not having an attending physician or dentist (32.4%; 95%CI 27.9–37.1) (Supplementary Figure 4).

## DISCUSSION

The study showed that, comparing 2013 with 2019, there was a relative growth of 22% in the demand for health services in the 15 days prior to the survey and a reduction of 11% in access to health services. This scenario of increased demand and reduced access was repeated in almost all states and capitals. The demand for care was greater among women, aged people, with high education, with health insurance, and who self-rated health as poor, and lower among browns. Among the reasons for seeking health care, mentioned in the PNS 2019, half were due to care for illnesses and a quarter for preventive procedures. The main reasons for not being assisted were not getting a vacancy or getting a password and not having a doctor or dentist attending. It was found that men, children, and adolescents up to 17

Table 1. Prevalence and prevalence ratio (95% confidence interval) of seeking health care in the past two weeks, according to sociodemographic and health characteristics. National Health Survey, 2019.

Characteristics	Prevalence (95%CI)	Prevalence ratio (95%CI)	
		Crude	Adjusted
Brazil	18.6 (18.3–19.0)	–	–
<b>Gender</b>			
Male	14.8 (14.4–15.1)	1	1
Female	22.1 (21.7–22.6)	1.50 (1.45–1.53)	1.46 (1.42–1.50)
<b>Age range (in years)</b>			
0 to 17	14.8 (14.3–15.3)	1	1
18 to 29	13.6 (13.0–14.2)	0.92 (0.87–0.97)	0.91 (0.87–0.97)
30 to 39	16.5 (15.9–17.1)	1.11 (1.06–1.17)	1.10 (1.05–1.16)
40 to 59	21.1 (20.5–21.6)	1.42 (1.36–1.48)	1.40 (1.34–1.46)
60 and more	27.5 (26.8–28.3)	1.86 (1.78–1.94)	1.81 (1.73–1.89)
<b>Education</b>			
No education and incomplete elementary/middle school	18.2 (17.7–18.6)	1	1
Complete middle school and incomplete high school	16.5 (15.8–17.2)	0.91 (0.87–0.95)	0.97 (0.94–1.02)
Complete high school and incomplete higher education	17.6 (17.1–18.2)	0.97 (0.94–1.00)	1.01 (0.97–1.05)
Complete higher education	23.3 (22.4–24.3)	1.28 (1.23–1.34)	1.21 (1.16–1.27)
<b>Race/Color</b>			
White	20.2 (19.6–20.7)	1	1
Black	19.1 (18.2–19.9)	0.95 (0.90–0.99)	0.96 (0.91–1.01)
Brown	17.0 (16.6–17.4)	0.84 (0.81–0.87)	0.89 (0.86–0.92)
<b>Health insurance</b>			
No	16.5 (16.1–16.8)	1	1
Yes	24.7 (24.1–25.4)	1.50 (1.45–1.55)	1.44 (1.40–1.50)
<b>Poor health self-assessment</b>			
No	17.4 (17.1–17.7)	1	1
Yes	43.2 (41.7–44.6)	2.48 (2.39–2.57)	2.06 (1.98–2.14)

95%CI: 95% confidence interval

Table 2. Prevalence and prevalence ratio (95% confidence interval) of seeking health care in the past two weeks and receiving care, according to sociodemographic and health characteristics. National Health Survey, 2019.

Characteristics	Prevalence (95%CI)	Prevalence ratio (95%CI)	
		Crude	Adjusted
Brazil	86.1 (85.4–86.8)	-	-
<b>Gender</b>			
Male	87.2 (86.3–88.1)	1	1
Female	85.4 (84.6–86.2)	0.98 (0.97–0.99)	0.98 (0.97–0.99)
<b>Age range (in years)</b>			
0 to 17	91.0 (89.7–92.2)	1	1
18 to 29	85.6 (84.1–87.0)	0.94 (0.92–0.96)	0.94 (0.92–0.96)
30 to 39	85.6 (84.0–87.2)	0.94 (0.92–0.96)	0.94 (0.92–0.96)
40 to 59	84.8 (83.6–85.9)	0.93 (0.91–0.95)	0.93 (0.92–0.95)
60 and more	84.4 (83.1–85.7)	0.93 (0.90–0.94)	0.93 (0.91–0.95)
<b>Education</b>			
No education and incomplete elementary/middle school	86.4 (85.4–87.4)	1	1
Complete middle school and incomplete high school	85.7 (83.9–87.5)	0.99 (0.97–1.01)	0.99 (0.96–1.01)
Complete high school and incomplete higher education	84.8 (83.6–86.0)	0.98 (0.96–0.99)	0.98 (0.96–0.99)
Complete higher education	85.0 (83.2–86.7)	0.98 (0.96–1.00)	0.98 (0.96–1.00)
<b>Race/Color</b>			
White	86.1 (85.2–87.1)	1	1
Black	85.6 (84.0–87.3)	0.99 (0.97–1.01)	0.99 (0.97–1.01)
Brown	86.2 (85.3–87.1)	1.00 (0.99–1.01)	1.00 (0.98–1.01)
<b>Health insurance</b>			
No	85.5 (84.7–86.3)	1	1
Yes	87.1 (85.9–88.3)	1.02 (1.01–1.03)	1.02 (1.01–1.04)
<b>Poor health self-assessment</b>			
No	85.8 (85.1–86.5)	1	1
Yes	88.3 (86.7–89.8)	1.03 (1.01–1.05)	1.05 (1.03–1.07)

95%CI: 95% confidence interval.

years old, individuals who had a poor self-rated of their health status, and people who have health insurance had greater access.

The increase in demand and reduced access to health services in Brazil can be explained by several factors, including the increase in demand, due to population growth and increased life expectancy. The growth of the aged population is associated with a greater number of comorbidities and greater demand for health services<sup>34,35</sup>. Epidemiological, demographic, and nutritional transitions directly impact the increase in the prevalence of NCDs and result in a growing and continuous demand for care<sup>36</sup>. There is evidence of growing inequalities in Brazil, effects of adopted austerity policies, which result in increased poverty and unemployment<sup>22,25</sup> and greater social vulnerability<sup>37</sup>, expand the demand for health care<sup>25</sup>, as well as the worsening of comorbidities and mental suffering<sup>38,39</sup>. In Greece, austerity policies, which took place during the economic depression between 2009 and 2011, increased mental disorders, the demand for health services, and the consumption of medications, particularly anti-anxiety drugs<sup>40</sup>.

Studies in countries of the Organization for Economic Cooperation and Development (OECD) showed the worsening of health indicators under the austerity policies<sup>18</sup>. Simou and Koutsogeorgou<sup>40</sup>, in Greece, analyzing the period from 2009 to 2013, identified a reduction in public spending on health, a reduction in the supply of health services, inputs, and quality. In Brazil, there was a reduction in the Gross National Product (GNP) and in investments in health, both national and state and municipal<sup>41</sup>. In addition, the combination of economic crisis and fiscal austerity policies resulted in the worsening of the health sector's performance<sup>22,25</sup>, highlighting, in recent years, the increase in morbidity and mortality, the resurgence of communicable diseases (measles, yellow fever), fall in vaccination coverage, and an increase in infant and maternal mortality<sup>19,20,22,25,26</sup>. Additionally, there is a worsening of NCD indicators, increased mortality from cardiovascular diseases (CVD) and greater adoption of unhealthy behaviors<sup>24,38,42</sup>. Furthermore, in 2019 alone, SUS lost R\$ 20 billion in investments due to EC95<sup>43</sup>, which may contribute to the reduction in the supply of health services. It is also noted that the most frequent difficulties in accessing these services were the lack of vacancies and the scarcity of medical and dental professionals, reflecting the reduction in the supply of services, which may have been influenced by budget cuts in health<sup>37,43</sup>.

The characteristics of greater demand for services are in accordance with the literature: aged people, women, and populations with higher education<sup>6</sup>. The greater demand for services by aged people is due to the greater presence of comorbidities in this age group, the greater perception of the severity of the disease, the risks and the threat to health. However, although aged people have greater demand, access was lower. The attendance in the last 15 days was higher among children and adolescents under 17 years of age. Historically, health services offer more services for children<sup>44,45</sup>.

This study identified that women sought more services, which has already been identified in other surveys. However, the use was higher among men<sup>46,47</sup>. Women, in general, have a greater perception of signs and symptoms of diseases and seek services for promotion and

prevention practices, in addition to the demands of prenatal care<sup>36,45,46</sup>. A possible explanation for the greater attendance among men may be due to greater access to emergency services, while women had a greater proportion of appointments.

Poor health self-assessment increases the demand for services, due to self-assessment of the severity of the disease and worse health conditions. According to Travassos and Martins<sup>6</sup>, the subjective perception of disease risk and severity, in addition to feelings and concerns about the disease, such as death, pain or disability, lead to greater demand for services. The fact that the user feels susceptible, with fear of the disease, is an important motivator for the use of services<sup>6,9</sup>. Feeling sick and believing in the benefits of treatment are fundamental to using the services<sup>6,9,47</sup>.

The results also showed greater demand among people with higher education. However, access to services according to education level was similar between low and higher education, being lower among secondary education<sup>9,48,49</sup>. In the National Household Sample Survey (PNAD 2003 and 2008) and in the PNS 2013, there was less use of health services and a lower proportion of medical appointments in a population with lower education and income<sup>9,48,49</sup>. This change in access, even after adjusting for age and gender, may indicate that the SUS has been able to provide access to the population, regardless of education.

Individuals with health insurance used the services more. This result corroborates the PNAD data, which showed that people with a private health insurance have higher prevalence of medical appointments and hospitalization in the last 12 months, and use of services in the last two weeks<sup>48,49</sup>, data also similar to what was found in PNS 2013<sup>9</sup>. It is noteworthy that the logic of health plans encourages curative medicine and greater consumption of services<sup>48-50</sup>. Studies comparing exclusive SUS users with those with health insurance found lower frequencies of medical appointments and screening tests in the first group<sup>51-54</sup>.

Among the limitations, although the cross-sectional design is not adequate to attribute causality, the study sought to characterize a population according to attributes of interest. The health services utilization module was answered by one of the residents, the proxy, and not by residents themselves, which may underestimate the prevalence. In addition, in 2019, the questionnaire was changed, including another answer option on appointment scheduling, which limits the comparison of some questions and does not allow us to know when the scheduled appointment was carried out. The questionnaire measures the demand perceived by the user, the service received or scheduled. Furthermore, it is highlighted that there is no way to assess the quality of care, as well as whether the health response was the most adequate.

In summary, the findings of this study show that there was an increase in demand for health services and a reduction in access in the last 15 days. The implementation of the SUS has been fundamental for reducing inequities in Brazil. However, austerity policies have contributed substantially to the deterioration of the health situation. Between 2013 and 2019 there was an increase in the demand for health services, which may be due to the aging

population, but also to increased vulnerability, increased unemployment, cuts in social programs, and the austerity policies implemented in Brazil.

It emphasizes the importance of the SUS and the doctrinal principles of universality, integrality, and equity, guaranteeing access to services by the population with less education and without health insurance. Therefore, it is essential to invest in the expansion and adequate and sustainable financing of the SUS.

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Fundraising, Validation. Gomes, C. S.: Formal Analysis, Conceptualization, Writing – First Draft, Writing – Reviewing and Editing, Validation. Prates, E. J. S.: Formal Analysis, Conceptualization, Writing – First Draft, Writing – Reviewing and Editing, Validation. Santos, F. P.: Conceptualization, Writing – Revision and Editing, Validation. Almeida, W. S.: Formal Analysis, Conceptualization, Writing – First Draft, Writing – Reviewing and Editing, Validation. Stopa, S. R.: Conceptualization, Writing – Revision and Editing, Validation. Pereira, C.A.: Conceptualization, Writing – Revision and Editing, Validation. Szwarcwald, C. L.: Formal Analysis, Conceptualization, Data Curation, Writing – First Draft, Writing – Reviewing and Editing, Validation.

