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**HEALTH AND EDUCATION VOLUME OUTPUT IN BRAZIL**

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*This document has been prepared by Ricardo M. de Moraes, Brazil and will be presented under item 10 of the draft agenda*

For further information please contact:  
Ricardo M. Moraes  
E-mail: [rmoraes@ibge.gov.br](mailto:rmoraes@ibge.gov.br)

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## HEALTH AND EDUCATION VOLUME OUTPUT IN BRAZIL

Ricardo Montes de Moraes<sup>1</sup>

### The data available today

1. Measures of health and education volume growth in Brazil are still based on quantitative data that do not reflect quality/technology gains in production. But with the revision of the standard health procedures list by the Public Health System (SUS – Sistema Único de Saúde), in 2008, health volume measures might improve in the future.
2. Brazil's new National Accounts series, published in 2007, increased data disaggregation for both, health and education. Another publication, *Health economics – a macro economic approach*, released on September 2008, has even more detailed data for the health sector.
3. Disaggregation, data sources and treatment of the volume indexes are as follow:

### *Public Health*

- **Volume:** Weighted averages of changes in inpatient days and outpatient procedures. Source: SUS' Informatics Department (DATASUS).
- **Value:** State and municipal government balance sheets and Brazilian Finance (FINBRA), a National Treasury database, for municipal and state data. Financial Administration Integrated System (SIAFI) and Health Public Budget Information System (SIOPS) for federal data.

### *Private Health*

- **Volume:** Up to now, the main indexes used for private health have been the total number of inpatient days and outpatient procedures bought by SUS from private health service providers, both based on data released by DATASUS. This is rather unsatisfactory, as private services bought by the public sector do not seem to have the same patterns or mixes of the family consumption of private health services.

In 2008, the Brazilian Institute of Geography and Statistics (IBGE) started receiving data from the National Supplementary Health Agency (ANS), the agency that regulates market activity of private health insurance providers in Brazil. ANS generates somewhat detailed reports on health plans' expenditures on health services – inpatient and outpatient care. Health insurance providers are responsible for more than half of all expenses on private health services consumption in Brazil. IBGE is currently studying the best ways to deflate these data and use them as volume indicators.

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<sup>1</sup> Analyst at the National Accounts Coordination in the Brazilian Institute of Geography and Statistics (IBGE). E-mail: ricardo.moraes@ibge.gov.br.

Brazilian National Accounts divides private health into three activities:

- Inpatient care (hospital services)
- Other health services (ambulatory services)
- Private social services

For the first two items, volume is given by inpatient days and number of outpatient procedures. For the third one, which includes asylums, rehabilitation clinics etc., volume is obtained through deflation, using a price index that reflects the activities' costs (intermediate consumption).

This third item represents less than 4% of the private health services production.

**Value:** Value data for the three items come from Income Tax information (Source: Secretaria da Receita Federal).

### ***Public Education***

- **Volume:** Change in the number of students enrolled at public schools and universities, weighted by the average cost per student in each educational level. The levels used are: preschool, primary and secondary school, high school, complementary (supletivo), college and special education school. Source: Annual School Census, Anísio Teixeira National Institute for Studies and Research on Education (INEP), Education Ministry.
- **Value:** The administrative records used are the same as in public health, except for SIOPS, which is specific for health public resource tracking. A SIOPS-like information system is being developed for education resource tracking, SIOPE, which might, in the future, allow further refinements in education's output value.

### ***Private Education***

- **Volume:** Change in the number of students enrolled at private schools according to the Annual School Census.
- **Value:** Enterprises income declarations (Source: Secretaria da Receita Federal).

### **Problems and perspectives**

4. In January 2008, SUS revised and unified its standard health procedures list, which establishes prospective payment rates for payment to health service providers and now comprises 2.311 procedures. This list is one of the basis for a rather complete information system through which SUS controls the performance of medical procedures. In this information system, type, values and quantities of each individual procedure performed or financed by SUS are recorded, according to provider type (public and private publicly financed). Previously, independent lists existed for inpatient and outpatient care.

5. The new standard health procedures list introduced some refinements related to disease reporting and their relation to specific procedures. Therefore, procedures could eventually be aggregated by large diagnoses groups (according to the International Classification of Diseases - ICD) and then weighted by their average costs in a single volume index, providing data trying to approach those provided by Diagnoses Related Groups (DRG).

6. It will be necessary to analyze each group's data variance throughout time before adopting this more elaborate volume index.

7. This recent change in the procedures list led to significant discontinuities in data reports. But, in the future, it may allow for better quality in output volume indexes. For now, data still have a high variance, and it is necessary to wait for the new series to stabilize.

8. In private health, ANS's data display health plans expenditures on inpatient care, outpatient care, therapies and diagnostic tests. We are analyzing the data and studying the possibility of adding up outpatient care, therapies and diagnostic test, deflating them and using them as a proxy for *Other health services'* volume index. Inpatient data would be the basis for *Inpatient care's* volume index.

## **Health and education systems in Brazil**

### ***Health***

9. In 2005<sup>2</sup>, expenditure (final consumption only) on health-related goods and services amounted to 8,0% of Brazilian GDP. This includes expenditure on prescription drugs, private health insurance and medical devices and consumables.

10. Government expenditure on these goods and services amounted to 3,1% of Brazilian GDP. Non Profit Institutions Serving Households were responsible for a share of health and social services expenditure equivalent to 0,1% of GDP.

11. Health activities' value added represented 5,3% of the country's total value added in 2005. Public and private health services alone were responsible for 3,6% of total value added. Public health's value added reached R\$ 32,5 billion, and private health activities amounted to R\$ 33,1 billion.

12. These numbers are not strictly comparable. Public health includes items such as *drug production* by official laboratories and *distribution of medication* in specific government programmes, which do not have a counterpart in private health services and would be accounted for in pharmaceutical industry and commerce activities.

13. Data on public health do not include military, penitentiary or university hospitals. In spite of this, our present figures indicate, approximately, public and private sectors' share in the provision of health services.

14. Part of the private health production is offered free of charge to the population – and paid for by SUS. In 2005, public administration's expenditure on private health services amounted to R\$ 10,0 billion, 14,9% of the overall expenditure on private health services.

15. Since 1988, Brazilian government provides tax-financed universal healthcare coverage to its citizens, with no eligibility restrictions – on principles inspired in the British National Health Service's.

16. Although there are no co-payment requirements or eligibility restrictions in SUS, private health services have retained and may have actually increased their market share in health services' value added since the 80's. This is due to the growing importance of private health insurance, which may offer higher-quality services and lower waiting times than SUS.

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<sup>2</sup> Latest definitive annual data available.

## Education

17. Private education was responsible for 1,2% of Brazil's total value added in 2005. Public education was responsible for 3,3%. In the public sector, municipalities are responsible for providing basic education, states for the intermediate level and the federal government for the superior one (although there are state universities as well).

18. In the 90's, a federal programme increased transfers to states and municipalities based on the number of students enrolled in their public schools. This, and other public policy measures, substantially increased enrollment in public schools. In 2001, for instance, 98% of the 11year old children went to school. Education quality, however, did not have a similar increase.

## Volume indexes for health and education (2000 – 2005)

19. Table 1 and Figure 1, below, show that between 2003 and 2005 private health production growth accelerated, contrasting with public health that, in this period, increased its growth rate only in 2005. In 2001 and 2002, public sector production's volume growth was led by an increase in the number of outpatient procedures due to primary health care strengthening policies.

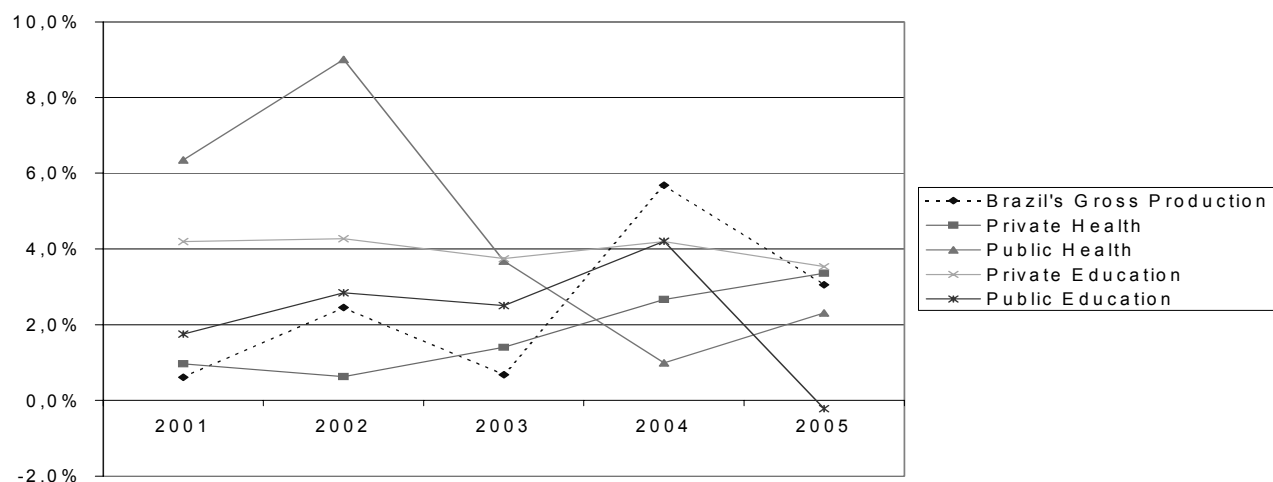
20. Administrative changes linked to decentralization, in 2003, might have led to changes in data reporting. Since 2003, federal health resources are directly sent to state and local administrations, that became responsible for its allocation. This resulted in payments to public health units being now less directly related to the number of procedures reported and affected the reporting on publicly paid private services – that is made by states and municipalities.

**Table 1 - Activities production: volume indexes**

	2001	2002	2003	2004	2005
<b>Brazil's Gross Production</b>	0,6%	2,5%	0,7%	5,7%	3,1%
<b>Private Health</b>	1,0%	0,6%	1,4%	2,7%	3,4%
<b>Public Health</b>	6,4%	9,0%	3,7%	1,0%	2,3%
<b>Private Education</b>	4,2%	4,3%	3,7%	4,2%	3,5%
<b>Public Education</b>	1,7%	2,8%	2,5%	4,2%	-0,2%

Source: Brazil's System of National Accounts.

**Figure 1 - Activities production: volume indexes**



21. Data on education show that private education production has grown around 4,0% per year and public education, 2,2%, with a higher variance in its growth (and a fall in production in 2005).

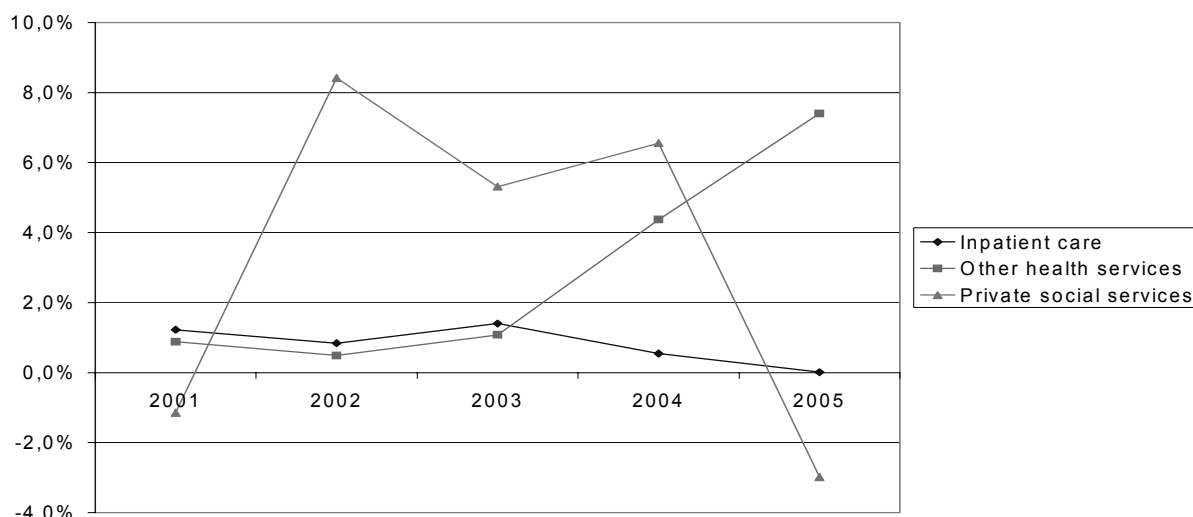
22. Table 2 and Figure 2, below, show more detailed data on private health volume. Growth acceleration in 2004 and 2005 was based mainly on outpatient services. Figure 2 also shows a wider range of oscillation for social services than for other components of private health. But private social services have low weight in the composition of the aggregate private health index.

**Table 2 - Private Health Services - activities production: volume indexes**

	2001	2002	2003	2004	2005
<b>Inpatient care</b>	1,2%	0,8%	1,4%	0,5%	0,0%
<b>Other health services</b>	0,9%	0,5%	1,1%	4,4%	7,4%
<b>Private social services</b>	-1,1%	8,4%	5,3%	6,6%	-3,0%

Source: *Health economics - a macroeconomic approach*.

**Figure 2 - Private Health Services - activities production: volume indexes**



## Conclusion

23. Brazil shares with many other countries the usual difficulties encountered in devising quality adjusted output indexes. Health and education volume indexes still do not capture the effects of quality changes in the output of these services, relying on quantitative information on inpatient days, number of outpatient health procedures and number of enrolled students.

24. Present refinements in information systems for private and public health and for public education, however, offer hopes of improvement in the future.

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