

## Perception of the Brazilian population on medical health care. Brazil, 2013

Célia Landman Szwarcwald <sup>1</sup>  
Giseli Nogueira Damacena <sup>1</sup>  
Paulo Roberto Borges de Souza Júnior <sup>1</sup>  
Wanessa da Silva Almeida <sup>1</sup>  
Deborah Carvalho Malta <sup>2</sup>

**Abstract** *The objective was to analyze the perception of the Brazilian population on the medical health care, using data from the National Health Survey, 2013. Among those who have consulted with doctor in the 12 months prior to the survey, we analyzed 12 aspects related to health services and medical consultation, according to type of care (public/ private). By multivariate logistic regression, factors associated with dissatisfaction with the care received were investigated. For the dimensionality reduction of the assessed aspects, we used principal component analysis. The survey revealed that 74.2% of the adult Brazilian population consulted a doctor. Among the differences by type of care, stood out the way of getting an appointment, the type of doctor, the waiting time for service, and the reason for consultation. Median scores were concentrated in 80 (good), except for the waiting time between SUS users. Proportions of very good evaluation were, however, higher among users of the private sector. Despite the positive evaluation in both sectors, public and private, the configuration of the Federative Units in the plane formed by the two principal component axes followed a pattern of striking regional differences.*

**Key words** *Medical health care, Use of health services, Patient satisfaction, Public sector, Private sector*

<sup>1</sup> Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, Fundação Oswaldo Cruz. Av. Brasil 4365/Biblioteca/225, Manguinhos. 21040-360 Rio de Janeiro RJ Brasil. celia.szwarcwald@icict.fiocruz.br

<sup>2</sup> Departamento de Vigilância de Doenças e Agravos não Transmissíveis e Promoção da Saúde, Secretaria de Vigilância em Saúde, Ministério da Saúde. Brasília DF Brasil.

## Introduction

Over the last 30 years Brazil has undergone several changes in terms of socio-economic development and access to urban infrastructure. Besides the improvements that have taken place in the socio-economic conditions regarding health care, the country has evolved from a multiple system to a unified health system, with profound changes in health policies<sup>1</sup>. During those years, a number of programs were instituted by the Ministry of Health which were focused on expanding the coverage of primary health care through a family health strategy<sup>2</sup>.

Currently, the organization of the national health system is based on the Unified Health System (SUS), which is responsible for providing free and universal assistance to any Brazilian that needs it. This coexists with private health care, which is provided through existing health plans or on demand. The vast majority of the Brazilian population depend on the public health system, especially those who live in the north, northeast and midwest of the country<sup>3</sup>. In many areas of Brazil the basic health units are the only services that provide health care to local communities of low socio-economic status<sup>4</sup>.

This major expansion of access to health services brought with it the need to assess the care provided to service users. The provision of quality health care has become the focus of the second phase of health care transformation in Brazil<sup>5</sup>. Moving on from the development of the infrastructure, qualifying what actually occurs within the structure that has been built has become a fundamental issue<sup>6,7</sup>.

The Ministry of Health launched the Program for the Evaluation of SUS, which emphasizes two strategic dimensions in particular: quality and access. In addition to proposing evaluations of access to different levels of care, this program aims to support managers at the local, state and federal levels and insists on greater quality in the assistance that is provided<sup>8</sup>.

The evaluation of health system performance has been regarded as one of the pillars of support strategies designed to improve the assistance that is provided, especially with regard to relations between the service provider and service users<sup>9</sup>. In addition to expanding access, the issue of the satisfaction of service users is critical and it forms part of the overall evaluation of health system performance. This issue has gained growing importance in relation to public health policies<sup>10</sup>.

Research aimed at evaluating health performance from the perspective of service users has

become increasingly important, particularly in developed countries<sup>11</sup>. The perceptions of service users are increasingly valued and they constitute an essential stage in the planning of actions to ensure the quality of health care and decisions aimed at meeting the population's needs<sup>12</sup>.

In Brazil, national population-based studies evaluating user satisfaction regarding the quality of care that is offered are still scarce<sup>13</sup>. In 2003, a World Health Survey was performed in Brazil. This survey was proposed by the World Health Organization (WHO) in order to supply information and to obtain reliable data for the construction of performance indicators for health systems<sup>14</sup>. One of the factors that was evaluated was user satisfaction with the quality of care that was offered, including issues such as ease of access, the waiting time for care, evaluation of available facilities and equipment, reception, and the doctor's skills<sup>15</sup>.

Recognizing the importance of obtaining information about the level of user satisfaction regarding the care provided, the National Health Study (PNS) was carried out in Brazil in 2013, which developed the system proposed by the WHO and introduced a questionnaire with questions evaluating the consultation with the doctor. The present study analyzes the perceptions of service users regarding the service that they received by using information collected in the survey itself.

## Methodology

The National Health Study (PNS) was a household-based, nationwide survey that was conducted by the Ministry of Health and the Oswaldo Cruz Foundation in partnership with the Brazilian Institute of Geography and Statistics (IBGE) in 2013 and 2014. The project was approved by the National Commission of Ethics in Research (CONEP) in June 2013, Regulation No. 328.159.

The PNS sample was a sub-sample of the master sample of the Integrated Household Survey System (SIPD) of the IBGE<sup>16</sup>. Cluster sampling was used in three stages, with stratification of the primary sampling units (UPAs). In the first stage the selection of the UPAs was carried out by simple random sampling at each stratum. In the second stage a fixed number of households were randomly selected for each UPA. In the third stage one resident aged 18 years or more was randomly selected in each household.

At the end of fieldwork 81,254 households had been visited. Of these, 69,994 households

were occupied and 64,348 home interviews were conducted. There were 60,202 individual interviews with the selected resident in their home.

The present study analyzed the information provided in the aforementioned individual questionnaires. The analysis of the medical consultations in the twelve months prior to the survey was based on the following question: "When was the last time that you consulted a doctor?" If the individual had undergone such a consultation then the following information was analyzed regarding the location of the consultation (primary care unit, specialist center, public clinic, medical assistance center (PAM); public emergency care unit; outpatient in a public hospital; at home with family health team; private practice or provided by business or trade union; emergency care private hospital service; at home with private doctor; or other). It was also investigated if the individual had managed to arrange a medical consultation at the first attempt.

For the individuals who had consulted a doctor in health facilities within the previous 12 months the following factors were analyzed: the reasons for consulting a doctor (illness, accident or other health problem, periodic medical examination, pre-natal care or other); the manner in which the appointment was arranged (directly approaching the service without making an appointment, previously scheduled appointment, referral by a health professional, emergency care, or other); waiting time; the length of time of the consultation; and the type of doctor (general practitioner, family doctor, gynecologist or specialist doctor); and other, depending on the location of the consultation, which was categorized as either public or private.

In order to assess the assistance provided from the service user's point of view, the following issues were analyzed by asking the following question, "In general, how would you evaluate the care that you received in relation to the following aspects?": the availability of equipment necessary for the medical consultation; the space available for the medical consultation; the travelling time; the time waiting to be attended; the manner in which you were received; and the cleanliness of the environment. In relation to the doctor, the following aspects were evaluated: the doctor's medical skills; the doctor's level of respect in the way they attended you; the level of clarity of the doctor's explanations; the availability of time to ask questions about your condition or treatment; the possibility of speaking in private with the doctor; and the ability to choose the doctor. The responses ranged from 1 (very good)

to 5 (very bad), which were turned into scores ranging from 20 (very bad) to 100 (very good). The average scores were calculated for each item and compared in terms of the location of the consultation (public or private).

In order to assess the differences in the evaluation of care provided by the Federal Units (UF) and the capitals, principal component analysis was performed on all the items. The analysis produced the following two principal axes: "health service assessment" and "the assessment of the assistance provided by the doctor". In order to visualize the assessment by UF and capitals, after rotation of the axes by the Varimax method the coordinates of the UFs were arranged in a chart.

In order to establish what factors determined a bad perception of care provided by the doctor, depending on the location of the consultation (public or private), multivariate logistic regression models were utilized, which considered the demographic variables of gender and age, as well as attention characteristics such as the type of doctor, the manner of getting a consultation, the reason for the consultation, the length of time of the consultation, the waiting time, and whether the patient was attended in their city of residence or not. The outcome was established by whether the score of the principal axis, i.e. "the assessment of the assistance provided by the doctor" was less than or equal to the lower quintile.

## Results

The results of the PNS performed in 2013 showed that 74.2% of individuals aged 18 or over had had a medical consultation in the 12 months prior to the survey. Of those who consulted a doctor, 97.6% were able to arrange a consultation at the first attempt. The main location for consultations was in private practices, which represented 36.9% of the total, and 85.8% of the consultations that were performed in private health establishments. The consultations in basic health units constituted 33.5% of the total, and 59.6% of those which were performed in public health facilities, while public hospitals outpatients represented, 9.4% and 16.7%, respectively. Of the SUS consultations, 5.6% were performed at the patient's home by a doctor from a family health team (Table 1).

Of those who had consulted a doctor in the period of 12 months prior to the survey, and the consultation was not at home, 57.4% consulted a doctor in a public health establishment, and 42.6% in a private establishment. The results shown in Table 2 demonstrate that important

**Table 1.** Percentage of individuals who consulted a doctor in the 12 months preceding the survey, by location of consultation. PNS, 2013.

Location of consultation	n	%	CI 95%
<b>Public</b>			
Basic health unit	14.956	59.6	(58.3-60.9)
Specialist center, public polyclinic, PAM or CAPS	1.335	5.3	(4.7-6.0)
Public emergency care unit	3.223	12.8	(12.0-13.8)
Outpatient of public hospital	4.188	16.7	(15.8-17.6)
At home with ESF doctor	1.395	5.6	(5.1-6.1)
Total	25.097	56.2	(55.1-57.3)
<b>Private</b>			
Private practice or private clinic	16.495	85.8	(84.8-86.8)
Emergency in private hospital	1.084	5.6	(5.0-6.3)
At home with personal doctor	1.639	8.5	(7.7-9.4)
Total	19.218	43.0	(41.9-44.1)
Disregarding whether public or private	357	0.8	(0.7-0.9)
Total	44.672	100.0	-

differences were found in terms of the users' characteristics depending on the location of the consultation, i.e. public or private. Of those who were attended in SUS establishments, almost half (47.4%) went straight to the location without an appointment, while in the private sector only 17.7% did not make a prior appointment. Of those who made a prior appointment in private establishments, 82.1% did so by telephone and 7.0% by visiting the health establishment. Conversely, for the consultations that were performed in the public sector, the percentage of appointments scheduled by telephone was 11.7% and 61.7% of consultations were arranged by a prior visit to the establishment.

The results presented in Table 2 also indicate different waiting times to see a doctor, depending on the location of the consultation. In public establishments the median waiting time was 60 minutes and more than 25% of patients waited two hours or more to be attended. In private establishments the median wait was 30 minutes. On the other hand, the consultation time was greater in the private sector than in the public sector: 17.0% and 35.4% respectively reported a consultation of less than 15 minutes.

With regard to the reason for seeking a consultation, in the public establishments the main reasons for seeking help were illness, accident or other health problems (53.1%) followed by the need to perform a periodic examination (35.7%). In the case of private establishments, this relationship was reversed with percentages

of 37.2 and 49.6%, respectively. Regarding the type of doctor that was consulted, general practitioners or family doctors were the most frequently consulted by those who used the SUS system (75.6%), while for those who used the private sector, 64.7% consulted a medical specialist or a gynecologist (Table 2).

Table 3 shows the indicators for the assessment of the health services and the care provided by the doctor according to the type of institution (public or private). With regard to the health services, poor/very poor evaluations were generally small for both SUS services and for private health care, except for the waiting time and travelling time. For the public establishments the poor/very poor evaluations for waiting time and travelling time were 28% and 11.6% respectively, and for the private sector they were 11.9% and 9% respectively.

Overall, the average scores were higher for private institutions. This resulted from a large number of "very good" assessments, which exceeded 25% for four items. For the public sector, the highest percentage of "very good" assessments (10.4%) corresponded to the item "reception by staff". All the median scores were concentrated at 80 (good rating) except for the median score for waiting time, which was 60 for users of SUS services (Table 3).

For the assessment of care provided by the doctor, the average scores were higher than those obtained for health services, particularly for users of public institutions. The items "respect in rela-

**Table 2.** Distribution (%) of individuals who had medical consultations outside the home in the 12 months prior to the survey in relation to getting an appointment, waiting time, time of consultation, type of doctor, city where attended, depending on the location of the consultation (public or private). PNS, 2013.

Variable	Local do atendimento					
	Public			Private		
	n	%	CI 95%	n	%	CI 95%
Method by which the consultation was arranged						
Went directly to the service without an appointment	11.232	47.4	(46.0-48.8)	3.106	17.7	(16.7-18.7)
Previously arranged	10.460	44.1	(42.8-45.5)	13.404	76.3	(75.1-77.4)
Referred by a health professional	1.376	5.8	(5.2-6.5)	766	4.4	(3.8-5.0)
Emergency	541	2.3	(2.0-2.6)	236	1.3	(1.1-1.7)
Other	93	0.4	(0.3-0.6)	67	0.4	(0.3-0.6)
Waiting time (minutes)						
< 30	5.380	22.7	(21.7-23.7)	8.487	48.3	(46.8-49.8)
30-59	6.026	25.4	(24.4-26.5)	4.888	27.8	(26.6-29.0)
60-89	3.823	16.1	(15.3-17.0)	1.908	10.9	(10.1-11.7)
90-119	1.611	6.8	(6.2-7.4)	561	3.2	(2.8-3.7)
120+	6.862	28.9	(27.9-30.1)	1.735	9.9	(9.1-10.7)
Time of consultation (minutes)						
< 15	8.388	35.4	(34.2-36.6)	2.980	17.0	(15.9-18.0)
15-29	9.071	38.3	(37.2-39.4)	6.615	37.6	(36.3-39.0)
30-44	4.413	18.6	(17.7-19.5)	5.888	33.5	(32.1-34.9)
45-59	384	1.6	(1.3-2.1)	503	2.9	(2.5-3.3)
60+	1.446	6.1	(5.3-7.0)	1.593	9.1	(8.2-10.1)
Type of doctor						
Family or general doctor/general clinic	19.227	76.6	(75.6-77.6)	7.169	37.3	(36.0-38.6)
Gynecologist/specialist doctor	5.346	21.3	(20.4-22.3)	11.577	60.2	(58.9-61.6)
Other	524	2.1	(1.8-2.4)	473	2.5	(2.1-2.8)
Reason for seeking doctor						
Health problem	12.584	53.1	(51.7-54.4)	6.543	37.2	(35.9-38.6)
Periodical exam	8.459	35.7	(34.4-37.0)	8.714	49.6	(48.1-51.0)
Pre-natal	532	2.2	(2.0-2.6)	209	1.2	(1.0-1.5)
Other	2.127	9.0	(8.3-9.8)	2.113	12.0	(11.1-13.0)
City of consultation						
Home	21.740	91.7	(91.1-92.3)	14.173	80.6	(79.3-81.9)
Other city	1.962	8.3	(7.7-8.9)	3.406	19.4	(18.1-20.7)

tion to the patient” and “doctor’s skills” received the best average scores and had the highest percentage of “very good” evaluations in both types of establishments. In the public sector the worst rated item was “freedom to choose doctor”, with a mean score of 61.6 and a median score of 60.

The use of principal component analysis resulted in two axes, which were called “assessment of health services” and “assessment of assistance provided by the doctor”. The Federal Units (UF), which were divided into the capital and the interior (the remainder of the UF), were placed on the graph formed by the two principal axes according to the average scores assigned to 12 items by the residents of each UF (Figure 1). To inter-

pret the graph the quadrants were numbered in a clockwise direction. The first quadrant represented the best assessment of both dimensions, while the third quadrant represented the worst rating, with negative evaluations of the two dimensions. The second quadrant represented a positive assessment of health services and a negative assessment of the assistance provided by the doctor, and vice versa for the fourth quadrant.

Figure 1 shows that the best evaluations were made by residents of the states of Rio Grande do Sul and Minas Gerais (capital and interior), and the Federal District. Porto Alegre received the best assessment throughout Brazil. The other capitals which appeared in the first quadrant were

**Table 3.** Assessment indicators of “health services” and “assistance provided by the doctor” depending on the location of consultation (public or private). PNS, 2013.

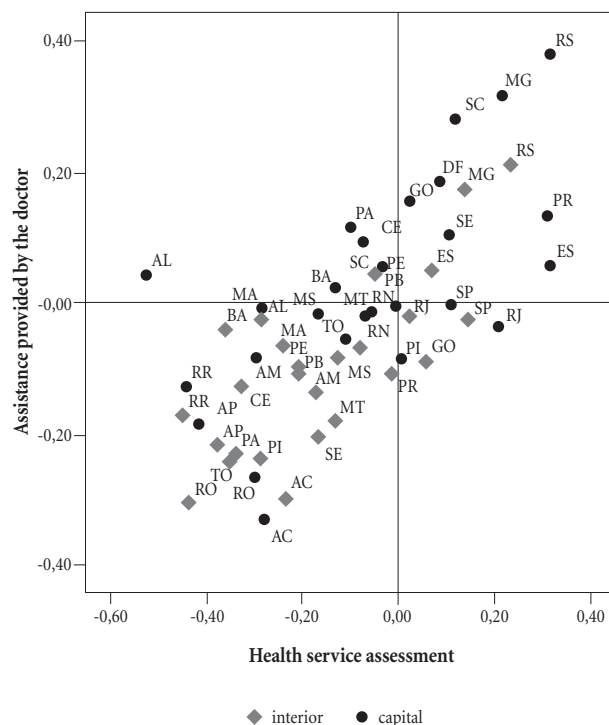
Item	Location of consultation	Distribution (%)					Average score	Median score
		Very poor	Poor	Average	Good	Very good		
Assessment of health services								
Availability of equipment	Public	2.5	6.9	23.7	59.8	7.1	72.4	80.0
	Private	0.2	1.1	6.7	65.8	26.3	83.3	80.0
Available space	Public	1.5	5.0	21.0	65.4	7.0	74.2	80.0
	Private	0.3	1.3	6.4	66.9	25.1	83.1	80.0
Travelling time	Public	2.4	9.2	21.8	60.3	6.3	71.8	80.0
	Private	1.7	7.3	16.5	59.8	14.8	75.7	80.0
Waiting time	Public	9.6	18.4	24.6	42.0	5.4	63.0	60.0
	Private	3.3	8.6	18.6	54.2	15.2	73.9	80.0
Reception by staff	Public	2.5	4.9	18.3	63.9	10.4	74.9	80.0
	Private	0.6	1.6	6.5	64.6	26.7	83.0	80.0
Cleanliness of facilities	Public	2.4	4.6	18.8	64.3	9.9	74.9	80.0
	Private	0.3	0.7	5.1	64.0	29.9	84.5	80.0
Assessment of the assistance provided by the doctor								
Doctor's skills	Public	1.2	3.6	15.0	66.7	13.5	77.5	80.0
	Private	0.4	1.2	5.1	57.7	35.7	85.4	80.0
Respect in relation to the patient	Public	1.1	2.4	11.1	67.7	17.6	79.7	80.0
	Private	0.2	0.8	4.0	55.7	39.3	86.6	80.0
Clarity of doctor's advice	Public	1.7	4.4	16.2	63.3	14.5	76.9	80.0
	Private	0.5	1.4	6.6	55.5	36.0	85.0	80.0
Availability of time for questions	Public	2.6	7.4	18.3	60.3	11.4	74.1	80.0
	Private	0.8	2.2	8.2	57.6	31.3	83.3	80.0
Possibility of speaking in private with doctor	Public	2.0	5.5	15.6	65.8	11.2	75.8	80.0
	Private	0.4	1.6	5.5	61.0	31.5	84.3	80.0
Ability to choose the doctor	Public	9.8	21.5	25.0	38.4	5.3	61.6	60.0
	Private	1.8	5.5	11.5	53.7	27.5	80.0	80.0

Belo Horizonte, Florianópolis, Curitiba, Goiânia, and Aracaju. In contrast, the states with negative evaluations for the two dimensions were placed in the third quadrant. It is important to note that the concentration of the states in the north of Brazil (Rondônia, Acre, Roraima, Amapá), the interior of Tocantins, Pará and Piauí were well below and to the left of the point of origin, representing the conglomerate with the worst rating for both dimensions. Also in this quarter, slightly above and to the right, there was a conglomerate formed by the states of Amazonas and Maranhão, as well as the interior of the northeastern states (Ceará, Sergipe, Pernambuco, Maranhão, Paraíba and Alagoas), which corresponded to the second worst rating.

The states of São Paulo, Rio de Janeiro and Espírito Santo, as well as the interior of Goiás and Teresina, were located in the second quad-

rant, near the point of origin, signifying average ratings for both dimensions; a little better for the evaluation of health services. In the fourth quarter, and close to the point of origin, were the capitals Belém, Fortaleza, João Pessoa, Recife, Salvador and the interior of Santa Catarina, also signifying average assessments for both dimensions, but slightly better for the item “assistance provided by the doctor”. Also in the fourth quadrant, Maceio stood out as having the worst evaluation for health services. Mato Grosso do Sul, Mato Grosso, Rio Grande do Norte, the capital Palmas, and the interior of the states of Paraná, Sergipe, Paraíba and Pernambuco were close to the point of origin but with negative coordinates in both axes (Figure 1).

The results of the multivariate logistic regression model revealed the characteristics of the service users that resulted in a negative percep-



**Figure 1.** Distribution of Federal Units according to capital/interior in the two principal axes (“health service assessment” and “assessment of the assistance provided by the doctor”) resulting from principal component analysis. PNS, 2013.

tion of the care provided by the doctor (Table 4). For both users of public and private institutions, younger service users provided the worst evaluations of the service they received. For both private and public establishments, after adjustment for other variables in the model there was a direct association between a bad perception by the service user with the item of waiting time, and the following variables had significant effects: “not able to arrange consultation the first time”; “the doctor was not a specialist”; and “the service was carried out in their city of residence”. For the consultations that were provided in SUS establishments, the fact that service users went straight to the establishment without arranging a consultation, as well as the public emergency health units, had a significant effect, which resulted in a worse perception for service users in relation to the other locations where consultations were provided.

## Discussion

The results of the present study showed an increase in the proportion of individuals who had consulted a doctor in the 12 months preceding the survey in comparison with the data obtained from the National Supplementary Health Survey by Household of 2008<sup>17</sup>. The increase in the coverage of medical consultations is undoubtedly a positive expression of expanding access to health services within Brazil, which may have a great impact on the health of the population in terms of prevention, diagnosis and the treatment of diseases, and which may well result in increased survival rates<sup>18</sup>.

However, the interpretation of the growth in the use of medical consultations is not immediate since it depends on several factors such as necessity, socio-demographic characteristics, the provision of services, the availability of doctors, the financing of health care, and the perceptions of service users regarding the care that is provided<sup>19,6,20</sup>. Studies in countries that have different

**Table 4.** Determining factors for poor assessment of the assistance provided by the doctor. PNS, 2013.

Variables	Location of consultation					
	Public			Private		
	Odds ratio (OR) <sup>*</sup>	Confidence interval (95%)	p-value	Odds ratio (OR) <sup>*</sup>	Confidence interval (95%)	p-value
Age	0.991	(0.987-0.994)	0.000	0.985	(0.982-0.989)	0.000
Gender						
Male	1.082	(0.963-1.215)	0.183	1.048	(0.949-1.158)	0.556
Female	1.000	-	-	1.000	-	-
Achieved consultation at the first attempt						
Yes	0.590	(0.457-0.462)	0.000	0.436	(0.299-0.637)	0.006
No	1.000	-	-	1.000	-	-
City where attended						
Home	1.281	(1.067-1.539)	0.008	1.355	(1.185-1.550)	0.007
Other city	1.000	-	-	1.000	-	-
Type of doctor						
Family or general doctor/general clinic	1.580	(1.392-1.793)	0.000	1.949	(1.755-2.163)	0.000
Gynecologist/specialist doctor	1.000	-	-	1.000	-	-
Reason for seeking doctor						
Disease, accident or other health problem	1.060	(0.947-1.185)	0.310	1.001	(0.902-1.110)	0.995
Periodic exam or other reason	1.000	-	-	1.000	-	-
Manner of achieving consultation						
Went straight to the health service without an appointment	1.159	(1.021-1.315)	0.022	1.234	(1.089-1.398)	0.061
Other (previously arranged or referred)	1.000	-	-	1.000	-	-
Consultation in basic health center						
Yes	0.868	(0.777-0.970)	0.012	-	-	-
No	1.000	-	-	-	-	-
Consultation in private practice/private clinic						
Yes	-	-	-	0.814	(0.677-0.978)	0.201
No	-	-	-	1.000	-	-
Time of consultation	0.999	(0.998-1.000)	0.046	0.998	(0.997-1.000)	0.425
Waiting time	1.002	(1.001-1.002)	0.000	1.002	(1.002-1.003)	0.000

<sup>\*</sup> OR estimated by multivariate logistic regression.

models of health systems show that their use may vary considerably depending on the characteristics of individuals and the systems themselves<sup>21</sup>.

The results of the present study showed that a high proportion of people were seen by a doctor at the first attempt (97.6%), which suggests that barriers to access did not result from a lack of care but that they interfered with the user's evaluation of the assistance that was provided. Regarding the consultations provided in SUS establishments, the main reason for dissatisfaction was the waiting time. Paradoxically, almost half of service users went straight to the location of the consultation without making an appointment, and when there was a prior appointment

it was made by visiting the establishment in over 60% of cases. The waiting time is a critical element in relation to access to health care and it is recognized as the biggest problem in providing outpatient health care because it has an impact on productivity and the quality of services that are provided<sup>22</sup>.

Dissatisfaction with the waiting time for outpatient care with a doctor has been identified in several Brazilian studies<sup>13,15</sup>. In addition to feeling disrespected due to having to wait a long time for a medical consultation, patients lose time that could be devoted to other important activities. Despite the fact that the average waiting time for consultations at SUS establishments has been re-



duced<sup>23</sup>, further reduction remains an important goal in order to promote a positive perception of public health care.

The present study found that for those who consulted a doctor in the 12 months prior to the survey, and the service was not at home, nearly 43% consulted a doctor in a private health establishment. Given that private health plan coverage is less than 30% overall<sup>3</sup>, these results point to increased use among individuals who have private health insurance. The differences were particularly attributed to the motive of use, with much higher proportions of usage to perform periodical examinations in the private sector. These data confirm previous findings which showed that population groups of lower socio-economic status tend to use health services more because of illness<sup>24</sup>. On the other hand, the data also indicate the need to inform SUS users of the benefits of conducting periodic examinations for the preservation of health and the early detection of diseases<sup>25,26</sup>.

The main method of accessing SUS health services was the basic network; about 60% of the consultations in public establishments were conducted in basic health units, while approximately 17% occurred in outpatient clinics of public hospitals and 13% in emergency units. On the one hand, obtaining a consultation at the first attempt was a key factor in user satisfaction, on the other hand, the worst perception of medical consultations was for those who used emergency units, showing that the expansion of access is relevant to the issue of obtaining care, but it may not satisfy service users when it does not entirely respond to their needs<sup>27</sup>.

Other factors associated with dissatisfaction with the care provided by doctors in both the public and private sectors, was the type of doctor. The attendance by a non-specialist doctor was a statistically significant determinant of a bad evaluation of a consultation. Moving to another city was not a problem and was inversely related to a poor perception of the consultation. These findings can be probably explained by the organization of the public health network. Given that the primary health care doctors are usually general practitioners, there is a tendency for them to refer patients for specialist consultations for a better resolution of their problem, which ultimately results in a better evaluation by the service user<sup>28</sup>. As noted previously by other authors, service users tend to positively evaluate services if their health problem is solved or improved<sup>29</sup>.

The present study generally found evidence of positive assessment of both types of institu-

tions, public or private, and revealed the capacity to respond to the demands of service users. However, marked inequalities were found in relation to the region of residence. The dimensionality reduction analysis of the scores assigned to the 12 assessment items resulted in two main axes (“assessment of health services”, and “assessment of the assistance provided by the doctor”), with the configuration of the Federal Units of the north and south regions at opposite ends, following a pattern of regional inequalities that have already been widely recognized<sup>30,31</sup>.

In the two-dimensional graphic layout, conglomerates were observed which basically corresponded to the composition of UF for the Greater Region. Southern states were located in the positive quadrant for the two dimensions, while the UF for the north region were in the opposite quadrant. The UF from the northeast were in the same quadrant but in a slightly better situation. The UF from the southeast and midwest were placed near the point of origin of the graph, with an average assessment from the perspective of service users. The exceptions to this were Minas Gerais and the Federal District, which had ratings above average for the two dimensions.

Periodic studies to evaluate the performance of the health system have been considered essential to verify whether new actions, strategies, or interventions are achieving their intended objectives as well as the actual needs of the population<sup>23</sup>. One of the limitations of the present study was the fact that the survey was performed in 2013 and therefore the evaluation of health care did not incorporate the “More Doctors” program, which provides investments in the infrastructure of health facilities and is intended to provide more doctors in regions where there are shortages and a lack of professionals. This program will probably have a positive impact in the short term in the poorest areas<sup>20</sup>.

In summary, the data provided by the National Health Survey brought some issues pertaining to health care to the national level, such as access and the use of services, the characteristics of service users, and their perceptions about the care that they received. The survey provided relevant information to improve the evaluation of the performance of the national health system and made it possible to evaluate factors related to dissatisfaction with the care that was provided, which can influence the planning of improvements in service conditions. In addition, the marked regional differences in the perceptions of service users regarding consultations with doc-

tors should support the reorientation of the organization of services in Brazil, which are aimed at overcoming social exclusion.

### **Collaborations**

CL Szwarcwald, GN Damacena, PRB Souza Júnior, WS Almeida and DC Malta participated equally in all stages of preparation of the article.

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