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Lack of access and continuity of adult health care: a national population-based survey

Falta de acesso e de continuidade da atenção à saúde em adultos: inquérito nacional

ABSTRACT

OBJECTIVE: To describe the lack of access and continuity of health care in adults.

METHODS: A cross-sectional population-based study was performed on a sample of 12,402 adults aged 20 to 59 years in urban areas of 100 municipalities of 23 states in the five Brazilian geopolitical regions. Barriers to the access and continuity of health care and were investigated based on receiving, needing and seeking health care (hospitalization and accident/emergency care in the last 12 months; care provided by a doctor, by other health professional or home care in the last three months). Based on the results obtained by the description of the sample, a projection is provided for adults living in Brazilian urban areas.

RESULTS: The highest prevalence of lack of access to health services and to provision of care by health professionals was for hospitalization (3.0%), whilst the lowest prevalence was for care provided by a doctor (1.1%). The lack of access to care provided by other health professionals was 2.0%; to accident and emergency services, 2.1%; and to home care, 2.9%. As for prevalences, the greatest absolute lack of access occurred in emergency care (more than 360,000 adults). The main reasons were structural and organizational problems, such as unavailability of hospital beds, of health professionals, of appointments for the type of care needed and charges made for care.

CONCLUSIONS: The universal right to health care in Brazil has not yet been achieved. These projections can help health care management in scaling the efforts needed to overcome this problem, such as expanding the infrastructure of health services and the workforce.

DESCRIPTORS: Adult. Health Services Accessibility. Continuity of Patient Care. Health Inequalities. Equity in Health. Health Surveys.

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RESUMO

OBJETIVO: Descrever a falta de acesso e de continuidade da atenção à saúde de adultos.

MÉTODOS: Estudo transversal de base populacional com 12.402 adultos entre 20 e 59 anos, residentes em áreas urbanas de 100 municípios de 23 estados brasileiros, nas cinco regiões geopolíticas. Investigaram-se as barreiras no acesso e na continuidade da atenção a partir do recebimento, necessidade e busca de algum atendimento de saúde (internação hospitalar e pronto-socorro nos 12 meses prévios ao estudo; atendimento médico, de outro profissional de saúde e domiciliar nos três meses prévios). A partir dos resultados obtidos na descrição da amostra, apresenta-se uma projeção para os adultos residentes em áreas urbanas no território nacional.

RESULTADOS: A prevalência de falta de acesso aos serviços e aos atendimentos com profissionais de saúde mais expressiva foi de 3,0%, para internação hospitalar, enquanto a menor prevalência foi para atendimento médico (1,1%). A falta de acesso para o atendimento com outro profissional de saúde foi de 2,0%; em pronto-socorro, 2,1%; e domiciliar, 2,9%. Quanto às prevalências, o maior número absoluto de falta de acesso foi para atendimentos de urgência (mais de 360.000 adultos). Os principais motivos foram problemas estruturais e organizacionais, como falta de leito, de profissionais, de ficha/vaga do tipo de atendimento necessário e cobrança pelo atendimento.

CONCLUSÕES: O direito universal à saúde no Brasil ainda não foi alcançado. As projeções podem apoiar a gestão no dimensionamento de esforços dirigidos ao seu enfrentamento, como a ampliação da estrutura física dos serviços e da força de trabalho.

DESCRITORES: Adulto. Acesso aos Serviços de Saúde. Continuidade da Assistência ao Paciente. Desigualdades em Saúde. Equidade em Saúde. Inquéritos Epidemiológicos.

INTRODUCTION

The Brazilian Unified Health System (SUS) is guided by the principles of universal and equal access and aims to provide services based on health needs.^{20,21}

The concept of “access” is complex and multidimensional, and may focus on people’s characteristics, service supply or the relationship between people and services.¹⁹ In this study, the concept is a synonym of accessibility, referring to the possibility of using health services when necessary.¹⁸ Lack of access is the impossibility of using the service regardless of need, expressing lack of capacity to respond or difficulty in ensuring health care.²²

The behavioural model proposed by Andersen and Newman identifies access as one of the mediators of health service use, and indicates four dimensions of access: potential access, referring to contextual factors; realized access, relating to service use; effective access, referring to the care process; and efficient

access, focusing on changes in health conditions and satisfaction as a result of the received care.^{1,18}

The mechanisms that regulate the seeking and use of health services need to be understood, such as health needs which do or do not lead to services being sought; when seeking care, demand is generated and this is mediated by the existence or inexistence of the service, the main barrier to access.¹⁸ Other barriers are geographic distribution, the availability and quality of human and technical resources and the health care model.²⁰

According to Pereira,¹⁶ when health services exist, needs may transform into demand for services and their use. A health need is “any disturbance to health or well-being, from both the patient’s and the health professional’s point of view, capable of resulting in a demand on the health system”. Needs can also be perceived (when they are identified by the individual), or unperceived (when they are only identified by a health professional).¹⁶

Even when the need is felt, an individual has “freedom of use” based on the degree of information about choices or, in other words, an individual has a health need but does not seek care owing to personal decisions.¹⁸

Continuity of care also deserves attention, and its quality must be evaluated. Continuity is related to the experiences and relationship of a patient with a clinician, as well as coordinated clinical care as the patient moves between different parts of the health service.¹¹ Adequate diagnosis and treatment procedures culminating in user satisfaction would be the desired course for all health care.^{7,14}

The individual’s lack of access to first contact or the lack of continuity of care can be considered indicators of the quality of health services by identifying inadequacies as: shortage of professionals, setting and fixed days for performing programmatic actions shifts.

Despite the importance of barriers to access to health services and to continuity of care regarding public health and impact on health indicators, studies in this area are incipient. This study aimed to describe lack of access and lack of health care continuity for adults.

METHODS

This study was part of a survey that investigated the access and quality of health services in Brazil. This was a cross-sectional population-based study performed on a sample of 12,402 adults with ages from 20 to 59 years, resident in urban areas of 100 cities in 23 states in the five Brazilian geopolitical regions.⁹

The sample size was estimated *a posteriori* based on prevalence rates. The largest sample required had 9,151 subjects, assuming: 0.7% prevalence of lack of access, accuracy of 0.2 pp, and a design effect of 1.2, including 15.0% for losses and refusals. It described the characteristics of continuous care.

The sample representing the adult urban population was located by a multiple level sampling process^{9,17} that considered population size, census tracts and households. Municipalities were aggregated according to population size and selected systematically. Census tracts were allocated randomly according to the proportion of valid sectors and population size, using the official grid of the 2000 Population Census.^a Ten households were visited in each of the 638 sectors selected, “jumping” systematically 30 households from one residence to the next with the aim of finding 17 adults per sector.

All adults resident in the households were eligible to be interviewed. The 55 selected and trained interviewers collected the data using a hand-held device (PDA – personal digital assistant) in 2009. The data was stored on portable computers and transferred to the study headquarters via Internet.

The questionnaire was standardized and pre-tested. It contained socioeconomic and demographic variables as well as variables regarding both public and private health service use.

The respondents were asked if they had received some form of health care recently (hospital admission and accident/emergency care in the last 12 months; care provided by a doctor, other health professional or domiciliary care in the last three months) in order to investigate lack of access. If no, they were asked whether they had needed it, despite not having had care (yes/no). The sequence of questions asked about care provided by a doctor can be exemplified as follows: “*In the <last three months>, have you been seen by a doctor?*” If no: “*Despite not having been seen by a doctor, did you need to be seen by one?*” If needed: “*Have you sought the care of a doctor in the <last three months>?*” If the care of a doctor was sought: “*Why were you not seen by a doctor?*”. The questions for investigating the other forms of care provision followed the same pattern. Care provided by other health professional referred to top-level professionals, including dentists, psychologists, physiotherapists, dieticians, physical education teachers, speech therapists, social workers and nurses.

The reason for not receiving care and the outcome of the problem were investigated to describe barriers to access. With regard to care provided by a doctor, another health professional or domiciliary care, the respondents were asked whether they had sought care and the reason why they had not sought care. The reason why care was needed was also considered when it was provided by a doctor or domiciliary care.

In order to characterize barriers to care continuity, the respondents were asked about: all forms of care provided, the outcome of the problem after receiving care, whether they had received any explanation about the reason for care being provided, whether they were referred for a follow-up appointment, whether the follow-up appointment took place and the reason why they did not have their follow-up appointment. They were also asked whether they were referred to another service, whether any of these referrals did not take place and the reason why they did not have the care to which they had been referred regarding care provided by a doctor, another health professional or domiciliary care. Exclusively in relation to care provided by a

^a Instituto Brasileiro de Geografia e Estatística. Censo brasileiro de 2000. Rio de Janeiro; 2000 [cited 2010 mar 10]. Available from: http://www.ibge.gov.br/home/estatistica/populacao/censo2000/default_prim_resultados.shtm

doctor, respondents were asked whether any tests had been requested and the reason for not having them. The term “continuity of care” was used instead of “management continuity”, since part of the visits may refer to a continuum of care throughout life, and part may be related to specific problems.^{10,11}

The descriptive variables were gender (male/female), self-reported skin color (white; black; other – mixed, Asian and indigenous categories), age in years (20 to 29; 30 to 39; 40 to 49; 50 to 59), education in years (none; one to four; five to eight; nine to 11; 12 or more), economic classification as per Brazilian Association of Research Companies (ABEP)^b (A and B; C; D and E), *per capita* income in minimum wages (≤ 0.3 ; 0.4 to < 1 ; 1.0 and more), morbidity diagnosed medically (hypertension; diabetes mellitus; nerve problems – yes/no), geopolitical region (MW/N/NE/SE/S) and municipality population size ($\leq 30,000$; 30,001 to 100,000; 100,001 to 1,000,000; $> 1,000,000$ inhabitants).

For the purposes of quality control, 5.0% of the interviews were selected randomly to be repeated within three days at most, following the first interview. Hospitalization in the last year and a medical reference hypertension resulted kappa index of 0.77 and 0.73, respectively.

Based on the results obtained by the sample, a projection was provided for the reference population, i.e. adults in urban areas throughout Brazil, based on a total of 92,168,985 inhabitants.^c

Analysis was performed using the Stata 12.1 statistics package.

This study was approved by the Research Ethics Committee of the Faculdade de Medicina of Universidade Federal de Pelotas (Process 152/07). All respondents signed an informed consent form.

RESULTS

A total of 13,756 adults were identified. Losses and refusals accounted for 9.8%, resulting in 12,402 individuals included in the study; 55.1% were women and 39.7% self-reported white skin colour. Average age was 37.4 years (SD = 11.5 years) and 31.8% were aged 20 to 29 years.

Approximately 1/3 of the individuals had between nine and 11 years of schooling. Most individuals fell into economic classification C (51.5%) and 42.0% had *per capita* income > 1 minimum wage. A quarter of the respondents reported medical diagnosis of at least one

chronic disease. The highest number of respondents lived in the Southeast (35.4%), in cities with between 100,001 and 1,000,000 inhabitants (39.9%).

About 3.0% were not admitted and did not even have access to hospitalization (223,324 adult Brazilians), among those who self-reported need to be admitted to a hospital. The majority needed to be admitted to a hospital for an emergency surgery (30.0%) or to undergo examinations (20.0%); 40.0% did not admit themselves to a hospital because they thought they did not need to; and 20.0% reported that the outcome of their health problem was worsened (Table 1).

Of those adults who were admitted to a hospital, 42.9% were discharged without being referred for a follow-up appointment and 20.6% of those who were referred did not actually have the appointment (4.7% for difficulties within the health service: 1.9% – no appointments available; 0.9% – no doctor available onsite; 1.9% – lack of SUS doctors) (Table 1).

Of individuals seeking accident/emergency care, 2.1% (360,186 people) did not receive it. Almost half (49.0%) gave up waiting to be seen since it took too long and the problem causing them to seek care had got worse in 16.3% of cases (Table 2).

The majority (85.1%) provided with accident/emergency care were discharged without being referred for a follow-up appointment and 28.4% of those who were referred did not attend it. Lack of access to follow-up appointments owing to difficulties within the health service (no appointments available (1.1%); no doctor available onsite (5.5%); lack of SUS doctor (2.2%)) accounted for 8.8% (Table 2).

Out of all respondents who sought care provided by a doctor, 1.1% did not receive care (n = 49): 353,867 Brazilian adults were estimated not to have had access. The main reason for needing to be seen by a doctor, even though they were not seen, was “because I thought I needed to, I was feeling ill” (80.8%). Reasons relating to health promotion and prevention were reported by 53.9% of the sample: health problem follow-up/monitoring (29.9%), check-up (17.4%), pre-cancerous conditions (4.1%), prostate examination (1.5%) and antenatal appointment (1.0%). Around 70.7% of individuals who reported needing care actually sought it. The main reasons for this were the absence of a doctor (42.6%) and unavailability of appointments (40.4%). When asked why they had not sought care provided by a doctor, 53.4% stated difficulty in getting an appointment on SUS and 9.3% the lack of a doctor. The majority (50.3%) considered that their health problem

^b Associação Brasileira de Empresas de Pesquisa (ABEP). Critérios de classificação econômica Brasil. São Paulo (SP); 2003 [cited 2014 jan 21]. Available from: <http://www.abep.org>

^c Instituto Brasileiro de Geografia e Estatística. Censo brasileiro de 2010. Rio de Janeiro (RJ); 2010 [cited 2014 jan 21] Available from: <http://censo2010.ibge.gov.br/>

Table 1. Description of barriers to access and continued care based on the indicated need for hospital admission among adults. Brazil, 2009.

Variable (n)	Sample			Projection for the urban population (20 to 59 years) ^b 92,168,985	
	n ^a	%	95%CI	n	95%CI
Hospitalized (n = 12,365)	961	7.8	7.3; 8.3	7,189,181	6,728,335;7,757,856
Despite not being hospitalized, a doctor had indicated hospitalization (n = 11,404)	30	0.3			
Barriers to access					
Lack of access to hospitalization (n = 991) ^c	30	3.0	2.0;4.3	223,324	148,882;320,097
Reason for needing to be hospitalized (n = 30)					
Emergency surgery/Operation	9	30.0	14.7;49.4	76,482	37,476;125,940
Non-emergency surgery/Operation	2	6.7	8.2;22.1	17,081	20,905;56,342
Clinical treatment	7	23.3	9.9;42.3	59,401	25,239;107,839
To have tests/Examinations	6	20.0	7.7;38.6	50,988	19,630;98,407
Other	6	20.0	7.7;38.6	50,988	19,630;98,407
Reason for not being hospitalized (n = 30)					
Thought they did not need it	12	40.0	22.7;59.4	101,976	57,871;151,434
No hospital bed available	6	20.0	7.7;38.6	50,988	19,630;98,407
Family or work commitments	5	16.7	5.6;34.7	42,575	14,277;88,464
Afraid	4	13.3	3.7;30.7	33,907	9,433;78,266
Unable to pay	3	10.0	2.1;26.5	25,494	5,354;67,559
No transport available	1	3.3	0.08;17.2	8,413	204;43,850
Other	6	20.0	7.7;38.6	50,988	19,630;98,407
Health problem outcome after not being hospitalized (n = 30)					
Got worse	6	20.0	7.7;38.6	50,988	19,630;98,407
Just the same as before	12	40.0	22.7;59.4	101,976	57,871;151,434
Improved a little	–	–	–	–	–
Improved considerably	4	13.3	3.7;30.7	33,907	9,433;78,266
Cured/Problem solved	8	26.7	12.3;45.9	68,069	31,358;117,017
Barriers to continuity of care					
Did not receive explanation as to the reason for being hospitalized (n = 915)	799	87.3	85.0;89.4	6,276,155	6,110,804;6,427,128
Discharged from hospital without being referred to a follow-up appointment (n = 935)	401	42.9	39.7;46.1	3,084,159	2,854,105;3,314,212
Did not have the follow-up appointment (n = 534)	110	20.6	17.2;24.3	845,635	706,064;997,520
Reason why did not have follow-up appointment (n = 108)					
Date of the appointment not reached yet	59	54.6	44.7;64.2	461,716	377,999;542,897
Did not attempt to make an appointment	33	30.6	22.1;40.2	258,764	186,885;339,945
Unable to go and make the appointment	3	2.8	0.6;7.9	23,678	5,074;66,805
Attempted to make an appointment. but none available	2	1.9	0.2;6.5	16,067	1,691;54,966
No doctor available on SUS and unable to pay for a private doctor	2	1.9	0.2;6.5	16,067	1,691;54,966
Attempted to make an appointment, but no doctor available at that service	1	0.9	0.02;5.0	7,611	169;42,282
Other	8	7.4	3.3;14.1	62,577	27,906;119,234
Opinion about care received (n = 923)					
Very bad	43	4.7	3.4;6.2	337,891	244,432;445,729
Poor	12	1.3	0.7;2.3	93,459	5,032;165,351
Regular	79	8.6	6.8;10.6	618,270	488,864;762,053

Continue

Continuation						
Good	448	48.5	45.3;51.8	3,486,753	3,256,699;3,723,996	
Very good	341	36.9	33.8;40.2	2,652,808	2,429,943;2,890,051	
What happened to the problem after being hospitalized (n = 885)						
Got worse	18	2.0	1.2;3.2	143,784	86,270;230,054	
Just the same as before	59	6.7	5.1;8.5	481,675	366,648;611,080	
Improved a little	140	15.8	13.5;18.4	1,135,891	970,539;1,322,809	
Improved considerably	258	29.2	26.2;32.3	2,099,241	1,883,565;2,322,105	
Cured/Problem solved	410	46.3	43.0;49.7	3,328,591	3,091,348;3,573,023	

SUS: Brazilian Unified Health System

^a Information is partially unknown for some variables. Differing values may therefore appear.

^b Instituto Brasileiro de Geografia e Estatística, Censo Demográfico, 2010.

^c The denominator refers to the total of individuals who were hospitalized plus individuals who reported having medical indication for hospitalization but did not have access to it.

Table 2. Description of barriers to access and continued care based on adults' self-reported need for accident and emergency care. Brazil, 2009.

Variable (n)	Sample			Projection for the urban population (20 to 59 years) ^b 92,168,985	
	n ^a	%	95%CI	n	95%CI
Accident and Emergency Care (n = 12,302)	2,243	18.2	17.6;18.9	16,774,755	16,221,741;17,419,938
Needed care, despite not receiving it (n = 10,059)	49	0.5			
Barriers to access					
Lack of access to accident and emergency care (n = 2,292) ^c	49	2.1	1.6;2.8	360,186	274,428;480,248
Reason why care was not provided (n = 49)					
Waiting time too long, gave up	24	49.0	34.4;63.7	184,716	129,678;240,131
Too many people waiting	18	36.7	23.4;51.7	138,348	88,211;194,894
Specialist not available	12	24.5	13.3;38.9	92,358	50,137;146,642
Service refused to provide care	8	16.3	7.3;29.7	61,446	27,519;111,960
No transport available	2	4.1	0.5;14.0	15,456	188;52,776
Other	10	20.0	10.2;34.3	75,394	38,451;129,301
Problem outcome after not receiving care (n = 49)					
Got worse	8	16.3	7.3;29.7	61,446	27,519;111,960
Just the same as before	15	30.6	18.3;45.4	115,353	68,986;171,145
Improved a little	14	28.6	16.6;43.3	107,814	62,577;163,229
Improved considerably	7	14.3	5.9;27.2	53,907	22,241;102,536
Cured/Problem solved	5	10.2	3.4;22.2	38,451	12,817;83,688
Barriers to continuity of care					
Did not receive an explanation as to the reason for seeking care (n = 2,126)	1,415	66.6	64.5;68.6	11,171,987	10,819,717;11,507,482
Discharged from the accident and emergency unit without being referred to a follow-up appointment (n = 2,178)	1,854	85.1	83.6;86.6	14,275,317	14,023,695;14,526,938
Did not have the follow-up appointment (n = 324)	92	28.4	23.6;33.6	709,841	589,867;839,811
Reason why did not have the follow-up appointment (n = 91)					
Did not attempt to make an appointment	33	36.3	26.4;47.0	257,672	187,398;333,625
Date of the appointment not reached yet	29	31.9	22.5;42.5	226,439	159,714;301,682
Attempted to make an appointment, but no doctor available at that service	5	5.5	1.8;12.4	39,041	12,777;88,020
Unable to go and make the appointment	3	3.3	0.7;9.3	23,425	4,969;66,015

Continue

Continuation					
No doctor available on SUS and unable to pay for a private doctor	2	2.2	0.3;7.7	15,616	2,130;54,658
Attempted to make an appointment, but none available	1	1.1	0.03;6.0	7,808	213;42,590
Other	18	19.8	12.2;29.5	140,548	86,601;209,403
Opinion about care received (n = 2,083)					
Very bad	183	8.8	7.6;10.1	1,476,178	1,274,881;1,694,250
Poor	99	4.8	3.9;5.8	805,188	654,215;972,936
Regular	352	16.9	15.3;18.6	2,834,934	2,566,538;3,120,104
Good	1,105	53.0	50.9;55.2	8,890,620	8,538,350;9,259,665
Very good	344	16.5	14.9;18.2	2,767,835	2,415,656;3,053,005
Problem outcome after care was provided (n = 2,158)					
Got worse	48	2.2	1.6;2.9	369,045	268,396;486,468
Just the same as before	341	15.8	14.3;17.4	2,650,411	2,398,790;2,918,807
Improved a little	584	27.1	25.2;29.0	4,545,959	4,227,238;4,864,679
Improved considerably	669	31.0	29.1;33.0	5,200,174	4,881,454;5,535,669
Cured/Problem solved	516	23.9	22.1;25.8	4,009,167	3,707,221;4,327,887

SUS: Brazilian Unified Health System

^a Information is partially unknown for some variables. Differing values may therefore appear.

^b Instituto Brasileiro de Geografia e Estatística, Censo Demográfico, 2010.

^c The denominator refers to the total of individuals who received care in an accident and emergency unit plus individuals who reported needing this type of care but did not have access to it.

continued just the same after having been seen by the doctor (Table 3).

More than half the adults (57.1%) left the appointment without being referred for tests after being seen by a doctor, 16.4% did not have any tests performed because they were not able to on the SUS or because they were not available in their city (4.4%). Many (92.9%) left the appointment without being referred to care at another service (Table 3).

Of the respondents, 2.0% stated that although they had not received care provided by a health professional other than a doctor, they needed it (representing 246,417 adults). More than half (56.0%) reported not having sought care, especially for the difficulty in getting an appointment on SUS (57.1%). The main reasons why adults did not receive care were the lack of appointments (27.3%) and users being unable to pay for services (24.2%). The majority (61.3%) stated that their health problem remained unaltered (Table 4).

Most individuals (95.9%) who received care were not referred to other services. Around 41.0% of those who were referred did not receive the care to which they had been referred either because they were not able to get this care on SUS (20.0%) or because it was not available in their city (4.0%) (Table 4).

Lack of access to domiciliary care was reported by 2.9% of the adults (representing 126,447 individuals). Transport difficulties (35.5%), being confined

to bed (29.0%), blood pressure problems (16.1%) and backache (12.9%) were the most reported reasons for needing to receive domiciliary care. Approximately 3/4 reported not having requested domiciliary care. The majority (47.1%) did not receive care because, even though they sought it, no response was provided by the health service, the health service had no professional available to provide the care (47.1%), or the health service did not provide this kind of care (41.2%). The most mentioned reasons for not seeking domiciliary care were because the health service did not provide this kind of service (68.9%) and there was no professional available to provide it (5.6%). The majority (45.2%) stated that their condition remained the same as before seeking care (Table 5).

Around 93.6% of those who did receive domiciliary health care were not referred to other services, and 11.4% of those who were referred did not reach these other services because they were unable to schedule an appointment (25.0%) (Table 5).

DISCUSSION

The prevalence of lack of access to services and provision of care by health professionals was relatively low and showed little variation. Lack of access was more prevalent (3.0%) for individuals who reported needing hospitalization, whilst individuals who reported needing provision of care by a doctor presented the lowest prevalence (1.1%). The prevalence of lack of

Table 3. Description of barriers to access and continued care based on adults' self-reported need to be seen by a doctor. Brazil, 2009.

Variable (n)	Sample			Projection for the urban population (20 to 59 years) ^b 92,168,985	
	n ^a	%	95%CI	n	95%CI
Care provided by a doctor (n = 12,300)	4,241	34.5	33.6;35.3	31,798,300	30,968,779;32,535,652
Needed care, despite not receiving it (n = 8,059)	167	2.1			
Barriers to access					
Reason why needed care (n = 167)					
Thought they needed it because felt unwell	135	80.8	74.0;86.5	1,024,370	938,160;1,096,633
Follow-up on health problem	50	29.9	23.1;37.5	379,068	292,858;475,419
To have a check-up	29	17.4	12.0;24.0	220,594	152,134;304,268
To request tests/Examinations	19	11.4	7.0;17.2	144,527	88,745;218,059
To request a prescription	8	4.8	2.1;9.2	60,854	26,623;116,636
Cancer screening (n = 98)	4	4.1	1.1;10.1	51,979	13,946;128,046
To request a medical certificate	3	1.8	0.4;5.2	22,820	5,071;65,925
To receive the results of tests	3	1.8	0.4;5.2	22,820	5,071;65,925
Prostate examination (n = 69)	1	1.5	0.03;7.8	19,017	380;98,887
To have an antenatal appointment (n = 98)	1	1.0	0.03;5.6	12,678	380;70,996
Other	12	7.2	3.8;12.2	91,280	48,176;154,670
Lack of access to care provided by a doctor (n = 4,290) ^c	49	1.1	0.8;1.5	353,867	257,358;482,546
Did not attempt to make an appointment (n = 167)	118	70.7	63.1;77.4	896,324	799,972;981,265
Reason why did not attempt to make an appointment (n = 118)					
Difficulty in getting an appointment on the SUS	63	53.4	44.0;62.6	478,637	394,382;561,099
Afraid/Did not want to	34	28.8	20.9;37.9	258,141	187,332;339,707
Family or work commitments	25	21.2	14.2;29.7	190,021	127,278;266,208
Unable to pay	24	20.4	13.5;28.7	182,850	121,004;257,245
Unable to go and make appointment	18	15.3	9.3;23.0	137,138	83,358;206,154
No doctor available at their usual health service	11	9.3	4.7;16.1	83,358	42,127;144,308
Health complaint got better	5	4.2	1.4;9.6	37,646	12,549;86,047
Other	17	14.5	8.6;22.1	129,967	77,084;198,088
Reason why care was not provided (n = 47)					
No doctor available	20	42.6	28.3;57.8	158,242	105,123;214,704
No appointment available	19	40.4	26.4;55.7	150,070	98,066;206,904
Unable to pay	7	14.9	6.2;28.3	55,348	23,031;105,123
Service closed when care was sought	1	2.1	0.05;11.3	7,801	186;41,975
Problem outcome after not receiving care (n = 167)					
Got worse	17	10.2	6.0;15.8	129,314	76,067;200,310
Just the same as before	84	50.3	42.5;58.1	637,696	538,808;736,583
Improved a little	31	18.5	13.0;25.3	234,540	164,812;320,749
Improved considerably	21	12.6	8.0;18.6	159,741	101,423;235,808
Cured/Problem solved	14	8.4	4.7;13.7	106,494	59,586;173,686
Barriers to continuity of care					
Did not receive an explanation as to the reason for seeking care (n = 4,100)	3,035	74.0	72.7;75.4	23,530,742	23,117,364;23,975,918
Appointment ended without tests having been requested (n = 4,159)	2,376	57.1	55.6;58.6	18,156,829	17,679,855;18,633,804
Reason(s) why did not have some of the test(s) requested (n = 526)					
Appointment made, but has not happened yet	279	53.0	48.7;57.4	7,229,979	6,643,396;7,830,204

Continue

Continuation					
Unable to get tests on the SUS and unable to pay	86	16.4	13.4;19.8	2,237,201	1,827,957;2,701,011
Unable to go and make appointment/Have tests	53	10.1	7.6;13.0	1,377,789	1,036,752;1,773,391
Did not want to	41	7.8	5.7;10.4	1,064,035	777,564;1,418,713
Not available in their city	23	4.4	2.8;6.5	600,225	381,961;886,696
Thought they did not need them	22	4.2	2.6;6.3	572,942	354,678;859,413
Other	82	15.6	12.6;19.0	2,128,069	1,718,825;2,591,879
Appointment ended without being referred to another service (n = 4,178)	3,881	92.9	92.1;93.7	29,540,621	29,286,234;29,795,007
Did not go to some of the referrals (n = 294)	100	34.0	28.6;39.7	767,611	645,696,276;896,298,677
Reason why did not go to some of the referrals (n = 100)					
Appointment made, but has not happened yet	45	45.0	35.0;55.3	345,425	268,664;24,489
Unable to go and make appointment/Have them	12	12.0	6.4;20.0	92,113	49,127;153,522
Unable to get tests on the SUS and unable to pay	11	11.0	5.6;18.8	84,437	42,986;144,311
Did not want to	9	9.0	4.2;16.4	69,085	32,240;125,888
Thought they did not need them	4	4.0	1.1;9.9	30,704	8,444;75,993
Not available in their city	3	3.0	0.6;8.5	23,028	4,606;65,247
Other	22	22.0	14.3;31.4	168,874	109,768;241,030
Opinion about care received (n = 4,027)					
Very bad	107	2.7	2.2;3.2	858,554	699,563;1,017,546
Poor	61	1.5	1.2;1.9	476,974	381,580;604,168
Regular	313	7.8	7.0;8.6	2,480,267	2,225,881;2,734,654
Good	2,169	53.8	52.3;55.4	17,107,485	16,630,511;17,616,258
Very good	1,377	34.2	32.7;35.7	10,875,019	10,398,044;11,351,993
Problem outcome after care was provided (n = 4,000)					
Got worse	41	1.0	0.7;1.4	317,983	222,588;445,176
Just the same as before	1,293	32.3	30.9;33.8	10,270,851	9,825,675;10,747,825
Improved a little	848	21.2	19.9;22.5	6,741,240	6,327,862;7,154,617
Improved considerably	1,046	26.2	24.8;27.5	8,331,155	7,885,978;8,744,532
Cured/Problem solved	772	19.3	18.1;20.6	6,137,072	5,755,492;6,550,450

SUS: Brazilian Unified Health System

^a Information is partially unknown for some variables. Differing values may therefore appear.

^b Instituto Brasileiro de Geografia e Estatística, Censo Demográfico, 2010.

^c The denominator refers to the total of individuals who had care provided by a doctor plus individuals who sought this type of care but did not have access to it.

access to care provided by a health professional other than a doctor, lack of access to accident/emergency care and lack of access to domiciliary care was 2.0%, 2.1% and 2.9%, respectively.

Data from the 2003 National Household Sample Survey (PNAD) shows that the prevalence of lack of access among adults aged 20 to 64 years who sought health services in the last two weeks was of 2.2%. The 2008

PNAD found 2.8% for this same item.^{d,e} The prevalence rates of this study are similar to those found in PNAD, even though the PNAD respondents' recollection period was shorter, their age range was greater and more subjects were interviewed than in this study.

A study conducted in the city of Pelotas, Southern Brazil, found a 6.5% prevalence rate of lack of access to a health service in the last month in a sample of adults

^d Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional por Amostra de Domicílios - PNAD: acesso e utilização dos serviços de saúde 2003. Rio de Janeiro (RJ); 2005 [cited 2014 Dec 8]. Available from: http://www.spm.gov.br/arquivos-diversos/arquivos/integra_saude_ibge_2003

^e Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional por Amostra de Domicílios - PNAD: um panorama da saúde no Brasil: acesso e utilização dos serviços, condições de saúde e fatores de risco e proteção à saúde 2008. Rio de Janeiro (RJ); 2008 [cited 2014 Dec 8]. Suplemento. Available from: http://www.ibge.gov.br/home/estatistica/populacao/panorama_saude_brasil_2003_2008/

Table 4. Description of barriers to access and continued care based on adults' self-reported need to have care provided by a health professional other than a doctor. Brazil, 2009.

Variable (n)	Sample			Projection for the urban population (20 to 59 years) ^b 92,168,985	
	n ^a	%	IC95%	n	IC95%
Care provided by professional other than a doctor (n = 12,279)	1,61	13.1	12.5;13.8	12,074,137	11,521,123;12,719,320
Needed care, despite not receiving it (n = 10,666)	75	0.7			
Barriers to access					
Lack of access to health professional other than a doctor (n = 1,646) ^c	33	2.0	1.4;2.8	246,417	178,070;356,141
Did not make an appointment (n = 75)	42	56.0	44.1;67.5	313,972	247,253;378,448
Reason why did not make appointment (n = 42)					
Difficulty in getting an appointment on the SUS	24	57.1	41.0;72.3	179,278	128,728;227,002
Unable to pay	12	28.6	15.7;44.6	89,796	49,294;140,031
Family or work commitments	12	28.6	15.7;44.6	89,796	49,294;140,031
Unable to go and make appointment	9	21.4	10.3;36.8	67,190	32,339;115,542
This type of professional not available at their usual health service	8	19.0	8.6;34.1	59,655	27,002;107,064
Afraid/Did not want to	6	14.3	5.4;28.5	44,898	16,954;89,482
Health complaint got better	1	2.4	0.06;12.6	7,535	188;39,560
Other	2	4.8	0.6;16.2	15,071	1,884;50,863
Reason why care was not provided (n = 33)					
No appointment available	9	27.3	13.3;45.5	67,347	32,810;112,245
Unable to pay	8	24.2	11.1;42.3	59,699	27,383;104,351
This type of professional not available at the service	5	15.4	5.1;31.9	37,991	12,581;78,695
Service closed when care was sought	1	3.0	0.08;15.8	7,401	197;38,977
Other	11	33.3	18.0;51.8	82,148	44,405;127,787
Problem outcome after not receiving care (n = 75)					
Got worse	16	21.3	12.7;32.3	119,421	71,204;181,094
Just the same as before	46	61.3	49.4;72.4	343,687	276,968;405,921
Improved a little	10	13.3	6.6;23.2	74,568	34,004;130,074
Improved considerably	1	1.3	0.03;7.2	7,289	168;40,368
Cured/Problem solved	2	2.7	0.3;9.3	15,138	1,682;52,142
Barriers to continuity of care					
Appointment ended without being referred to another service (n = 1,537)	1,474	95.9	94.8;96.8	11,579,097	11,446,282;11,687,765
Did not go to some of the referrals (n = 61)	25	41.0	28.6;54.3	202,966	141,581;268,807
Reason why did not go to some of the referrals (n = 25)					
Appointment made, but has not happened yet	9	36.0	18.0;57.5	73,068	36,534;116,706
Unable to get tests on the SUS and unable to pay	5	20.0	6.8;40.7	40,593	13,802;82,607
Did not want to	4	16.0	4.5;36.1	32,475	9,133;73,271
Thought they did not need them	3	12.0	2.5;31.2	24,356	5,074;63,325
Unable to go and make appointment/Have them	3	12.0	2.5;31.2	24,356	5,074;63,325
Not available in their city	1	4.0	0.1;20.4	8,119	203;41,405
Other	3	12.0	2.5;31.2	24,356	5,074;63,325
Opinion about care received (n = 1,492)					
Very bad	16	1.1	0.6;1.7	132,816	72,445;205,260

Continue

Continuation					
Poor	14	1.0	0.5;1.6	120,741	60,371;193,186
Regular	65	4.3	3.4;5.5	519,188	410,521;664,078
Good	758	50.8	48.2;53.4	6,133,662	5,819,734;6,447,589
Very good	639	42.8	40.3;45.4	5,167,731	4,865,877;5,481,658
Problem outcome after care was provided (n = 1,466)					
Got worse	13	0.9	0.5;1.5	108,667	60,371;181,112
Just the same as before	271	18.5	16.5;28.6	2,233,715	1,992,233;3,453,203
Improved a little	234	16.0	14.1;17.9	1,931,862	1,702,453;2,161,271
Improved considerably	500	34.1	31.7;36.6	4,117,281	3,827,501;4,419,134
Cured/Problem solved	448	30.5	28.2;33.0	3,682,612	3,404,907;3,984,465

SUS: Brazilian Unified Health System

^a Information is partially unknown for some variables. Differing values may therefore appear.

^b Instituto Brasileiro de Geografia e Estatística. Censo Demográfico, 2010.

^c The denominator refers to the total of individuals who received care from a health professional other than a doctor plus individuals who sought this type of care but did not have access to it.

aged 20 or more. The inclusion of older adults may have led to the higher percentage found by that study.^f

Despite being low, the prevalence rates found in this study reach another dimension when they are extrapolated to include all adults living in urban areas in Brazil. Access to a doctor, for example, is estimated to be lacking for more than 350,000 public and private health service users and 360,000 adults are estimated to be without access to emergency care. This is worsened by the service being mainly public. These projections are expected to be useful in supporting health management to calculate the efforts needed to address it, such as scaling up the physical structure of the services and the workforce.

Similarity was found among the reasons for seeking care by both those who did and those who did not manage to access services, with regard to hospitalization, care provided by a doctor and domiciliary care (data not presented). Different from the 2003 PNAD, which found preventive actions to be the main reason for health care provision, our study identified surgical operations and illnesses in general as being the main reasons for needing to be admitted to a hospital or needing to receive health care, like the 2008 PNAD.^e

The main reason for lack of access by those seeking health care was structural and organizational problems: lack of hospital beds, charges for services, having to wait a long time to be seen, lack of health professionals, lack of appointments availability and lack of the kind of care needed. Similar aspects were found by the PNAD and by the study conducted in Pelotas, RS, in particular charges for services, unavailability of appointments and lack of doctors.^f

Difficulty in getting an appointment on SUS, financial and personal problems and unavailability of services were the reasons for not seeking domiciliary care (72.6%), care provided by a doctor (70.7%) and care provided by other health professionals (56.0%). Lack of access can precede health care seeking, whereby service users identify barriers beforehand. A similar characteristic can be seen in barriers for having tests done.

The 2003 PNAD found that the main barriers to access were financial (23.8%) and long waiting times (18.1%).^g Financial and structural problems continue to be significant obstacles to accessing health services. Service users can think it is so unlikely for them to get an appointment at their health centre within a short space of time that the majority do not even try to get one.⁵

Geographical, financial, organizational, information and cultural barriers to access are an expression of the characteristics of supply that can facilitate or impede people's ability to use services. Travassos & Castro²⁰ highlight the most important barrier as being the unavailability or physical absence of services and human resources. However, information about such availability, the illness in question and treatment options are also important in facilitating the use of health services, as these factors have an impact on people's perception of health. Individual perception can also affect use of services, as both the quest for and use of them can be triggered by perceived need.¹⁸

Despite the important progress made by SUS, inequalities in universal access still exist. Problems relating to equity and comprehensiveness persist in that structural aspects reported as being the main barriers to accessing health services and ensuring continuity of care.^{15,23}

^f Nunes BP. Acesso aos serviços de saúde em adolescentes e adultos na cidade de Pelotas - RS [dissertation]. Pelotas (RS): Universidade Federal de Pelotas, Departamento de Medicina Social; 2012.

^g Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional por Amostra de Domicílios - PNAD: acesso e utilização dos serviços de saúde 2003. Rio de Janeiro (RJ); 2005 [cited 2014 Dec 8]. Available from: http://www.spm.gov.br/arquivos-diversos/arquivos/integra_saude_ibge_2003

Table 5. Description of barriers to access and continued care based on adults' self-reported need for domiciliary care. Brazil, 2009.

Variable (n)	Sample			Projection for the urban population (20 to 59 years) ^b 92,168,985	
	n ^a	%	95%CI	n	95%CI
Domiciliary care (n = 12,281)	560	4.6	4.2;4.9	4,239,773	3,871,097;4,516,280
Needed care at home, despite not receiving it (n = 11,721)	62	0.5			
Barriers to access					
Reason why needed care (n = 62)					
Transport difficulties	22	35.5	23.7;48.7	156,074	04,196;214,108
Confined to bed	18	29.0	18.2;42.0	127,497	80,016;184,651
Blood pressure problem	10	16.1	8.0;27.7	70,783	35,172;121,782
Had backache	8	12.9	5.7;23.9	56,714	25,060;105,075
Had leakage/Stroke/Ischaemia	5	8.1	2.7;17.8	35,611	11,870;78,257
Had a mental problem	5	8.1	2.7;17.8	35,611	11,870;78,257
Had rheumatism/Joint problems	5	8.1	2.7;17.8	35,611	11,870;78,257
Had heart problems	4	6.5	1.8;15.7	28,577	7,914;69,024
Had a neurological problem	3	4.8	1.0;13.5	21,103	440;59,352
Needed to get vaccinated	3	4.8	1.0;13.5	21,103	440;59,352
Had diabetes	2	3.2	0.4;11.2	14,069	1,759;49,240
Had been hospitalized in the last three months	2	3.2	0.4;11.2	14,069	1,759;49,240
Had had surgery recently	2	3.2	0.4;11.2	14,069	1,759;49,240
Had cancer	1	1.6	0.04;8.7	7,034	176;38,249
Had injured limbs or back	–	–	–	–	–
Lack of access to domiciliary care (n = 577) ^c	17	2.9	1.7;4.7	126,447	74,124;204,931
Did not request domiciliary care (n = 62)	45	72.6	59.8;83.2	319,183	262,908;365,786
Reason why did not request domiciliary care (n = 45)					
Service does not provide domiciliary care	31	68.9	53.4;81.8	219,917	170,444;261,092
No professional available to provide domiciliary care	25	55.6	40.0;70.4	177,466	127,673;224,705
Health complaint got better	7	15.6	6.5;29.5	49,793	20,747;94,159
Unable to go and make an appointment or request domiciliary care	6	13.3	5.1;26.8	42,451	16,278;85,541
Afraid/Did not want to	5	11.1	3.7;24.1	35,429	11,810;76,923
Service telephone always engaged or not working	2	4.4	0.5;15.2	14,044	1,596;48,516
Service does not have telephone	1	2.2	0.06;11.8	7,022	192;37,664
Other	6	13.3	5.1;26.8	42,451	16,278;85,541
Reason why domiciliary care was not provided (n = 17)					
Sought care but health service did not reply	8	47.1	23.0;72.2	56,738	27,706;8,717,527
Sought care but health service did not have a professional available	8	47.1	23.0;72.2	56,738	27,706;8,717,527
Sought care but health service does not provide this type of care	7	41.2	18.4;67.1	49,631	22,165;8,101,746
Sought care but no appointment available	6	35.3	14.2;61.7	42,523	17,106;7,449,743
No SUS professional available and unable to pay privately	4	23.5	6.8;50.0	28,309	8,191;6,037,069
Sought care but the service was closed	1	5.6	0.1;28.7	6,746	120;3,465,277
Telephone always engaged (n = 17)	–	–	–	–	–
Other (n = 17)	–	–	–	–	–
Problem outcome after not receiving care (n = 62)					
Got worse	10	16.1	8.0;27.7	70,783	35,172;121,782
Just the same as before	28	45.2	32.5;58.3	198,720	142,885;256,314

Continue

Continuation					
Improved a little	11	17.7	9.2;29.5	77,817	40,447;129,696
Improved considerably	10	16.1	8.0;27.7	70,783	35,172;121,782
Cured/Problem solved	3	4.8	1.0;13.5	21,103	4,396;59,352
Barriers to continuity of care					
Did not receive an explanation as to the reason for seeking care (n = 537)	444	82.7	79.2;85.8	3,506,293	3,357,900;3,637,725
Received care but not referred to any other service (n = 550)	515	93.6	91.3;95.5	3,968,428	3,870,913;4,048,984
Did not go to some of the referrals (n = 35)	4	11.4	3.2;26.7	30,933	8,683;72,449
Reason why did not go to some of the referrals (n = 4)					
Appointment made. but has not happened yet	1	25.0	0.6;80.6	7,733	186;24,932
Unable to get tests on SUS and unable to pay	–	–	–	–	–
Thought they did not need them	1	25.0	0.6;80.6	7,733	186;24,932
Did not want to	1	25.0	0.6;80.6	7,733	186;24,932
Unable to go and make appointment/Have them	1	25.0	0.6;80.6	7,733	186;24,932
Not available in their city	–	–	–	–	–
Other	1	25.0	0.6;80.6	7,733	186;24,932
Opinion about care received (n = 548)					
Very bad	3	0.6	0.1;1.6	25,439	4,240;67,836
Poor	5	0.9	0.3;2.1	38,158	12,719;89,035
Regular	46	8.4	6.2;11.0	356,141	262,866;466,375
Good	350	63.8	59.7;67.9	2,704,975	2,531,145;2,878,806
Very good	144	26.3	22.6;30.2	1,115,060	958,189;1,280,412
Problem outcome after care was provided (n = 427)					
Got worse	1	0.2	0.006;1.3	8,480	254;55,117
Just the same as before	222	52.0	47.1;56.8	2,204,682	1,996,933;2,408,191
Improved a little	52	12.2	9.2;15.7	517,252	390,059;665,644
Improved considerably	99	23.2	19.3;27.5	983,627	818,276;1,165,938
Cured/Problem solved	53	12.4	9.4;15.9	525,732	398,539;674,124

SUS: Brazilian Unified Health System

^a Information is partially unknown for some variables. Differing values may therefore appear.

^b Instituto Brasileiro de Geografia e Estatística. Censo Demográfico, 2010.

^c The denominator refers to the total of individuals who received domiciliary care plus individuals who sought this type of care but did not have access to it.

Longitudinality, i.e. service users being accompanied over time by health professionals, is considered to be a key characteristic of Primary Health Care. However, this concept can also be applied to other levels of care, given that it relates to positive health care results and can be used to assess its quality.^{7,10}

There is a lack of information about the need for or indication by health professionals to have follow-up after care, about the need to have tests and the need to be referred to another health professional. Despite that, continuity of care and assessment of the service user's condition can result in more accurate diagnosis and more efficacious treatment, in addition to optimizing referrals to specialists and the

performance of more complex procedures. The same can be observed regarding the prescription of tests and medication, especially about the lack of access to some of these procedures during health care provision.⁷

Most users stated that the received care was good or very good in spite of the barriers to continued care. On the other hand, 30.5% of those receiving care in accident and emergency units considered it to be regular/poor/very bad and this was the worst service in the opinion of respondents. This degree of dissatisfaction was higher than that found by PNADs in 2008 (13.5%), 2003 (14.0%) and 1998 (2.4%)^{e,h} for any kind of care. For satisfied users, satisfaction is associated with service use, i.e., those who

^h Instituto Brasileiro de Geografia e Estatística. PNAD - Pesquisa Nacional por Amostra de Domicílios - PNAD: acesso e utilização dos serviços de saúde 1998. Rio de Janeiro (RJ); 2000 [cited 2014 Dec 8]. Available from: <http://www.ibge.gov.br/home/estatistica/populacao/trabalhoerendimento/pnad98/saude/saude.pdf>

have access to services and for whom this experience is positive, tend to use services more.¹³ Most individuals who manage to use health services feel satisfied, despite significant inequities.

User satisfaction can be understood based on conceptual models. It may be limited to a checklist or be observed from the perspective of the theory of discrepancy, whereby levels of user satisfaction are predicted from the difference between expectations and the perception of the experience the user has. Furthermore, the theory of embodiment states that satisfaction is the difference between what is desired and what is obtained.⁸

People seek emergency service care owing to greater assurance of access (24h care – “open doors”), problem-solving and being able to have examinations and tests then and there.^{2,6}

The degree of user satisfaction, apart from being an important indicator of health service quality and access, is also a tool that enables service managers to evaluate and monitor the health system.¹² Problems affected by barriers to access can be less severe. However, when comparing this with the answers given by those to whom care was provided, no significant differences were found.

In a context of high prevalence of chronic diseases among adults, most of them seek care in order to cope with their health problems rather than to cure them. Therefore, regular contact with a health service provider can influence behavioural change and better treatment adherence, aim of staying healthy and having better quality of life.^{4,i}

There are few studies describing and quantifying barriers to accessing health care and its continuity. This study analyzed when respondents last received health care, which varied between three months and one year. These periods were used to minimize bias in the respondents' recollections of what happened.³ Other positive features are the low percentage of subjects lost to the study in relation to the estimated sample size, sample size and comprehensiveness, and its being nationally representative, as well as its use of primary data.

The low proportion of individuals without access to health services and care hampered the precision of the analysis. Stratified or adjusted analysis could help to understand the most affected social groups. It can also contribute to the adoption of measures and policies to reduce inequalities, in addition to increasing the efficiency of the health system and scaling up access to services and their quality. Despite the low prevalence rates found, when these proportions are projected and applied to the entire Brazilian adult population living in urban areas, many individuals do not access the health system or have continued health care.

The importance of the access and continuity of health services is increasing in national and international literature. Most studies defines service use as a synonym of access and do not investigate adequately lack of access and continuity of care.

Quantifying lack of access and continuity of health actions and service supply throughout the national territory helps its magnitude to be recognized, assisting in the definition of strategies for controlling them in the health system.

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ⁱ Macinko J, Dourado I, Guanais FC. Doenças crônicas, atenção primária e desempenho dos sistemas de saúde: diagnósticos, instrumentos e intervenções. Washington (DC): Banco Interamericano de Desenvolvimento; 2011 [cited 2015 Feb 13]. (Textos para Debate). Available from: <http://apsredes.org/site2012/wp-content/uploads/2012/06/Publica%C3%A7%C3%A3o-BID.pdf>

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