

Utilization of public and private health services by the population of Belo Horizonte

Utilização de serviços públicos e privados de saúde pela população de Belo Horizonte

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ABSTRACT: *Objective:* To analyze the differences in health services utilization by users of Brazilian Unified Health System (SUS) and beneficiaries of Supplemental Health (SH). *Methods:* A total of 288 adult subjects, residing in Belo Horizonte, who participated in the VIGITEL telephone survey in 2009, composed the sample, whose variables were analyzed according to the classification as users of SUS or beneficiaries of SH. Prevalence Ratios (PR), adjusted for sex, age and schooling, were calculated to evaluate differences between groups. *Results:* Need and demand for health services were similar between groups, and users of SUS were less successful in obtaining service (PR = 0.78; p = 0.027). Most participants in both groups evaluated the health care received as very good/good without significant differences (72.1% for SUS, 84.0% for SH; p > 0.05). *Conclusion:* Although there are differences in the utilization of health services in Belo Horizonte, the service obtained is well rated by both users of SUS and health plans.

Keywords: Health services accessibility. Health services evaluation. Supplemental health. Unified Health System. Epidemiology. Public health.

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RESUMO: *Objetivo:* Analisar as diferenças de utilização de serviços de saúde pelos usuários do SUS e beneficiários da Saúde Suplementar (SS). *Métodos:* Um total de 288 indivíduos adultos, residentes em Belo Horizonte, participantes do inquérito telefônico VIGITEL em 2009, compuseram a amostra cujas variáveis foram analisadas segundo a classificação de usuários do SUS ou beneficiários da SS. Razões de Prevalência (RP), ajustadas por sexo, idade e escolaridade, foram calculadas para avaliar diferenças entre os grupos. *Resultados:* A necessidade e a procura por serviços de saúde foram similares entre os grupos e os usuários do SUS obtiveram menor êxito no atendimento (RP = 0,78; p = 0,027). Os participantes de ambos os grupos avaliaram, na sua maioria, o atendimento recebido como muito bom / bom, sem diferenças significativas. *Conclusão:* Embora ocorram diferenças na utilização dos serviços de saúde em Belo Horizonte, o atendimento recebido é bem avaliado por usuários do SUS e de planos de saúde. *Palavras-chave:* Acesso aos serviços de saúde. Avaliação de serviços de saúde. Saúde suplementar. Sistema Único de Saúde. Epidemiologia. Saúde pública.

INTRODUCTION

Health in Brazil is a constitutional guarantee and a citizenship right to be ensured by the State. In this sense, the universal and equalitarian access to health services should be constantly searched for¹, since this attenuates inequalities between the poor and the rich².

The organization of the Brazilian health system is mixed, so there is a public component that is universal, integral and equanimous, which is the Unified Health System (SUS); and there is also a private component formed by the offer of insurance health plans, the Supplementary Health (SH), besides the modality of assistance by direct payment³. Such a plurality generates implications about equality in health⁴, because beneficiaries of SH may have double coverage⁵.

Several authors point out that the indicator of health service use is important to assess the quality and equity of health care, thus allowing guiding the design of policies⁶⁻⁸.

The use of services represents all of the direct or indirect contact with health institutions⁹. Among the determiners of the use of health services are the sociodemographic characteristics of the users, the organization of services and aspects related to service providers⁹. Resources offered by SUS and the coverage of health plans are also added⁶.

Studies comparing exclusive users of SUS and beneficiaries of SH indicated lower frequencies of medical appointments and screening examinations, besides the poorer assessment of health status in the first group¹⁰⁻¹².

However, investigations that contrasted the use of health services according to public or private modalities of care are still incipient, especially with regard to characteristics related to access, to entering the care network, to the quality of care and the conducted procedures.

This set of factors was the object of analysis in this study and, therefore, our findings can generate information that is able to contribute with more knowledge concerning the use of health services, thus providing subsidies for health managers to implement actions aiming at consolidating the guidelines of universalization, equity and integrity of SUS.

Therefore, the objective of this study was to analyze the differences concerning the use of health services by users of SUS and beneficiaries of SH in the city of Belo Horizonte.

METHODS

This is a cross-sectional, descriptive and exploratory study that was conducted with individuals aged more than 18 years old, living in the city of Belo Horizonte, Minas Gerais, who participated in the Monitoring System of Chronic Non-Communicable Diseases by Telephone Survey, from the Ministry of Health (Telephone-Based Surveillance of Risk and Protective Factors for Chronic Diseases/VIGITEL) in 2009.

After the partnership between the Ministry of Health and *Universidade Federal de Minas Gerais* (UFMG), among the approximate 2,000 interviews conducted by VIGITEL in Belo Horizonte, a subsample was raffled for a second telephone interview about the subject of this study (use and assessment of health services), contemplating replicas three, four and six of VIGITEL, and accounting for 353 eligible landlines. Out of this total, there as a 1.7% refusal rate as to the participation in the study ($n = 6$), 16.7% of the people were not found in the household, even after several attempts and after at least 10 phone calls made in different days and times ($n = 59$), so 81.6% of them composed the final sample ($n = 288$).

This second telephone interview was conducted from July to August, 2009, by a company based in Belo Horizonte. The staff in charge of interviews, involving five interviewers, one supervisor and one coordinator, was previously trained and was continuously supervised during the operation of the system by a researcher of UFMG.

The data collection instrument was transformed into an electronic questionnaire to perform the interview with the assistance of a computer (Computer-assisted telephone interview/CATI). During the interview, questions were read from the computer screen, and answers were registered directly and immediately in the data base of the system. The questionnaire also allowed automatically skipping questions that were not-applicable in relation to previous answers, as well as the immediate notice of invalid answers and the timing of the length of the interview.

Since two different questionnaires were used in the same population ($n = 288$), the first one from the Ministry of Health and the second one from UFMG (use and assessment of health services), a single data base was formed, by means of a two-base link.

The sample of adults interviewed by VIGITEL in each city is obtained from the raffle of existing landlines, and this measurement strictly allows only population inferences for adults living in households with a landline.

The coverage of this network has increased in the past few years; however, it is clearly not universal. Estimates calculated from the Family Budget Survey (POF), conducted by IBGE, indicate that the city of Belo Horizonte has the largest landline coverage (76.0%)¹³.

In order to correct, at least partially, biases in the estimates for the population living in the city of Belo Horizonte determined by the non-universal landline coverage, this study applied a final weight for each interviewed individual, which was a result of the multiplication of three weighing factors:

1. Inverse of the number of landlines in the household of the interviewee;
2. Number of adults in the household of the interviewee;
3. Post-stratification weight, which aims at leveling the sociodemographic composition of the sample of adults analyzed by VIGITEL, distributed in 36 sociodemographic variables, resulting from the stratification according to sex (male, female), age groups (18 – 24, 25 – 34, 35 – 44, 55 – 64, 65 years old or more) and schooling (0 – 8, 9 – 11, 12 years or more).

More details about the methodology used by VIGITEL can be seen in other publications¹³.

A data base was automatically created by means of the software used in the interview and, afterwards, it was imported and analyzed using the softwares Epi Info, version 3.3.2, Statistical Package for Social Science (SPSS), version 17.0, and Statistical Software for Professionals (STATA), version 9.0.

The sample was characterized according to the following sociodemographic variables:

- Sex (male, female);
- Age group (18 – 24, 25 – 34, 35 – 44, 45 – 54, 55 – 64, 65 years old or more);
- Schooling (0 – 8, 9 – 11, 12 years or more);
- Marital status (single, married, separated, widow);
- Skin color (White, black, mulatto, yellow, Asian).

The following variables concerning the use of health services were also part of sample characterization:

- Need for health service in the past two weeks prior to the interview (no, yes);
- Search for care due to the problem (no, yes);
- Place to look for care (Basic Health Unit – UBS, SH doctors' offices, emergency room/hospital/emergency unit from SUS, private clinic);
- Success in the 1st attempt of looking for care (no, yes);
- Conduction of complementary examinations — laboratory, radiology, images — or referral to experts/another service (no, yes);
- Assessment of care (very good/good; regular/poor);
- Routine exam/check-up (less than one year, more than one year).

The differences in sociodemographic characteristics and related to the use of health services among users that use exclusively SUS and the beneficiaries of SH were analyzed by

the Pearson's χ^2 test. Besides, the associations between financing modality and the variables of health service use were estimated by calculating the Prevalence Ratio (PR) and its respective 95% Confidence Intervals (95%CI), by using the multivariate Poisson regression; sex, age and schooling were factors of adjustment.

It is worth to mention that all analyses were conducted with the use of the previously described weighing factors, and the level of significance was set at 5% ($p < 0.05$).

This study was approved by the National Human Research Ethics Committee, from the Ministry of Health. Since interviews were conducted by telephone, the informed consent form was replaced by a verbal consent, obtained at the time when interviewees were contacted by telephone. Besides, this study was approved by the Human Research Ethics Committee of UFMG, report n. ETIC 144/08. Also, the authors declare there are no conflicts of interest.

RESULTS

Two hundred and eighty eight individuals aged 18 years old or more participated in this study, being 122 (42.4%) exclusive users of SUS, and 166 (56.7%) beneficiaries of SH.

In the whole sample, it was possible to observe the prevalence of female individuals (52.4%), aged less than 45 years old (57.5%), with 0 to 8 schooling years (39.1%), married (47.1%), and white (49.0%). With regard to comparisons between demographic and socioeconomic characteristics of the users who use SUS exclusively and beneficiaries of SH, there were significant differences between these two groups as to schooling, skin color, marital status and age group ($p < 0.001$). Among exclusive users of SUS, those with lower schooling stand out (0 to 8 years – 47.1%), as well as mulatto (51.8%), single people (54.0%) aged less than 55 years old (80.7%). Among beneficiaries of SH, it was possible to observe higher schooling (12 years or more – 65.7%), white (65.3%), married people (55.7%) aged more than 55 years old (31.4%) (Table 1).

With regard to use of health services in Belo Horizonte, out of the interviewees, 23.7% reported the need for care in the past two weeks prior to the participation in this study. Out of these, 87.4% searched for care due to this problem, and 86.2% were assisted in the first attempt. Most of them searched for Basic Health Units (UBS) or SH doctors' offices (66.8%), and assessed the provided care positively (78.2%) (data not shown).

When the use of services according to financing modality is compared, it is possible to observe that exclusive users of SUS reported needing health services more often (28.0%) in relation to beneficiaries of SH (19.9%) ($p = 0.012$). Among exclusive users of SUS, 84.9% searched for care due to this problem, while this situation was true for 90.7% of beneficiaries of SH. It is observed that care was mostly successful for beneficiaries of SH (96.9%) in relation to exclusive users of SUS (77.2%) ($p = 0.001$). There were differences concerning the place of care, since users of SUS searched for care in the primary level/UBS more frequently (83.2%), while beneficiaries of SH looked for it in the secondary/tertiary levels (54.0%) ($p < 0.001$).

As to the request for complementary examinations in the provided service, it is possible to observe more frequency among exclusive users of SUS in terms of laboratory (60.7%), radiology (72.0%) and imaging examinations (31.6%) in relation to beneficiaries of SH

Table 1. Demographic characteristics of the studied population according to type of support by Brazilian Unified Health System or Supplementary Health. Belo Horizonte, Brazil, 2009.

Variables	Unified Health System			Supplementary Health			p-value*
	n	%	95%CI	n	%	95%CI	
Sex							0.114
Male	51	48.8	43.4 – 54.3	67	43.0	38.0 – 48.2	
Female	71	51.2	45.7 – 56.6	99	57.0	51.8 – 62.0	
Age group							< 0.001
18 – 24	17	17.5	13.7 – 22.1	17	13.0	9.8 – 16.1	
25 – 34	28	30.3	25.5 – 35.5	23	17.6	13.9 – 21.9	
35 – 44	23	16.1	12.4 – 20.5	36	21.0	17.1 – 25.6	
45 – 54	24	16.8	13.1 – 21.3	30	17.0	13.5 – 21.3	
55 – 64	14	10.5	7.5 – 14.3	25	15.1	11.7 – 19.2	
≥ 65	16	8.8	6.1 – 12.5	35	16.3	12.7 – 20.5	
Schooling (years)							< 0.001
0 – 8	56	47.1	41.7 – 52.6	41	31.8	27.2 – 36.8	
9 – 11	50	38.7	33.5 – 44.1	58	32.3	27.7 – 37.3	
≥ 12	14	14.2	10.8 – 18.5	66	35.9	31.1 – 41.0	
Marital status							< 0.001
Single	52	54.0	48.5 – 59.4	51	32.1	27.4 – 37.1	
Married	52	37.7	32.6 – 43.1	85	55.7	50.5 – 60.8	
Separated	7	2.5	1.2 – 5.0	11	4.7	2.9 – 7.5	
Widow	11	5.8	3.6 – 9.0	19	7.5	5.2 – 10.8	
Skin color							< 0.001
White	42	37.1	32.0 – 42.5	104	59.7	54.6 – 64.7	
Black	8	5.7	3.6 – 8.9	9	6.3	4.1 – 9.3	
Mulatto	70	55.6	50.1 – 60.9	53	34.0	29.3 – 39.1	
Yellow (Asian)	2	1.6	0.6 – 3.8	0	0.0	-	

*Pearson's χ^2 test for comparing the Brazilian Unified Health System versus Supplementary Health.

(40.4, 49.0 and 25.3%, respectively) ($p < 0.05$). In SUS, many users are referred to experts in other services (51.6%), and in SH only 28.8% had this outcome ($p = 0.008$). A check-up in less than one year was conducted more frequently by beneficiaries of SH (61.6%) in relation to users of SUS (50.6%) ($p = 0.001$) (Table 2).

In the comparisons about use of health services among exclusive users of SUS and beneficiaries of SH adjusted by sex, age and schooling, there were significant differences

Table 2. Characteristics of health service use according to type of support by Brazilian Unified Health System or Supplementary Health. Belo Horizonte, Brazil, 2009.

Variables	Unified Health System			Supplementary Health			p-value*
	n	%	95%CI	n	%	95%CI	
Need for health care in the past two weeks	42	28.0	23.3 – 33.1	38	19.9	16.0 – 24.4	0.012
Searched for care due to this problem	35	84.9	76.4 – 91.7	36	90.7	81.6 – 96.1	0.288
Place to look for assistance							< 0.001
UBS/SH doctors' office	29	83.2	72.7 – 90.2	16	46.0	33.3 – 58.9	
Emergency room/Hospital/ Emergency Unit of SUS/ Private clinic	6	16.8	9.8 – 27.3	18	54.0	41.1 – 66.7	
Success in the 1st attempt of looking for assistance	27	77.2	66.8 – 86.1	35	96.9	89.7 – 99.6	0.001
At this moment, request or performance of							
Laboratory exams	18	60.7	47.8 – 73.3	16	40.4	28.0 – 52.8	0.016
Radiology exams	20	72.0	59.6 – 83.1	18	49.0	36.3 – 61.5	0.007
Imaging exams (ECG, EEG)	10	31.6	20.8 – 45.0	11	25.3	15.8 – 38.0	0.017
Referral to an expert/another service	13	51.6	38.6 – 64.6	10	28.8	18.4 – 41.4	0.008
Assessment of this first care							0.098
Very good/good	20	72.1	59.6 – 83.1	30	84.0	73.6 – 92.4	
Regular/poor	7	27.9	16.9 – 40.4	5	16.0	7.6 – 26.4	
How long since last routine examination/check-up							0.001
Less than one year	58	50.6	44.9 – 56.4	103	61.6	56.3 – 66.7	
More than one year	51	49.4	43.6 – 55.1	56	38.4	33.4 – 43.7	

*Pearson's χ^2 test to compare Brazilian Public Health System versus Supplementary Health; UBS: Basic Health Unit; SH: Supplementary Health; ECG: Electrocardiogram; EEG: Electroencephalogram.

in the search for care in the primary level (PR = 11.92; 95%CI 3.29 – 43.24), less success in being assisted in the first attempt (PR = 0.78; 95%CI 0.62 – 0.97) and more frequent referrals to experts or another health service (PR = 2.11; 95%CI 1.08 – 4.11) among users of SUS in relation to beneficiaries of SH (Table 3).

DISCUSSION

This study showed similar aspects as to the need and search for health services in the past two weeks prior to the conduction of the study. However, beneficiaries of SH were assisted in the first time when they looked for care more easily. Primary care is the entrance for users of SUS, to the detriment of the more frequent search for secondary and tertiary sectors among beneficiaries of SH. Concerning the services used, there were no differences in the

Table 3. Association between type of support (Brazilian Unified Health System or Supplemental Health) and characteristics of health service use. Belo Horizonte, Brazil, 2009.

Variables	Supplementary Health			Unified Health System		
	PR	95%CI	p-value	PR	95%CI	p-value
Need for health care in the past two weeks	1.00	-	-	1.41	0.89 – 2.24	0.143
Searched for care due to this problem	1.00	-	-	0.91	0.76 – 1.09	0.307
Searched for care in the UBS/SH office	1.00	-	-	11.92	3.29 – 43.24	< 0.001
Success in the 1 st attempt of looking for assistance	1.00	-	-	0.78	0.62 – 0.97	0.027
At this moment, request or performance of						
Laboratory exams	1.00	-	-	1.40	0.83 – 2.36	0.201
Radiology exams	1.00	-	-	1.41	0.89 – 2.23	0.144
Imaging exams (ECG, EEG)	1.00	-	-	1.05	0.44 – 2.47	0.917
Referral to an expert/another service	1.00	-	-	2.11	1.08 – 4.11	0.027
Positive assessment of assistance	1.00	-	-	0.80	0.59 – 1.07	0.130
Routine examination/check-up in less than one year	1.00	-	-	1.12	0.81 – 1.54	0.493

*Adjusted by sex, age, schooling; PR - Prevalence Ratio; UBS: Basic Health Unit; ECG: Electrocardiogram; EEG: Electroencephalogram.

performance of radiology, laboratory examinations and check-ups in less than one year. On the other hand, users of SUS were referred for appointments with experts and other health services more often. Besides, the positive assessment of care was similar to users of SUS and SH.

About one quarter of the interviewed people felt the need to use some health service in the past two weeks. Even though this percentage was higher among users of SUS, there was no statistical difference after the adjustment. Data from PNAD 2008 indicate similar results, showing that 26.4% of the participants manifested the need for health care in the fifteen days prior to the research¹⁴.

In general, 86.7% of the interviewees who looked for health care were successful in the search for care. However, this percentage was lower to the one inferred by PNAD 2008¹⁴, in which 97.5% of the people who searched for care in the past two weeks prior to the study were successful.

In this study, beneficiaries of SH had more success in the first time they looked for care due to some health problem, regardless of sex, age group and schooling. The same phenomenon is described in another study developed with a representative sample of the Brazilian population⁴. In a household survey conducted in four cities of Rio de Janeiro, it was possible to observe shorter waiting time among users of SH¹⁵. Differences concerning the use of health services according to financing modality were also found by other researchers^{3,7,11,12,16}. Therefore, being covered by a health plan is an important factor related to differences in access and use of health services.

This study also showed that the first contact with health services was different. Exclusive users of SUS used the basic network, while beneficiaries of SH accessed secondary and tertiary levels: outpatient clinics, clinics, private hospitals. This pattern was also observed in other studies^{3,6,7}. In PNAD 2008, it was demonstrated that 77% of the low-income users who were assisted by SUS accessed the health system through the UBS, while individuals earning 5 minimum wages or more who possessed health plans accessed private clinics¹⁴. There is another characteristic in the organization of SH, since there is not a national primary care network in this segment. Therefore, users access the service network either through private offices, composed mostly of experts, or through the hospital network.

Another important result in our study is that there were no differences, after the multivariate adjustment, between users of SUS and beneficiaries of SH with regard to undergoing diagnostic and preventive procedures (laboratory, radiology and imaging examinations, check-up in less than one year). This result was different from the ones found in another study, in which all health prevention services were significantly more common among health insurance plan associates, regardless of sex and schooling¹¹.

This study also showed higher proportion of referrals to other services and specialties among users of SUS after the first care. This finding may be explained by the fact that the first contact with SH mostly takes place in private offices or clinics, in which the patient is assessed by experts while in SUS doctors tend to be generalists or from the Family Health Program, so it is more necessary to ask for a second opinion. Therefore, this finding is justified

by the different organizations of care between the public and the private health services, and not by the low resoluteness of the care provided by professionals in SUS.

This study indicated that users assessed health services well, regardless of being public or private. Also, in PNAD 2008, health care was assessed as being “very good or good” by 86.4% of the people, and 79.5% were assisted in public services, and 94.3%, in private services¹⁴.

The user assessment composes an important indicator of the result concerning the performance of health services¹⁷. In general, the user tends to assess the service well in case his or her health problem has been resolved or if it has improved¹⁷. In this case, the positive assessment is found in both services, be them public or private, since it shows the satisfaction and the ability of these services to respond to the users’ demands.

This study had some limitations:

- The sample was restricted to participants who owned a landline; however, Belo Horizonte has a large coverage (76%), and the use of post-stratification weights from VIGITEL reduces possible biases¹⁸;
- The analysis of the second interview in a subsample of VIGITEL resulted in major vulnerabilities in confidence intervals, and differences may not have been identified due to the small number of reassessed individuals.

CONCLUSION

This study contributed with current discussions about the differences concerning the use and the resoluteness of services provided by SUS and SH. One important finding was the observance of primary care as the entrance to the public service, and the major difficulties to access services found by users of SUS. However, the positive assessment of users with relation to services, regardless of being public or private, enables to observe, even if approximately, the quality and the efficiency of care. Therefore, by analyzing indicators of health service use, it is possible to identify advances and problems, which can guide the design of public policies.

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