

Health, access to services and sources of payment, according to household surveys

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Abstract *This article analyzes the continuity of the historical series of indicators pertinent to the health supplements of the National Household Surveys (PNADs) of 1998, 2003, and 2008, and of the National Health Survey (PNS 2013). Indicators about health needs, access and use of health services, and their sources of payment were calculated using questions that sought to obtain this information from different surveys. In spite of improvements in the access and use of health services in all regions, we noted important regional differences in all the analyzed dimensions when data from the North and Northeast regions were taken into consideration regarding the following: lower evaluation of health condition, greater restriction of activities, and a reduced use of health services, in spite of greater coverage by public programs. The changes in the source of payment for services carried out in the final two weeks demonstrate that the Brazilian population is using more services by way of the Unified Health System, the SUS, as well as more care by health plan and making less out of pocket payments. It is important to observe that participation in the SUS increased in the more wealthy regions, and that the increase in attendance by health plan occurred in a significant way only in the Center West Region.*

Key words *Health Survey, Access to Health Services, Health Care Needs*

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Introduction

In the mid-1990s, the Ministry of Health, through the REFORSUS program, assembled a group of researchers from different academic institutions and representatives of IBGE, BENFAM, and IPEA to configure the design of a Household Survey, whose principal objective was “to provide information for the executive and legislative bodies, Health Councils, and the group of social and economic actors involved in the health sector, in the formulation, development, and evaluation of health policies”¹.

Consequently, population-based data had to be obtained about the access to health services in the country, the coverage by different types of health insurance plans, the profile of health needs of the Brazilian population, utilization of health services as well as private healthcare costs of Brazilian families with health plans, consumption of goods and services, and consumption of medication.

Data of this nature had been collected by IBGE in 1981 for the National Household Sample Survey² and, after much revision, served as the basis for the Health Supplement of PNAD in 1998³. According to the PNAD sample design, the data of the supplement would be representative of the populations of the 26 states in the Brazilian Federation and the Federal District.

In 2002, the Health Ministry arranged to finance a new health supplement for PNAD that included some more objective questions about the access to health services⁴ for the 2003 PNAD supplement. A new proposal was suggested to IBGE to include a third Health Supplement in PNAD in 2008 that, along with the goals of the previous years, could also validate the questions of VIGITEL (Surveillance of Chronic Illnesses by Telephone Survey), a survey that the Secretary of Health Surveillance of MS would implement in 2006, as well as a great number of questions about tobacco use⁵.

At the beginning of the decade of 2010, taking into account the growing number of health supplements in the PNADs, the need for the IBGE to periodically carry out a National Health Survey that would give continuity to the supplements and seek to describe in detail the conditions of health service use was discussed⁶. Through a long process of internal discussion within the Ministry of Health, content was generated for the National Health Survey (PNS) questionnaires⁷, and it was decided that the sample size could be much smaller than the size of the PNADs. Differen-

es in the sample design were always important questions in terms of the cost and the representativeness of the data. In order not to lose sight of the importance of the historical data series of the Health Supplements, the same questions with some differences between alternative responses were made in the PNS to the household residents. On the other hand, it sought to improve the validity of the information about the use of services and the completeness of health actions beginning with a subsample of individuals 18 years of age or older, randomly distributed among the households who related aspects of their health conditions and experiences in the use of services, among other aspects.

In this research, we verify the continuity of the historical series of indicators belonging to the health supplements of the 1998, 2003, and 2008 PNADs and to the National Health Research.

Methodology

Among the possible dimensions of analysis, questions about health conditions, access and use of services, and type of verified payment were selected. To calculate the indicators, the printed texts in the questionnaires assembled by the IBGE technicians for the residents (Chart 1) were utilized. In spite of minor differences, the texts are sufficiently similar and were always drafted with the aim of maintaining the comparison of data in the various surveys.

The PNS is an independent research project of the PNAD, but also part of the System of Household Research of the IBGE in a subsample of the ongoing main sample of the PNAD, based on the largest number of census sectors best distributed throughout the country that generate the most precise estimates. The stratification of primary sample units abides by four different criteria: administrative, including the division of states into capital cities, the remaining Metropolitan Region (RM) or Integrated Region of Economic Development (RIDE), and the remainder of the state; geographic, which subdivides the capitals and other large municipalities into further strata; the situation that involves the categorization rural/urban; and statistical, with the objective of improving the precision of estimates⁸.

For indicators about health needs, the following criteria were considered: evaluation of the health status, prevalence of diabetes, prevalence of hypertension, and the restriction of routine activities for health reasons. In the specific case

of the prevalence of diabetes and hypertension and the carrying out of preventative exams for the detection of cervical cancer, just as in the PNS the data were collected using a subsample of individuals 18 or older, and the comparison was made by selecting only residents 18 and older in the PNADs.

Regarding the indicators about access/use of health services, the following criteria were considered: percentage of persons that had a medical consultation in the 12 months prior to the interview; percentage of persons who had a dental appointment in the last 12 months; percentage of persons who had never been to a dentist; percentage of persons who had used health services in the last two weeks; percentage of persons that had been referred for a hospitalization in the last 12 months; percentage of persons who are beneficiaries of a health plan; and percentage of persons residing in a domicile covered by the Family Health Strategy Program. The latter data has only been collected by the PNAD 2008 and by the PNS. To observe the trend in the use of specific services for the female population, indicators about access to mammography and cervical cancer prevention services were compared. In the case of mammography, owing to the differences in the scales of response regarding the time elapsed since the last exam between the PNADs of 2003 and 2008, the comparison of PNS data was made only with the 2008 PNAD, considering women between 50 and 69 years old. As much in the PNS as in the PNADs, the information was furnished by those present at the interviews about all of the residents. Regarding exams for the prevention of cervical cancer, the indicators from the data of the PNS and PNADs were compared for the population of women between the age of 25 and 64, according to the recommendation of INCA (National Cancer Institute).

In order to understand questions related to the payment of health services, the household surveys have obtained information regarding the sources of payment for the services utilized in the two weeks prior to the interviews, as well as hospitalizations in the last 12 months. For this purpose, we asked residents via three different surveys if the medical attention was undertaken using a health plan, by way of SUS, and if they paid some of the costs. The data was obtained separately for each question, permitting the possibility of more than one source of payment for each case.

Given the possibility of multiple forms of payment, it was necessary to consider each one

of them independently of the others: health plan, out of pocket payment, and SUS. In cases where the interviewed subject responded that they had paid out of pocket for medical attention in the last two weeks but had a total reimbursement, it was not considered as an out of pocket payment.

To make it possible to observe the continuity in the historical data series, the frequencies and intervals of confidence were calculated at the national level and at the level of the greater regions (Chart 1).

Results

Regarding the estimates of health needs, it can be observed (Figure 1a) that the PNS data compared with data from the PNADs indicate a small increase in the percentage of persons whose health status was considered bad or very bad at the national level, and in the North, Northeastern, and Center West regions. The greatest increase was observed in the Northeast Region, where the evaluation of health status as bad or very bad indicates 6% of people.

In terms of the restriction of routine activities for health reasons in the two weeks prior to the interview (Figure 1b), we confirmed a small reduction at the national level and in all of the regions, with a greater emphasis in the North and Southeast regions.

The prevalence of diabetes and hypertension in adults 18 and older evaluated by the PNS lend continuity to the growth that had been observed by the PNADs (Figures 1c and 1d). For the national level, the data indicates a prevalence of 6.2% for diabetes and 21.4% for hypertension. In both cases, the most significant increases occurred in the Northeast, Southeast, and Center West.

With the exception of the North region, according to the PNS, the increase in the percentage of persons that consulted doctors and dentists in the 12 months prior to the interviews follow the fluctuations that have already been demonstrated by the PNADs (Figures 2a and 2b). In 2013, 71.2% of the population sought a medical consultation and 44.4% consulted a dentist in the last 12 months. In all of the regions with the exception of the North, where the proportion remained the same as in 2008, the increase was significant.

Concerning the use of health services in the two weeks prior to the interviews, analyzing those persons who sought services and were attended, we observe in the PNS of 2013 a more

Chart 1. Questions presented by the different surveys

| | PNAD 1998 | PNAD 2003 | PNAD 2008 | PNS 2013 |
|---|--|--|--|--|
| Health state evaluation | v1303 In general, you consider your own health status as: | v1303 In general, ___ consider(s) their own health status as: | v1303 In general, ___ consider(s) their own health status as: | J1. In general, how is the health status of _____? |
| Restriction of routine activities (in the last two weeks) | v1304 In the last two weeks, have you failed to perform any of your habitual activities (work, school, play, etc) for reasons of health? | v1304 Have you failed to perform any of your habitual activities for reasons of health in the last two weeks? | v3304 In the last two weeks _____ failed to perform any of his or her habitual activities (work, school, play, household chores, etc.) for health reasons? | J2. In the last two weeks _____ failed to perform any of his or her habitual activities (work, school, play, household chores, etc.) for health reasons? |
| Prevalence of Hypertension | v1314 Do you have hypertension? | v1314 Has any doctor or medical professional ever said that _____ has hypertension (high blood pressure)? | v1314 Has any doctor or medical professional said that _____ has hypertension (high blood pressure)? | Q2. Has any doctor ever given you the diagnosis of arterial hypertension (high blood pressure) ? |
| Prevalence of Diabetes | v1312 Do you have diabetes? | v1312 Has any doctor or medical professional ever said that _____ has diabetes? | v1312 Has any doctor or medical professional said that _____ has diabetes? | Q30. Has any doctor ever given you the diagnosis of diabetes? |
| Coverage by a health plan | v1321 Do you have access to any health plan (medical or dental), privately-held, employer-based, or public sector? | v1321 Does ___ have access to any health plan (medical or dental), privately-held, employer-based, or public sector? | v1321 Does ___ have access to any health plan , medical or dental, privately-held, employer-based, or public sector? | I001 _____ has some health plan, medical or dental, privately-held, employer-based, or public sector? |
| Medical consultation in the last 12 months | v1347 In the last 12 months, have you consulted a doctor? | v1347 Consulted a doctor in the last 12 months | v1347 In the last twelve months _____consulted a doctor? | J011 When did ___ consult a doctor most recently? |
| Dental consultation in the last 12 months | v1349 When did you go to the dentist most recently? | v1349 How long has it been since you last went to a dentist | v3349 When did ___ go to the dentist most recently? | J013 When did ___ have a dentist's visit most recently? |

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Chart 1. continuation

| | PNAD 1998 | PNAD 2003 | PNAD 2008 | PNS 2013 |
|---|---|---|---|--|
| Hospitalizations in the last 12 months | v1369 In the last 12 months, have you been hospitalized? | v1369 Have you been hospitalized in the last twelve months? | v1369 In the last twelve months, has ___ been hospitalized? | J037 In the last 12 months, has ___ been hospitalized for 24 hours or longer? |
| Use of health services in the last 15 days PNADs V1350 = 2 & (V1354 ou V1358 = 2) | v1350 In the last two weeks, have you sought any location, service, or health professional for care related to your own health? | v1350 Have you sought any place, service, or health professional for care related to your own health in the last two weeks? | v1350 In the last two weeks, has ___ sought any place, service, or health professional for care related to his or her own health? | J014 In the last two weeks, has ___ sought any place, service, or health professional for care related to his or her own health? |
| PNS J014 = 1 & (J017 = 1 ou J021 = 1) | v1354 During the first time you sought medical attention in the last two weeks, were you seen? | v1354 Were you seen the first time you sought medical attention? | v1354 The first time that he/she sought medical attention, in the last two weeks, was ___ seen? | J017 The first time that he/she sought medical attention, in the last two weeks, was ___ seen? |
| | v1358 During the last time you sought medical attention in the last two weeks, were you seen? | v1358 Were you seen the last time you sought health care attention? | v1358 During the last time he/she sought medical attention, in the last two weeks, was ___ seen? | J021 During the last time he/she sought medical attention, in the last two weeks, was ___ seen? |
| Mammography coverage | | v1704 When was the last time that ___ had a mammogram? | v7741 When was the last time that ___ had a mammogram? | K40 - When was the last time that ___ had a mammography exam? |
| Pap smear exam | | V1705 When was the last time that ___ had a preventative exam for cervical cancer? | V7751 When was the last time that ___ had a preventative exam for cervical cancer? | R1 – When was the last time that you had a preventative exam for cervical cancer? |

it continues

Chart 1. continuation

| | PNAD 1998 | PNAD 2003 | PNAD 2008 | PNS 2013 |
|--|--|--|--|---|
| Payment for medication attention received in the last two weeks | v1364 Was this medical attention covered by any health plan? | v1364 Was this medical attention covered by any health plan? | V1364 Was this medical attention covered by any health plan? | J24. Was this medical attention for ___ covered by any health plan? |
| | v1365 Did you pay any amount for medical attention received in the last two weeks? | v1365 Did ___ pay any amount for the medical attention received in the last two weeks? | v1365 Did ___ pay any amount for the medical attention received in the last two weeks? | J25. Did ___ pay any amount for the medical attention received in the last two weeks? (if the interviewee responds that they paid, but received a total reimbursement, mark option 2 – “No.”) |
| | v1366 Was this medical attention received via the Unified Health System (SUS)? | v1366 Was this medical attention received via the Unified Health System (SUS)? | v1366 Was this medical attention received via the Unified Health System (SUS)? | J26. Was medical attention for ___ carried out by the SUS? |
| Payment for the most recent hospitalization in the last 12 months. | v1374 Was your most recent hospitalization in the last 12 months covered by any health plan? | v1374 Was your (most recent) hospitalization in the last 12 months covered by any health plan? | v1374 Was your (most recent) hospitalization in the last 12 months covered by any health plan? | J42. Was the most recent hospitalization of ___ in the last 12 months covered by any health plan? |
| | v1375 Did you pay any amount for this most recent hospitalization from the last 12 months? | v1375 Did ___ pay any amount for this (most recent) hospitalization from the last 12 months? | v1375 Did ___ pay any amount for this (most recent) hospitalization from the last 12 months? | J43. Did ___ pay any amount for this most recent hospitalization? (if the interviewee responds that they paid, but received a total reimbursement, mark option 2 – “No.”) |
| | v1376 Was this most recent hospitalization carried out via the Unified Health System? | v1376 Was this (most recent) hospitalization carried out via the Unified Health System (SUS)? | v1376 Was this (most recent) hospitalization carried out via the Unified Health System (SUS)? | J44. Was this most recent hospitalization for ___ carried out via the Unified Health System (SUS)? |

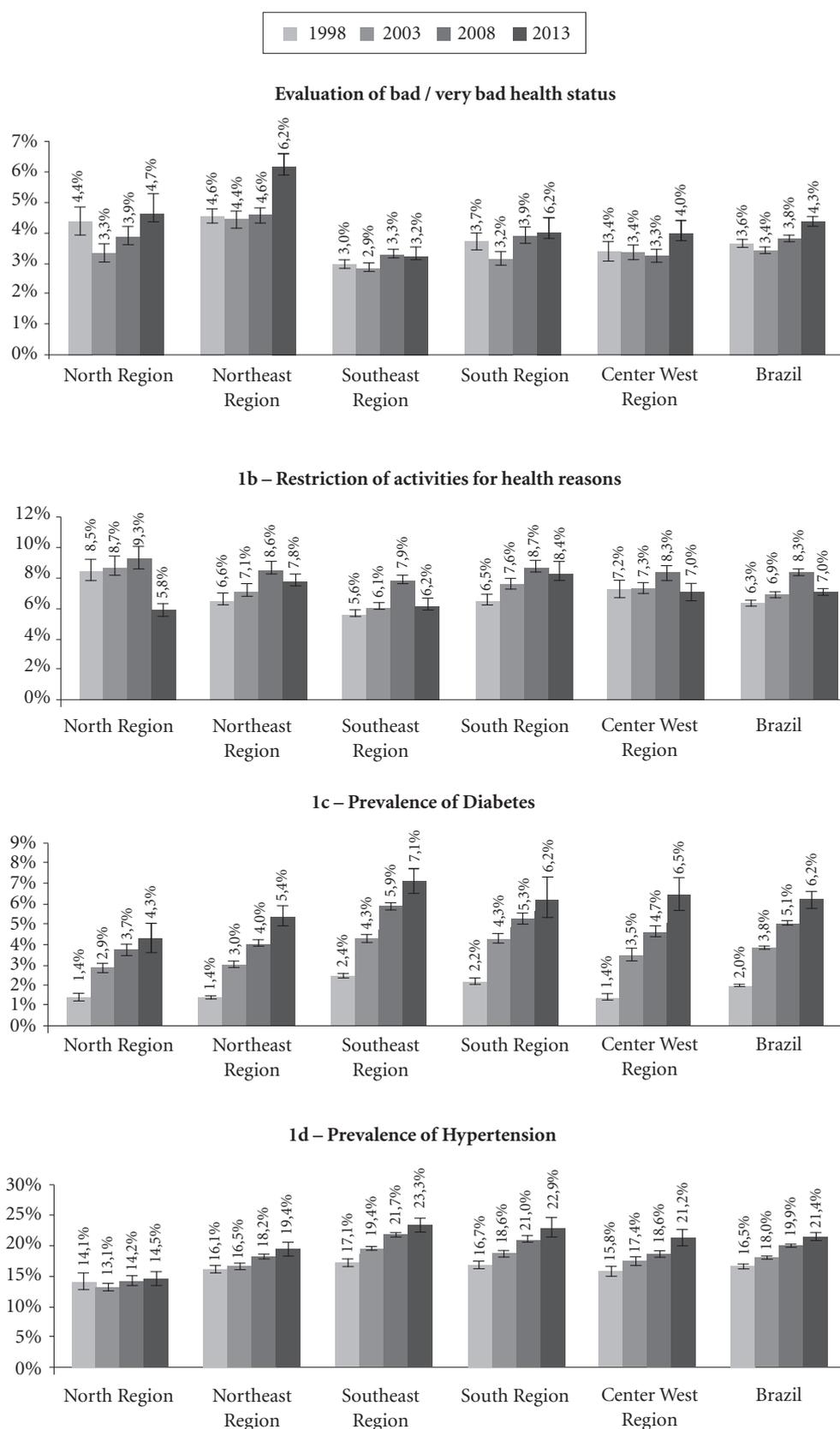


Figure 1. Estimation of indicators on health needs and respective confidence intervals of 95% by Greater Region in Brazil, 1998, 2003, 2008, and 2013.

significant increase in the proportion of persons in the South Region, where the percentage reached 17.6%, and a decrease in the case of the North Region (9.6%) (Figure 2c). At the national level, the percentage held at 14-15%, the same observed in 2003 and 2008.

Regarding the frequency of hospitalizations (Figure 2d), data from the PNS shows a trend of decrease when we analyze the percentage of persons that had at least one hospital stay in the 12 months prior to the interview. The sole exception occurs in the South region, which demonstrates a rate practically equal to that verified by the PNAD in 2008. Greater declines in this percentage were observed in the North and Northeast regions; at the national level, the rate of 6% observed in 2013 indicates a reduction of 1% in the rates that were roughly around 7% as presented by the 1998, 2003, and 2008 PNADs.

According to the PNS, mammograms in women between 50 and 69 years of age in the two years prior to the interviews had increased close to 6% throughout the country, and was observed in all of the major regions, especially in the Northeast and the South (Figure 2d). In the case of cervical cancer prevention, major differences in the proportion of women between 25 and 64 years that had an exam in the three years prior to the interviews were observed between the two PNADs (Figure 2f). PNS data indicates a small trend toward increase in the South region compared to the data from the 2008 PNAD.

In addition to these indicators regarding use of services, access to the healthcare system can also be evaluated by the coverage of supplemental health programs and by the Family Health Strategy program (Figures 2g and 2h). In the first case, the data generated by the surveys indicates whether the residents of the households have any health care plan, medical or dental, privately-held, employer based, or public sector. At the national level there was a slight increase (2%) according to the PNS data, which indicates that 28% of the population has this type of coverage. Spanning 15 years of observation, these trends have varied according to the larger geographic regions. The North and Northeast regions demonstrate the lowest rates (in the area of 15%), with some growth in 2013 in the Northeast. The highest rates are observed in the Southeast where, in 2013, the PNS detected close to 37% coverage, a value similar to that of the 2008 PNAD. In the South region and especially in the Center West,

we note the increase in these rates in relation to 2008 and previous years.

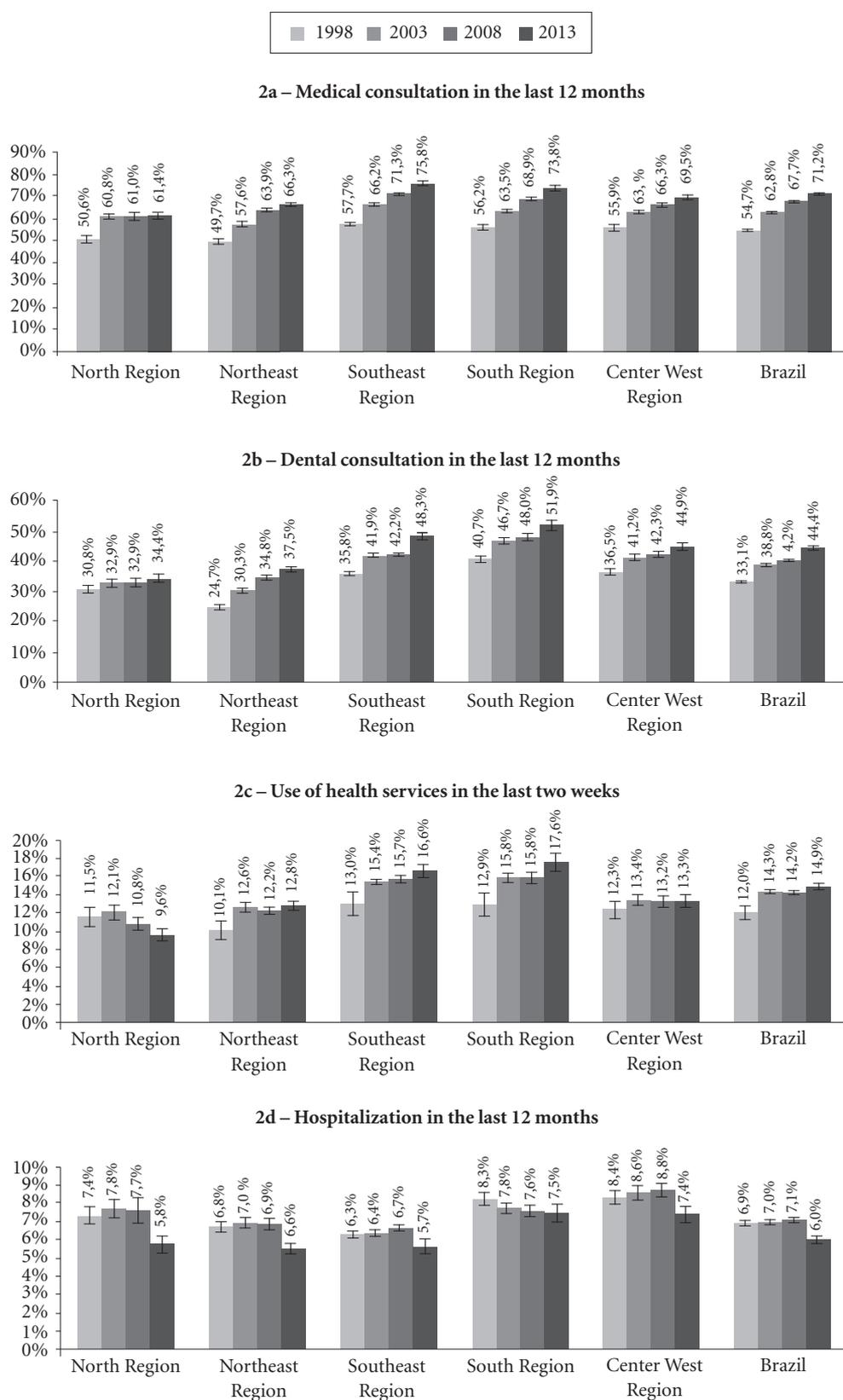
Regarding coverage by the Family Health Strategy (ESF) plan (Figure 2h), PNS data indicate important increases in the percentage of households covered in the Southeast and the South when compared with data from the 2008 PNAD. Taking into account the population residing in covered households in the country as a whole, in 2013, 56.1% of households were covered by the ESF, and highest rates (nearly 70%) are found in the Northeast. The least coverage is found in the Southeast region (48%) where, however, the percentage of covered households increased close to 10% in relation to the rate observed in the 2008 PNAD.

Figure 3a presents the percentages of medical consultations during the two weeks prior to the interviews in which some type of direct payment from users was necessary. The data indicates that there was a decline from 19%, observed in 2008, to 15% in this form of payment in 2013 at the national level. A decline was also observed in the Southeast, South, and Center West regions. On the other hand, we noted an increase in medical consultations via the SUS system at the national level, which in 2013 reached 60%, as well as in the Southeast and the South where it was in the area of 5% (Figure 3c). With the exception of the Center West region, where we note an important increase (6%) in medical consultations made via private health plans, in the rest of the regions there is a small trend of increase that generates a considerable increase at the national level in that, in 2013, 29.2% of consultations were made using private health plans, while in 2003 and 2008 such health plans were used in 26% of consultations.

Regarding hospitalizations in the 12 months prior to the interviews (Figures 3d-3f), the high rate of procedures undertaken via SUS (in the area of 66-68%) demonstrates a stabilizing trend since 2003 at the national level and in all of the regions. A decrease in out of pocket payments is also observed in 2003 and remains at roughly 10% in the following years. This trend was most significant in the South and the Center West.

Regarding the percentage of hospitalizations that were paid via health plans, we note minor increases in 2013 at the national level and in the Center West region. The trend also appears stable in the other regions.

Hospitalizations paid for by different sources are practically the same since 2003, for SUS reach-



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Figure 2. Estimation on access and use of health services and respective confidence intervals of 95%, by Greater Regions of Brazil, 1998, 2003, 2008, and 2013

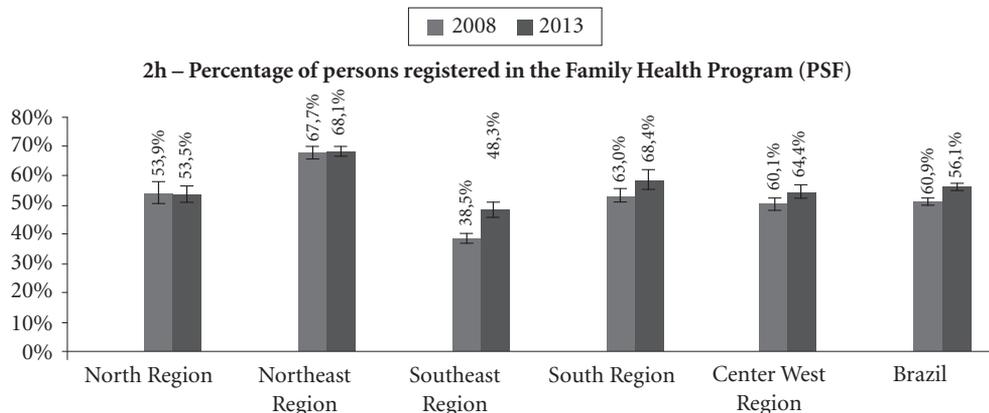
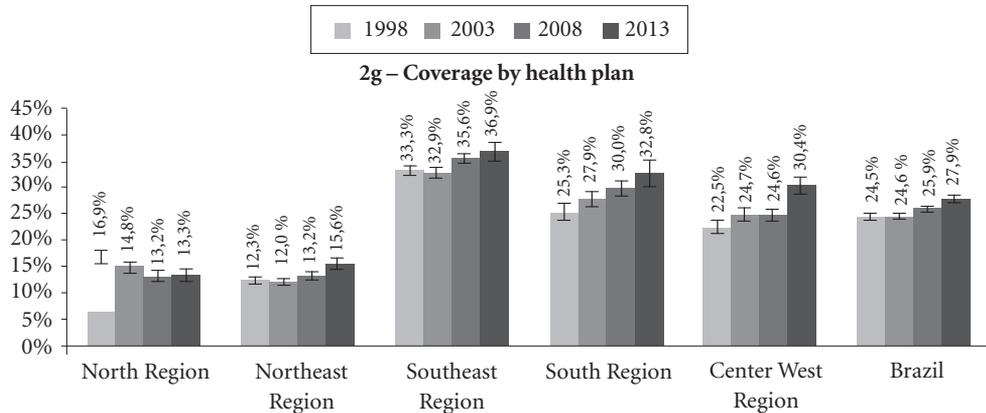
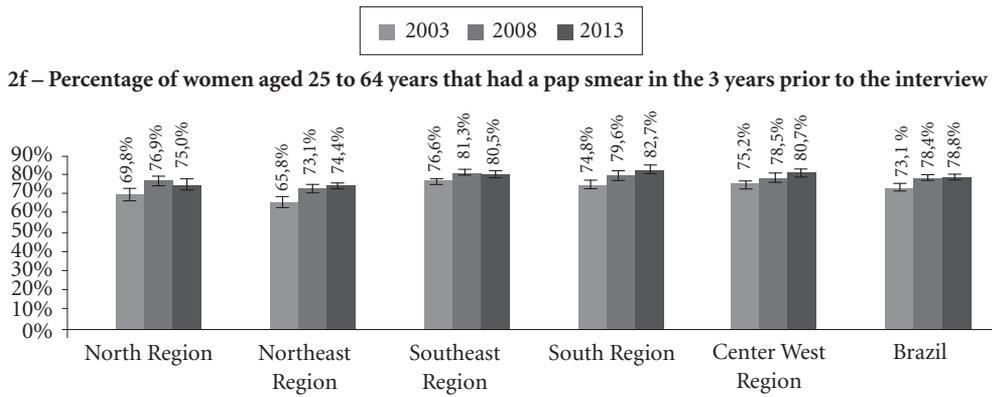
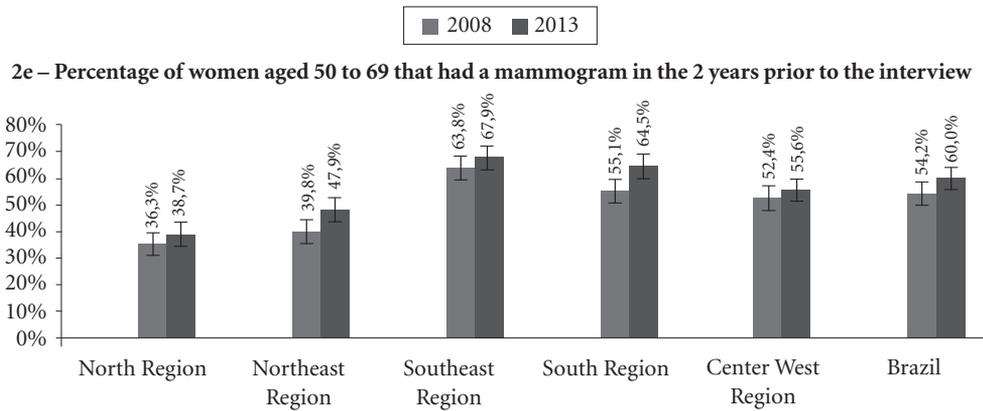
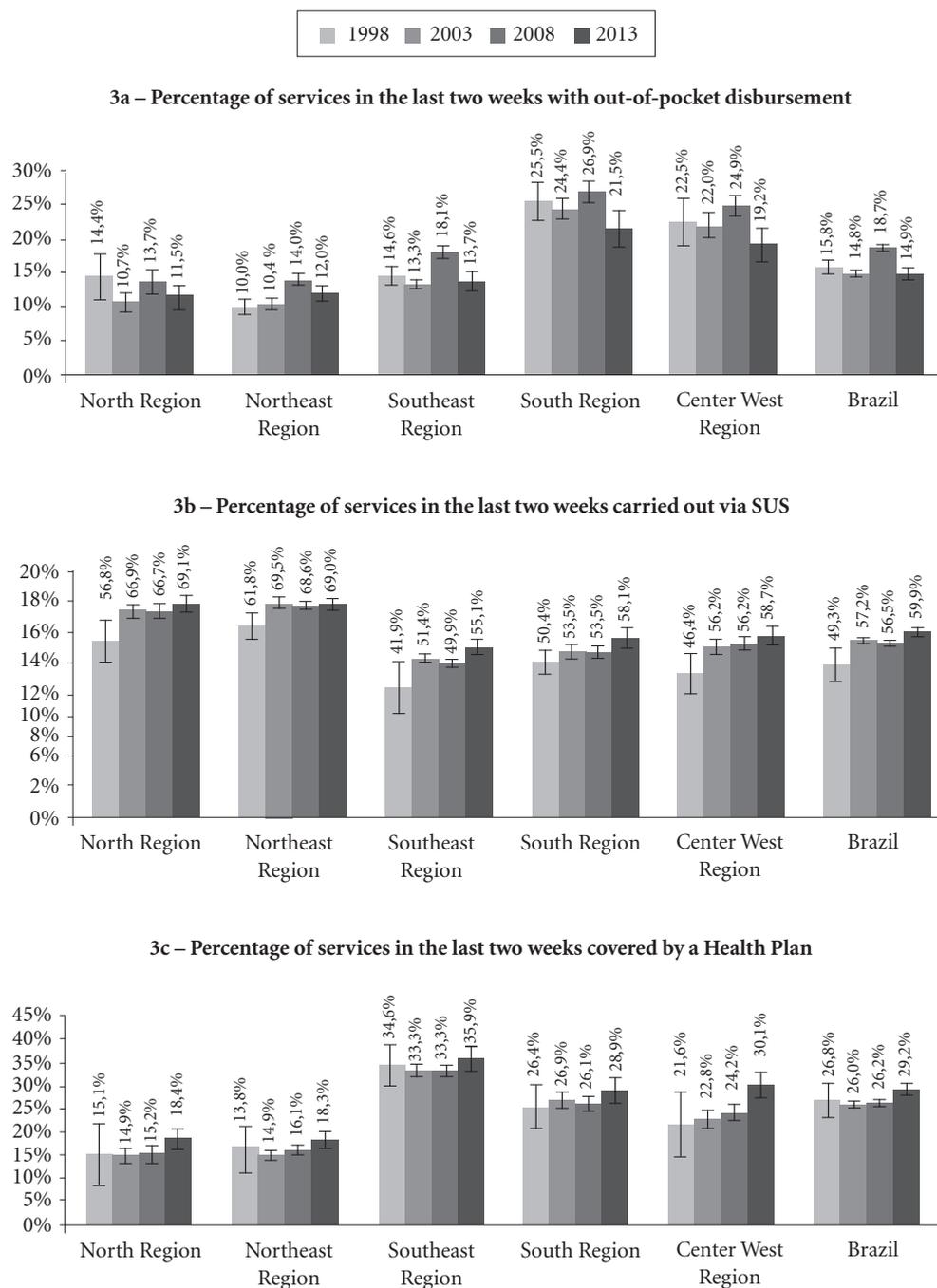


Figure 2. continuation



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Figure 3. Estimation of indicators on the method of payment for services and respective confidence of intervals of 95% by Greater Regions of Brazil, 1998, 2003, 2008, and 2013 (To be continued).

ing close to 70-80% in the North and Northeast regions, and in the area of 60% in the others. Payment by health plans is greatest in the Southeast, where it reaches 35%. Smaller percentages, in the range of 15%, occur in the North and Northeast.

The values of the indicators and confidence intervals about needs, use/access, and financing of health services, from which the graphs in Figures 1-3 were elaborated, can be found in Tables 1-3.

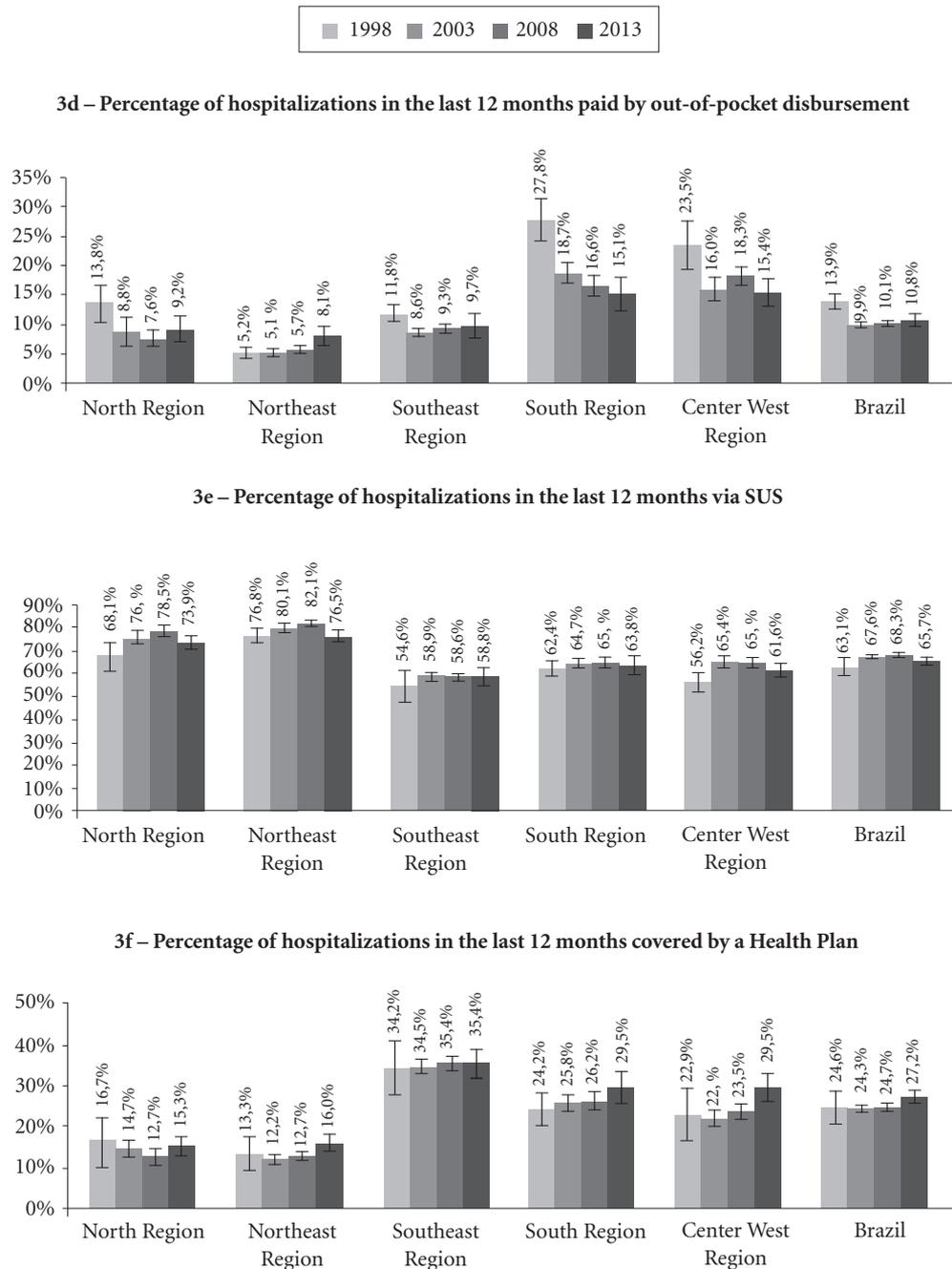


Figure 3. continuation

Discussion

According to Szwarcwald et al.⁸, even with a smaller sample size than the PNADs, the PNS sample was designed to allow for estimates for

the state (UF), capital, remainder of the metropolitan region, and remainder of the UF. This was done with the objective of “an estimation of the different indicators with the desired precision to assure continuity in the monitoring of the great

Table 1. Estimation of indicators on health needs and respective confidence intervals, by Greater Regions of Brazil, 2003, 2008 and 2013.

| Indicators | Health Supplements of the PNAD | | | | | |
|--|--------------------------------|--------------|--------------|-------|--------------|--------------|
| | 1998 | | | 2003 | | |
| | % | CI95% INF | CI95% SUP | % | CI95% INF | CI95% SUP |
| North Region | | | | | | |
| Bad / very bad evaluation of health status | 4.4% | 3.9% | 4.8% | 3.3% | 3.1% | 3.6% |
| Prevalence of Diabetes | 1.4% | 1.2% | 1.6% | 2.9% | 2.6% | 3.1% |
| Prevalence of Hypertension | 14.1% | 12.8% | 15.4% | 13.1% | 12.6% | 13.7% |
| Restriction of activities for health reasons | 8.5% | 7.8% | 9.1% | 8.7% | 8.1% | 9.4% |
| Northeast Region | | | | | | |
| Bad / very bad evaluation of health status | 4.6% | 4.3% | 4.8% | 4.4% | 4.2% | 4.7% |
| Prevalence of Diabetes | 1.4% | 1.3% | 1.5% | 3.0% | 2.9% | 3.2% |
| Prevalence of Hypertension | 16.1% | 15.5% | 16.8% | 16.5% | 16.1% | 17.0% |
| Restriction of activities for health reasons | 6.6% | 6.2% | 7.0% | 7.1% | 6.7% | 7.6% |
| Southeast Region | | | | | | |
| Bad / very bad evaluation of health status | 3.0% | 2.8% | 3.1% | 2.9% | 2.7% | 3.0% |
| Prevalence of Diabetes | 2.4% | 2.3% | 2.5% | 4.3% | 4.1% | 4.5% |
| Prevalence of Hypertension | 17.1% | 16.5% | 17.7% | 19.4% | 19.0% | 19.7% |
| Restriction of activities for health reasons | 5.6% | 5.4% | 5.9% | 6.1% | 5.9% | 6.3% |
| South Region | | | | | | |
| Bad / very bad evaluation of health status | 3.7% | 3.4% | 4.0% | 3.2% | 2.9% | 3.4% |
| Prevalence of Diabetes | 2.2% | 2.0% | 2.3% | 4.3% | 4.1% | 4.6% |
| Prevalence of Hypertension | 16.7% | 16.1% | 17.3% | 18.6% | 18.1% | 19.0% |
| Restriction of activities for health reasons | 6.5% | 6.2% | 6.9% | 7.6% | 7.2% | 7.9% |
| Center West Region | | | | | | |
| Bad / very bad evaluation of health status | 3.4% | 3.1% | 3.7% | 3.4% | 3.1% | 3.6% |
| Prevalence of Diabetes | 1.4% | 1.3% | 1.5% | 3.5% | 3.2% | 3.8% |
| Prevalence of Hypertension | 15.8% | 15.0% | 16.6% | 17.4% | 16.8% | 18.0% |
| Restriction of activities for health reasons | 7.2% | 6.7% | 7.8% | 7.3% | 7.0% | 7.7% |
| Brazil | | | | | | |
| Bad / very bad evaluation of health status | 3.6% | 3.5% | 3.8% | 3.4% | 3.3% | 3.5% |
| Prevalence of Diabetes | 2.9% | 1.9% | 2.0% | 3.8% | 3.7% | 3.9% |
| Prevalence of Hypertension | 16.5% | 16.2% | 16.9% | 18.0% | 17.8% | 18.2% |
| Restriction of activities for health reasons | 6.3% | 6.1% | 6.5% | 6.9% | 6.7% | 7.0% |

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majority of indicators in the Health Supplement of the PNAD, thus maintaining the historical series of 1998, 2003, and 2008⁸.

Compared to administrative data, data from health surveys constitutes a more adequate way to estimate health needs and the prevalence of specific problems, such as access to health services and the type of expense in their use, to the degree that they are based on the total population and not just the segment that utilized health services.

The PNS data of 2013 indicates an increase in the proportion of people that evaluate their health status as bad or very bad in relation to the

2008 PNAD. One aspect that needs attention is the verified percentage in the Northeast region where the increase was larger than in other regions. The data presented originates from the evaluations made by those householders present at the interviews about all of the residents. It is worth noting that the same geographic trend with the worst evaluation of health status in the Northeast was observed when the evaluation was made by individuals selected in the subsample. Values observed especially in the Northeast may have been obtained due to the larger expansion of the PNS sample designed to follow the main sample of the IBGE.

Table 1. continuation

| Indicators | Health Supplements of the PNAD | | | PNS | | |
|--|-----------------------------------|--------------|--------------|-------|--------------|--------------|
| | 2008 | | | 2013 | | |
| | % | CI95% INF | CI95% SUP | % | CI95% INF | CI95% SUP |
| North Region | | | | | | |
| Bad / very bad evaluation of health status | 3.9% | 3.6% | 4.2% | 4.7% | 4.2% | 5.2% |
| Prevalence of Diabetes | 3.7% | 3.5% | 4.0% | 4.3% | 3.6% | 5.0% |
| Prevalence of Hypertension | 14.2% | 13.4% | 15.0% | 14.5% | 13.4% | 15.6% |
| Restriction of activities for health reasons | 9.3% | 8.5% | 10.0% | 5.8% | 5.4% | 6.3% |
| Northeast Region | | | | | | |
| Bad / very bad evaluation of health status | 4.6% | 4.4% | 4.8% | 6.2% | 5.8% | 6.6% |
| Prevalence of Diabetes | 4.0% | 3.9% | 4.2% | 5.4% | 4.9% | 5.9% |
| Prevalence of Hypertension | 18.2% | 17.8% | 18.5% | 19.4% | 18.3% | 20.5% |
| Restriction of activities for health reasons | 8.6% | 8.2% | 9.0% | 7.8% | 7.5% | 8.2% |
| Southeast Region | | | | | | |
| Bad / very bad evaluation of health status | 3.3% | 3.2% | 3.4% | 3.2% | 3.0% | 3.5% |
| Prevalence of Diabetes | 5.9% | 5.7% | 6.1% | 7.1% | 6.5% | 7.7% |
| Prevalence of Hypertension | 21.7% | 21.4% | 22.1% | 23.3% | 22.2% | 24.4% |
| Restriction of activities for health reasons | 7.9% | 7.6% | 8.1% | 6.2% | 5.8% | 6.6% |
| South Region | | | | | | |
| Bad / very bad evaluation of health status | 3.9% | 3.6% | 4.2% | 4.0% | 3.6% | 4.5% |
| Prevalence of Diabetes | 5.3% | 5.0% | 5.5% | 6.2% | 5.3% | 7.1% |
| Prevalence of Hypertension | 21.0% | 20.5% | 21.5% | 22.9% | 21.3% | 24.5% |
| Restriction of activities for health reasons | 8.7% | 8.3% | 9.1% | 8.4% | 7.8% | 9.0% |
| Center West Region | | | | | | |
| Bad / very bad evaluation of health status | 3.3% | 3.1% | 3.5% | 4.0% | 3.6% | 4.4% |
| Prevalence of Diabetes | 4.7% | 4.4% | 4.9% | 6.5% | 5.7% | 7.3% |
| Prevalence of Hypertension | 18.6% | 18.1% | 19.1% | 21.2% | 19.9% | 22.5% |
| Restriction of activities for health reasons | 8.3% | 7.8% | 8.8% | 7.0% | 6.5% | 7.5% |
| Brazil | | | | | | |
| Bad / very bad evaluation of health status | 3.8% | 3.7% | 3.9% | 4.3% | 4.2% | 4.5% |
| Prevalence of Diabetes | 5.1% | 5.0% | 5.2% | 6.2% | 5.8% | 6.6% |
| Prevalence of Hypertension | 19.9% | 19.7% | 20.1% | 21.4% | 20.8% | 22.0% |
| Restriction of activities for health reasons | 8.3% | 8.2% | 8.5% | 7.0% | 6.8% | 7.2% |

Source: IBGE, 1998, 2003, 2008 and 2013.

It must be observed that this increase was not accompanied by an increase in the percentage of persons with restriction of activities for health reasons, whose trend was toward a decrease in all of the regions, especially the North, Southeast, and Center West.

The prevalence of diabetes and hypertension were obtained by comparing the information on adults selected by the PNS with the information furnished by household members present at the moment of the PNADs interviews regarding those persons 18 years and older. The trend of increase is probably due to the greater access to health services and more available information

about health evaluation, which can also explain the maintenance of regional inequalities that always favor the regions with more resources⁹. For diabetes, the estimated rates are very close, in the area of 7%, to the values divulged by the OECD regarding the population of persons between 20 and 79 years old. In the case of hypertension, the trend towards increase was also verified by the PNS, with greater results for the Southeast, South, and Center West. For the total population, the prevalence in 2013 was in the order of 21%, a lower percentage than in the other countries^{10,11}.

As the PNS sample design resulted in a selection of fewer households per census sector, and

Table 2. Estimation of indicators on access and use of health services and respective confidence intervals according to Greater Regions of Brazil, 1998, 2003, 2008 and 2013.

| Indicators | Health Supplements of the PNAD | | | | | |
|--|--------------------------------|--------------|--------------|--------|--------------|--------------|
| | 1998 | | | 2003 | | |
| | % | CI95% INF | CI95% SUP | % | CI95% INF | CI95% SUP |
| North Region | | | | | | |
| Coverage by health plan | 16.90% | 15.60% | 18.20% | 14.80% | 13.80% | 15.80% |
| Medical consultation in the last 12 months | 50.60% | 49.00% | 52.10% | 60.80% | 59.60% | 62.10% |
| Dental consultation in the last 12 months | 30.80% | 29.40% | 32.20% | 32.90% | 31.40% | 34.30% |
| Hospital stay in the last 12 months | 7.40% | 6.90% | 7.90% | 7.80% | 7.30% | 8.30% |
| Has never visited a dentist | 22.10% | 20.80% | 23.40% | 20.40% | 19.00% | 21.90% |
| Use of health services in the last two weeks | 11.50% | 10.50% | 12.60% | 12.10% | 11.30% | 12.90% |
| Household coverage by PSF | | | | | | |
| Northeast Region | | | | | | |
| Coverage by health plan | 12.30% | 11.50% | 13.10% | 12.00% | 11.30% | 12.70% |
| Medical consultation in the last 12 months | 49.70% | 48.60% | 50.80% | 57.60% | 56.40% | 58.80% |
| Dental consultation in the last 12 months | 24.70% | 23.90% | 25.50% | 30.30% | 29.50% | 31.20% |
| Hospital stay in the last 12 months | 6.80% | 6.50% | 7.00% | 7.00% | 6.70% | 7.20% |
| Has never visited a dentist | 29.10% | 27.90% | 30.30% | 25.40% | 24.30% | 26.40% |
| Use of health services in the last two weeks | 10.10% | 9.10% | 11.10% | 12.60% | 12.10% | 13.10% |
| Household coverage by PSF | | | | | | |
| Southeast Region | | | | | | |
| Coverage by health plan | 33.30% | 32.40% | 34.30% | 32.90% | 31.90% | 33.80% |
| Medical consultation in the last 12 months | 57.70% | 57.00% | 58.50% | 66.30% | 65.70% | 66.90% |
| Dental consultation in the last 12 months | 35.80% | 35.10% | 36.60% | 41.90% | 41.30% | 42.60% |
| Hospital stay in the last 12 months | 6.30% | 6.10% | 6.50% | 6.40% | 6.20% | 6.60% |
| Has never visited a dentist | 13.60% | 13.20% | 14.00% | 11.40% | 11.00% | 11.80% |
| Use of health services in the last two weeks | 13.00% | 11.70% | 14.30% | 15.40% | 15.10% | 15.70% |
| Household coverage by PSF | | | | | | |
| South Region | | | | | | |
| Coverage by health plan | 25.30% | 23.90% | 26.80% | 27.90% | 26.50% | 29.30% |
| Medical consultation in the last 12 months | 56.20% | 55.00% | 57.40% | 63.50% | 62.60% | 64.30% |
| Dental consultation in the last 12 months | 40.70% | 39.50% | 41.80% | 46.70% | 45.60% | 47.80% |
| Hospital stay in the last 12 months | 8.30% | 7.90% | 8.60% | 7.80% | 7.50% | 8.10% |
| Has never visited a dentist | 13.70% | 12.90% | 14.60% | 10.40% | 9.90% | 10.90% |
| Use of health services in the last two weeks | 12.90% | 11.60% | 14.20% | 15.80% | 15.30% | 16.30% |
| Household coverage by PSF | | | | | | |
| Center West Region | | | | | | |
| Coverage by health plan | 22.50% | 21.20% | 23.90% | 24.70% | 23.50% | 26.00% |
| Medical consultation in the last 12 months | 55.90% | 54.50% | 57.20% | 63.00% | 62.10% | 63.80% |
| Dental consultation in the last 12 months | 36.50% | 35.50% | 37.50% | 41.20% | 40.10% | 42.20% |
| Hospital stay in the last 12 months | 8.40% | 8.00% | 8.80% | 8.60% | 8.20% | 9.00% |
| Has never visited a dentist | 16.20% | 15.30% | 17.00% | 13.20% | 12.60% | 13.70% |
| Use of health services in the last two weeks | 12.30% | 11.40% | 13.30% | 13.40% | 12.80% | 14.00% |
| Household coverage by PSF | | | | | | |
| Brazil | | | | | | |
| Coverage by health plan | 24.50% | 23.90% | 25.00% | 24.60% | 24.00% | 25.10% |
| Medical consultation in the last 12 months | 54.70% | 54.20% | 55.20% | 62.80% | 62.40% | 63.30% |
| Dental consultation in the last 12 months | 33.10% | 32.70% | 33.60% | 38.80% | 38.30% | 39.20% |
| Hospital stay in the last 12 months | 6.90% | 6.80% | 7.10% | 7.00% | 6.90% | 7.10% |
| Has never visited a dentist | 18.70% | 18.30% | 19.20% | 15.90% | 15.60% | 16.30% |
| Use of health services in the last 15 days | 12.00% | 11.20% | 12.80% | 14.30% | 14.10% | 14.50% |
| Household coverage by PSF | | | | | | |

it continues

Table 2. continuation

| Indicators | Suplementos de Saúde | | | | | |
|--|----------------------|--------------|--------------|--------|--------------|--------------|
| | da PNAD | | | PNS | | |
| | 2008 | | | 2013 | | |
| | % | CI95% INF | CI95% SUP | % | CI95% INF | CI95% SUP |
| North Region | | | | | | |
| Coverage by health plan | 13.20% | 12.10% | 14.30% | 13.30% | 12.20% | 14.40% |
| Medical consultation in the last 12 months | 61.00% | 59.30% | 62.60% | 61.40% | 59.90% | 62.80% |
| Dental consultation in the last 12 months | 32.90% | 31.30% | 34.50% | 34.40% | 33.00% | 35.90% |
| Hospital stay in the last 12 months | 7.70% | 7.00% | 8.30% | 5.80% | 5.40% | 6.30% |
| Has never visited a dentist | 17.10% | 15.90% | 18.30% | 18.20% | 16.40% | 19.90% |
| Use of health services in the last two weeks | 10.80% | 10.00% | 11.50% | 9.60% | 9.00% | 10.20% |
| Household coverage by PSF | 53.90% | 50.20% | 57.70% | 53.50% | 50.80% | 56.20% |
| Northeast Region | | | | | | |
| Coverage by health plan | 13.20% | 12.50% | 13.90% | 15.50% | 14.50% | 16.50% |
| Medical consultation in the last 12 months | 63.90% | 63.00% | 64.90% | 66.30% | 65.50% | 67.20% |
| Dental consultation in the last 12 months | 34.80% | 34.00% | 35.60% | 37.50% | 36.50% | 38.40% |
| Hospital stay in the last 12 months | 6.90% | 6.60% | 7.20% | 5.60% | 5.30% | 5.80% |
| Has never visited a dentist | 17.50% | 16.80% | 18.20% | 15.20% | 14.40% | 16.00% |
| Use of health services in the last two weeks | 12.20% | 11.80% | 12.60% | 12.80% | 12.30% | 13.30% |
| Household coverage by PSF | 67.70% | 65.60% | 69.80% | 68.10% | 66.50% | 69.5% |
| Southeast Region | | | | | | |
| Coverage by health plan | 35.60% | 34.70% | 36.60% | 36.90% | 35.20% | 38.6% |
| Medical consultation in the last 12 months | 71.30% | 70.80% | 71.80% | 75.80% | 74.80% | 76.8% |
| Dental consultation in the last 12 months | 42.20% | 41.50% | 42.80% | 48.30% | 47.10% | 49.5% |
| Hospital stay in the last 12 months | 6.70% | 6.50% | 6.90% | 5.70% | 5.30% | 6.1% |
| Has never visited a dentist | 8.40% | 8.10% | 8.70% | 6.80% | 6.30% | 7.3% |
| Use of health services in the last two weeks | 15.70% | 15.30% | 16.10% | 16.60% | 16.00% | 17.3% |
| Household coverage by PSF | 38.50% | 36.90% | 40.20% | 48.30% | 45.90% | 50.7% |
| South Region | | | | | | |
| Coverage by health plan | 30.00% | 28.60% | 31.40% | 32.80% | 30.40% | 35,20% |
| Medical consultation in the last 12 months | 68.90% | 67.90% | 69.90% | 73.80% | 72.60% | 74,90% |
| Dental consultation in the last 12 months | 48.00% | 46.90% | 49.10% | 51.90% | 50.20% | 53,50% |
| Hospital stay in the last 12 months | 7.60% | 7.30% | 8.00% | 7.50% | 7.00% | 8,00% |
| Has never visited a dentist | 7.60% | 7.20% | 8.00% | 6.70% | 5.90% | 7,50% |
| Use of health services in the last two weeks | 15.80% | 15.20% | 16.50% | 17.60% | 16.60% | 18,50% |
| Household coverage by PSF | 53.00% | 50.70% | 55.20% | 58.40% | 55.20% | 61,60% |
| Center West Region | | | | | | |
| Coverage by health plan | 24.60% | 23.40% | 25.80% | 30.40% | 28.70% | 32,10% |
| Medical consultation in the last 12 months | 66.30% | 65.40% | 67.30% | 69.50% | 68.50% | 70,60% |
| Dental consultation in the last 12 months | 42.30% | 41.20% | 43.40% | 44.90% | 43.60% | 46,20% |
| Hospital stay in the last 12 months | 8.80% | 8.40% | 9.20% | 7.40% | 7.00% | 7,90% |
| Has never visited a dentist | 9.70% | 9.20% | 10.20% | 9.50% | 8.70% | 10,20% |
| Use of health services in the last two weeks | 13.20% | 12.70% | 13.80% | 13.30% | 12.60% | 13,90% |
| Household coverage by PSF | 50.10% | 47.80% | 52.40% | 54.40% | 52.10% | 56,70% |
| Brazil | | | | | | |
| Coverage by health plan | 25.90% | 25.40% | 26.40% | 27.90% | 27.10% | 28,70% |
| Medical consultation in the last 12 months | 67.70% | 67.30% | 68.10% | 71.20% | 70.70% | 71,70% |
| Dental consultation in the last 12 months | 40.20% | 39.80% | 40.60% | 44.40% | 43.80% | 45,10% |
| Hospital stay in the last 12 months | 7.10% | 7.00% | 7.30% | 6.00% | 5.80% | 6,30% |
| Has never visited a dentist | 11.70% | 11.40% | 11.90% | 10.30% | 9.90% | 10,60% |
| Use of health services in the last 15 days | 14.20% | 13.90% | 14.40% | 14.90% | 14.50% | 15,20% |
| Household coverage by PSF | 50.90% | 49.90% | 52.00% | 56.10% | 54.90% | 57,40% |

Fonte: IBGE, 1998, 2003, 2008 and 2013.

Table 3. Estimation of indicators on methods of payment for services and respective confidence intervals by Greater Regions of Brazil, 1998, 2003, 2008 and 2013.

| Indicators | | Health Supplements of the PNAD | | | | | |
|--|----------------------|--------------------------------|--------------|--------------|-------|--------------|--------------|
| | | 1998 | | | 2003 | | |
| Type of Use | Main form of payment | % | CI95% INF | CI95% SUP | % | CI95% INF | CI95% SUP |
| North Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 13.8% | 10.2% | 17.3% | 8.8% | 6.8% | 11.2% |
| | Health Plan | 16.7% | 11.7% | 23.1% | 14.7% | 12.9% | 16.7% |
| | SUS | 68.1% | 61.0% | 74.5% | 76.0% | 72.6% | 79.1% |
| Use of health services in the last two weeks | Out of Pocket | 14.4% | 11.5% | 17.8% | 10.7% | 9.4% | 12.2% |
| | Health Plan | 15.1% | 10.1% | 21.8% | 14.9% | 13.5% | 16.4% |
| | SUS | 56.8% | 49.6% | 63.7% | 66.9% | 64.6% | 69.1% |
| Northeast Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 5.2% | 4.4% | 6.1% | 5.1% | 4.5% | 5.8% |
| | Health Plan | 13.3% | 10.1% | 17.3% | 12.2% | 11.1% | 13.4% |
| | SUS | 76.8% | 73.2% | 80.2% | 80.1% | 78.1% | 81.9% |
| Use of health services in the last two weeks | Out of Pocket | 10.0% | 9.0% | 11.1% | 10.4% | 9.7% | 11.1% |
| | Health Plan | 16.8% | 12.4% | 22.5% | 14.9% | 13.8% | 16.0% |
| | SUS | 61.8% | 57.5% | 66.0% | 69.2% | 67.3% | 71.0% |
| Southeast Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 11.8% | 10.5% | 13.2% | 8.6% | 7.9% | 9.3% |
| | Health Plan | 34.2% | 28.3% | 40.7% | 34.5% | 32.9% | 36.1% |
| | SUS | 54.6% | 47.1% | 61.9% | 58.9% | 57.3% | 60.5% |
| Use of health services in the last two weeks | Out of Pocket | 14.6% | 13.2% | 16.1% | 13.3% | 12.5% | 14.0% |
| | Health Plan | 34.6% | 30.4% | 39.1% | 33.3% | 32.1% | 34.5% |
| | SUS | 41.9% | 33.8% | 50.5% | 51.4% | 50.0% | 52.8% |
| South Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 27.8% | 24.5% | 31.3% | 18.7% | 17.2% | 20.4% |
| | Health Plan | 24.2% | 20.6% | 28.2% | 25.8% | 23.9% | 27.8% |
| | SUS | 62.4% | 59.0% | 65.7% | 64.7% | 62.4% | 67.0% |
| Use of health services in the last two weeks | Out of Pocket | 25.5% | 22.8% | 28.3% | 24.4% | 22.8% | 26.1% |
| | Health Plan | 25.4% | 21.3% | 30.0% | 26.9% | 25.3% | 28.6% |
| | SUS | 50.4% | 46.5% | 54.2% | 53.5% | 51.3% | 55.7% |
| Center West Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 23.5% | 19.8% | 27.5% | 16.0% | 14.3% | 18.0% |
| | Health Plan | 22.9% | 17.6% | 29.2% | 22.0% | 20.1% | 23.9% |
| | SUS | 56.2% | 51.6% | 60.6% | 65.4% | 62.7% | 68.0% |
| Use of health services in the last two weeks | Out of Pocket | 22.5% | 19.3% | 26.1% | 22.0% | 20.2% | 23.8% |
| | Health Plan | 21.6% | 15.8% | 28.8% | 22.8% | 21.0% | 24.7% |
| | SUS | 46.4% | 40.1% | 52.9% | 55.2% | 52.7% | 57.7% |
| Brazil | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 13.9% | 12.7% | 15.3% | 9.9% | 9.5% | 10.4% |
| | Health Plan | 24.6% | 21.0% | 28.6% | 24.3% | 23.5% | 25.2% |
| | SUS | 63.1% | 58.9% | 67.2% | 67.6% | 66.6% | 68.6% |
| Use of health services in the last two weeks | Out of Pocket | 15.8% | 14.9% | 16.8% | 14.8% | 14.3% | 15.3% |
| | Health Plan | 26.8% | 23.3% | 30.6% | 26.0% | 25.3% | 26.8% |
| | SUS | 49.3% | 43.9% | 54.7% | 57.2% | 56.3% | 58.1% |

it continues

Tabela 3. continuação

| Indicators | | Health Supplements of the PNAD | | | PNS | | |
|---|-------------------------|-----------------------------------|--------------|--------------|-------|--------------|--------------|
| | | 2008 | | | 2013 | | |
| Type of Use | Main form of payment | % | CI95% INF | CI95% SUP | % | CI95% INF | CI95% SUP |
| North Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 7.6% | 6.4% | 9.0% | 9.2% | 7.4% | 11.4% |
| | Health Plan | 12.7% | 11.0% | 14.7% | 15.3% | 13.2% | 17.6% |
| | SUS | 78.5% | 75.7% | 81.0% | 73.9% | 70.9% | 76.7% |
| Use of health services in the last two weeks | Out of Pocket | 13.7% | 12.0% | 15.5% | 11.5% | 9.9% | 13.3% |
| | Health Plan | 15.2% | 13.5% | 17.0% | 18.4% | 16.2% | 20.8% |
| | SUS | 66.7% | 64.0% | 69.3% | 69.1% | 66.2% | 71.8% |
| Northeast Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 5.7% | 5.1% | 6.4% | 8.1% | 6.8% | 9.7% |
| | Health Plan | 12.7% | 11.7% | 13.8% | 16.0% | 14.2% | 18.0% |
| | SUS | 82.1% | 80.8% | 83.3% | 76.5% | 74.0% | 78.9% |
| Use of health services in the last two weeks | Out of Pocket | 14.0% | 13.1% | 14.9% | 12.0% | 11.0% | 13.1% |
| | Health Plan | 16.1% | 15.1% | 17.1% | 18.3% | 16.7% | 20.0% |
| | SUS | 68.6% | 67.0% | 70.1% | 69.0% | 67.0% | 70.8% |
| Southeast Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 9.3% | 8.6% | 10.1% | 9.7% | 8.0% | 11.8% |
| | Health Plan | 35.4% | 33.8% | 37.0% | 35.4% | 32.0% | 38.9% |
| | SUS | 58.6% | 57.0% | 60.2% | 58.8% | 55.0% | 62.5% |
| Use of health services in the last two weeks | Out of Pocket | 18.1% | 17.3% | 19.0% | 13.7% | 12.3% | 15.2% |
| | Health Plan | 33.3% | 32.1% | 34.5% | 35.9% | 33.3% | 38.6% |
| | SUS | 49.9% | 48.6% | 51.2% | 55.1% | 52.4% | 57.7% |
| South Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 16.6% | 15.0% | 18.3% | 15.1% | 12.6% | 18.1% |
| | Health Plan | 26.2% | 24.0% | 28.5% | 29.5% | 25.9% | 33.3% |
| | SUS | 65.0% | 62.5% | 67.4% | 63.8% | 59.3% | 68.0% |
| Use of health services in the last two weeks | Out of Pocket | 26.9% | 25.4% | 28.5% | 21.5% | 19.0% | 24.1% |
| | Health Plan | 26.1% | 24.6% | 27.7% | 28.9% | 26.2% | 31.8% |
| | SUS | 53.5% | 51.5% | 55.4% | 58.1% | 54.8% | 61.2% |
| Center West Region | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 18.3% | 16.8% | 19.9% | 15.4% | 13.2% | 17.8% |
| | Health Plan | 23.5% | 21.8% | 25.4% | 29.5% | 26.3% | 32.9% |
| | SUS | 65.0% | 62.9% | 67.1% | 61.6% | 58.3% | 64.8% |
| Use of health services in the last two weeks | Out of Pocket | 24.9% | 23.5% | 26.4% | 19.2% | 17.0% | 21.7% |
| | Health Plan | 24.2% | 22.5% | 26.0% | 30.1% | 27.4% | 32.9% |
| | SUS | 56.2% | 53.9% | 58.4% | 58.7% | 55.6% | 61.8% |
| Brazil | | | | | | | |
| Hospitalization in the last 12 months | Out of Pocket | 10.1% | 9.7% | 10.6% | 10.8% | 9.8% | 11.8% |
| | Health Plan | 24.7% | 23.9% | 25.6% | 27.2% | 25.7% | 28.9% |
| | SUS | 68.3% | 67.4% | 69.2% | 65.7% | 63.9% | 67.4% |
| Use of health services in the last two weeks | Out of Pocket | 18.7% | 18.2% | 19.3% | 14.9% | 14.0% | 15.7% |
| | Health Plan | 26.2% | 25.5% | 26.9% | 29.2% | 27.8% | 30.6% |
| | SUS | 56.5% | 55.6% | 57.3% | 59.9% | 58.4% | 61.4% |

Source: IBGE, 1998, 2003, 2008 and 2013

furthermore the responses to the questions about hypertension, diabetes, and preventative cancer exams had been given by the individuals selected, the estimates generated should be more precise. However, the much smaller sample size of the PNS – almost one third of the households compared to the PNADs – produced estimates with greater confidence intervals. On the other hand, since the PNS sample was made by selecting census sectors from the Master Sample designated by the Integrated System of Household Research of the IBGE (SIPD), it is possible that adjustments and corrective factors that are still being developed by the IBGE will, once applied, produce different results than those presented here.

Although the aging of the population could also be a factor directly related to major health needs, its possible effect would be very small considering that the time elapsed was only five years between the surveys. According to IBGE data for the country as a whole, between 2008 and 2013 there was an increase of 1.5% in the proportion of persons 60 years or older. In the samples of the 2008 and 2013 surveys there was an increase of 2.1% in the same age bracket.

As other analyses of PNAD data has already shown, health needs are always greater in the more underprivileged population groups, which is generally seen when comparing population groups categorized by household income¹². In spite of having been collected, the household income data of the PNS had not yet been divulged at the time of writing.

As is known, health conditions are correlated with access to health services, which is mediated by the public and private service delivery and socioeconomic level of the population¹³. Gradual increases in the use of services have been verified since 1998 in all the indicators of access, whether in coverage of public programs like the Family Health Strategy, or private ones such as health plans. Indicators that use 12 months of observation such as medical and dental consultations present a systematic increase throughout the surveys of the period 1998/2013. Survey data analyzed by different authors has already proven an increase in access to health services, as much in the public sector as in the private sector financed by public or private resources, as well as in the sector of supplementary health¹⁴⁻¹⁶. In the case of specific uses such as mammograms, in spite of the increases between 2008 and 2013 the geographic inequalities are still great when we consider the proportion of women aged 50 to 69 years that, according to INCA, should have re-

ceived a mammogram every two years, especially in the North (39%) and Northeast (48%) regions where the proportion is very insufficient. In the case of cervical cancer prevention, the differences in the percentage of women between 25 and 64 years old that should have an exam every 3 years are less, but there were practically no changes in the period of 2008 to 2013. As stated earlier, the PNS indicator was calculated using information furnished by the women themselves, while the PNADs can also be based on information from other household residents.

When we analyze the prevalence of use of services, in the two weeks prior to the interviews, it is observed that at the national level, since 2003, the surveys have detected that close to 15% of the population confirmed they had used some type of services. In comparison to previous years, this stability had already been detected, such as in the difference of around 25% observed in the 2008 data between groups of the first and last wealth quintile. Regarding the type of services utilized, differences in form – such as how the alternatives of types of services sought were listed by the PNS – prevents the comparison with the PNAD data¹².

The changes in the source of payment for health services in the last two weeks show that the Brazilian population is using more SUS services than in 2008, as well as receiving more care via health plans and with less out of pocket payments. It is important to note that SUS's presence increased in the more wealthy regions, and that increases in health plans occurred in a significant way in the Center West. This data indicates an inversion of the trend that had been observed regarding the stability in the use of plans and of SUS, and the increase in out of pocket payment between 2003 and 2008. As noted in Chart 1, in the PNS it is understood that we should not consider as disbursements those payments that will be reimbursed entirely by health plans, and this could be causing an underreporting of this information. It is known, however, that contracts which guarantee complete reimbursement are very uncommon when we consider the whole population and not only the higher income segment.

In the case of hospitalizations, the trend spanning the period 1998 – 2013 is also toward a decrease in direct disbursements and services received via SUS. An increase in hospitalizations through health plans was verified only in the Center West region.

Apparently, data from the National Health Survey at the national level and for the greater

geographic regions are consistent with the series of indicators provided by the PNADs, which should still be evaluated for other levels of geographic organization such as federative units and municipalities of the capitals. The absence of data on per capita household income impedes the analysis of those factors most relevant to the evaluation of the health system's performance: the trends in social inequalities related to health needs, use, and access to health services.

In spite of improvement in all of the regions, the magnitude of regional differences still manifests in all the analyzed dimensions when we ob-

serve the data in the North and Northeast regions in relation to the others, whether in the evaluation of health status, or in the lesser use of health services that can be related to decreased prevalence of the chronic diseases analyzed.

Collaborations

F Viacava and JG Bellido participated equally in all stages of preparation of the article.

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