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# Medicine prices and availability in the Brazilian Popular Pharmacy Program

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## ABSTRACT

**OBJECTIVE:** To analyze the performance of the Programa Farmácia Popular do Brasil (FPB – Brazilian Popular Pharmacy Program) in the public and private sectors, in terms of availability and cost of medicines for hypertension and diabetes.

**METHODS:** The methodology developed by the World Health Organization, in partnership with the Health Action International, was used to compare medicines prices and availability. This study was performed in May 2007, in different sectors (public, private and the Program's government-managed [FPB-P] and private-sector-managed [FPB-E] categories), in 30 cities in Brazil. A total of four medicines were analyzed: captopril 25mg and hydrochlorothiazide 25mg for hypertension; and metformin 500mg and glibenclamide 5mg for diabetes.

**RESULTS:** FPB-E showed greatest medicine availability, while the public sector the lowest. The percentage of availability of similar medicines was higher than that of generic medicines, both in the public sector and in the FPB-P. Comparison of prices among sectors showed a lower purchase price in the FPB-E, followed by the FPB-P. The FPB-E charged prices that were over 90% cheaper than those in the private sector. The number of working days required to obtain treatment for hypertension and diabetes were fewer in the FPB-E.

**CONCLUSIONS:** The lower availability found in the public sector could be one of the reasons for the migration of users from the public sector to the FPB. The high prices in the private sector also contribute for this Program to be an alternative of medicine access in Brazil.

**DESCRIPTORS:** Drug Price. Drugs, Essential. Public Sector. Private Sector.

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## INTRODUCTION

Hypertension and diabetes are important risk factors for the development and aggravation of cardiovascular diseases.<sup>6</sup> In Brazil, they are the main cause of morbidity and mortality, having a high economic impact on individuals and the health system.<sup>11,a</sup>

The government's free supply of medicines and the direct payment by users are what best represent the provision of medicines in Brazil. Between 2003 and 2007, there was an increase of 144% in Federal Government spending on free-

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<sup>a</sup> Ministério da Saúde. Plano de reorganização da atenção à hipertensão arterial e ao diabetes *mellitus*. Manual de hipertensão arterial e diabetes *mellitus* [internet]. Brasília, DF; 2001 [cited 2008 May 20]. Available from: <http://bvsms.saude.gov.br/bvs/publicacoes/miolo2002.pdf>

distribution medicines.<sup>b</sup> In 2003, spending on medicines totaled approximately 75% of health expenses with low-income families.<sup>c</sup>

In 2004, the Programa Farmácia Popular do Brasil (FPB – Brazilian Popular Pharmacy Program) appeared as a co-payment initiative. The Program's government-managed category (FPB-P) is managed by Brazil's Ministry of Health and Fundação Oswaldo Cruz (Fiocruz – Oswaldo Cruz Foundation), through partnerships established with public or private non-profit organizations. There is only one value for each medicine and this value is the same in all 407<sup>12</sup> (in 2007) facilities of the country. The list of medicines comprises 107 items, totaling 96 medicines.<sup>d</sup>

The expansion model (FPB-E), managed by the private sector and introduced in 2006, is responsible for the far-reaching characteristic of the Program. The Ministry of Health registers private pharmacies that provide medicines from their own stock. In 2007, 13 medicines aimed at certain morbidity conditions<sup>e</sup> were available in more than 4,300 registered pharmacies. Half of the 50,000 commercial pharmacies operating in the country are expected to register.<sup>f</sup>

In the FPB-E, available reference, generic or similar (branded generic) versions can be selected. The values paid by the user vary, according to the version and price charged, calculated by the reference value (RV) established for each medicine. When the purchase value is equal to or higher than the RV, the government pays 90% of the RV; when it is lower, it pays 90% of the purchase value.<sup>g</sup>

The present study aimed to assess the development of the FPB in the public and private sectors, by comparing the availability of medicines among the public sector, FPB-P and FPB-E; prices and percentages in savings; and estimated number of working days required to obtain treatments for hypertension or diabetes in the private sector, FPB-P and FPB-E.

## METHODS

This analysis is part of a cross-sectional study that used the World Health Organization (WHO) methodology,

in partnership with the Health Action International (HAI). This study was adapted to the Brazilian context and applied on a national level in May 2007 for the first time. From here on, it will be referred to as the Brazilian WHO/HAI study.

The Brazilian WHO/HAI study aimed to collect data on prices and availability of medicines in different sector points of the country's health system.<sup>14</sup> Cities were selected using an intentional sampling process, seeking to include different situations in the same area, not expecting to achieve national or sector representativeness. The selection of cities and facilities visited in each city did not consider the population or number of existing public or private facilities. The number of establishments visited in all sectors followed criteria described in a previous study.<sup>10</sup> There were no losses in relation to the observation points visited. In all, 182 facilities were visited in 30 cities in Brazil: 30 were public; 101, private; 25, FPB-P; and 26, FPB-E.

All FPB-P facilities in the selected cities were visited and, to complete the maximum number of five facilities, the FPB-E units were included.

Criterion of selection of medicines was their presence in all sectors. The FPB-P list includes seven medicines to treat hypertension and two to treat diabetes.<sup>d</sup> The FPB-E group includes five medicines for hypertension and four for diabetes.<sup>e</sup> A total of four medicines in tablet dosage form, present both in the list of the Brazilian WHO/HAI study and in the FPB-P and FPB-E, were selected: captopril 25mg and hydrochlorothiazide 25mg for hypertension; and metformin 500mg and glibenclamide 5mg for diabetes.

Characterization of medicines as “reference”, “generic” or “similar” followed the definitions found in legal norms.<sup>h</sup>

Availability was defined by the presence of at least one medicine dosage form in the facility visited, varying from 0 (not available) to 1 (available). Availability for each medicine version was determined and added to calculate the mean availability per version per sector, and the totals were divided by the number of units or establishments visited per sector. For “general”

<sup>b</sup> Vieira FS, Mendes ACR. Evolução dos gastos do Ministério da Saúde com medicamentos [internet]. Brasília, DF: Ministério da Saúde, Secretaria Executiva; 2007 [cited 2008 May 20]. Available from: [http://portal.saude.gov.br/portal/arquivos/pdf/estudo\\_gasto\\_medicamentos.pdf](http://portal.saude.gov.br/portal/arquivos/pdf/estudo_gasto_medicamentos.pdf)

<sup>c</sup> Instituto Brasileiro de Geografia Estatística. Pesquisa de orçamentos familiares 2003. Rio de Janeiro; 2003 [cited 2008 May 06]. Available from: <http://www.ibge.gov.br/home/estatistica/populacao/condicaoodevida/pof/2003/default.shtm>

<sup>d</sup> Ministério da Saúde. Elenco de medicamentos do Programa Farmácia Popular do Brasil. Brasília, DF [cited 2008 May 14]. Available from: [http://portal.saude.gov.br/portal/arquivos/pdf/tabela\\_farmaciapopular\\_abril08.pdf](http://portal.saude.gov.br/portal/arquivos/pdf/tabela_farmaciapopular_abril08.pdf)

<sup>e</sup> Ministério da Saúde. Portaria nº 1414, de 13 de junho de 2007. Altera a Portaria nº 491, de 9 de março de 2006, que dispõe sobre a expansão do Programa “Farmácia Popular do Brasil”. [cited 2008 May 14]. Available from: [http://www.conass.org.br/admin/arquivos/PORTARIA\\_GM\\_NR\\_1414\\_15\\_JUNHO\\_2007.pdf](http://www.conass.org.br/admin/arquivos/PORTARIA_GM_NR_1414_15_JUNHO_2007.pdf)

<sup>f</sup> Ministério da Saúde. Acordo com CEF aperfeiçoado programa Farmácia Popular do Brasil. Brasília, DF; 2007 [cited 2008 Jun 09]. Available from: [http://portal.saude.gov.br/portal/aplicacoes/noticias/noticias\\_detalhe.cfm?co\\_seq\\_noticia=34677](http://portal.saude.gov.br/portal/aplicacoes/noticias/noticias_detalhe.cfm?co_seq_noticia=34677)

<sup>g</sup> Ministério da Saúde. Portaria nº 491, de 9 de março de 2006. Dispõe sobre a expansão do Programa “Farmácia Popular do Brasil”. [cited 2008 Oct 02]. Available from: <http://portal.saude.gov.br/portal/arquivos/pdf/portaria-491-2006.pdf>

<sup>h</sup> Brasil. Lei nº. 9.787, de 10 de fevereiro de 1999. Altera a Lei nº. 6.360, de 26 de setembro de 1976, que dispõe sobre a vigilância sanitária, estabelece o medicamento genérico, dispõe sobre a utilização de nomes genéricos em produtos farmacêuticos e dá outras providências. Brasília, DF; 1999 [cited 2008 Nov 05]. Available from: [http://www.planalto.gov.br/ccivil\\_03/leis/L9787.htm](http://www.planalto.gov.br/ccivil_03/leis/L9787.htm)

availability, availability equal to 1 was attributed to any medicine version, with the calculation being carried out in the same way.

Availability in the public sector was analyzed in the cities' main warehouses; and, in the cases of cities that did not have a main warehouse, search was made directly in the health facilities.

The profile of the user population and therapeutic regimen were not investigated. For this reason, the presence of both medicines for each condition of morbidity was understood as necessary. "Available treatment" was only considered when both medicines were simultaneously present in the facility. Calculations were made in the same way.

The values paid by users at the moment of purchase were collected. In the case of the FPB-P, the regulated prices are available on the Program's website. In the FPB-E, purchase values charged in the establishment were collected for subsequent calculation of the final value, based on the reference value and criteria established by the FPB.

The WHO/HAI methodology recommends that the lowest and highest prices of each medicine in the list be collected in each establishment visited. In the present analysis, only the lowest prices were considered, thus reflecting the purchase of the cheapest medicines in each sector. The distribution of the lowest prices collected in each sector and the variation interval between minimum and maximum values were analyzed. The median of lowest prices was used to avoid the interference of extreme values in the analysis. In addition, percentages of savings in the purchase of medicines between sectors were calculated by the ratio between the medians of the sectors with the lowest and highest prices.

Monthly individual spending on treatment for hypertension and diabetes was calculated for each medicine, individually, based on the median of lowest prices found in each sector. The therapeutic regimens were based on the Formulário Terapêutico Nacional (National Therapeutic Formulary).<sup>1</sup>

For workers receiving one monthly minimum wage, the treatment value, in terms of working days, was calculated. The federal minimum wage was used, because values vary both among states<sup>2</sup> and professional categories in these states. The value of the median treatment price was divided by the value of the daily federal minimum wage of R\$ 12.67 or US\$ 6.38 (May 2007).<sup>3</sup>

**Table 1.** Mean percentages of availability of selected medicines by condition of morbidity and version of medicine, according to sector. Brazil, 2007.

Medicine / Condition of morbidity	Sectors																
	FPB-P						FPB-E						Public				
	Reference	Generic	Similar	General	Reference	Generic	Similar	General	Reference	Generic	Similar	General	Reference	Generic	Similar	General	
Hypertension				96.0 (24/25)				100.0 (26/26)					100.0 (26/26)				86.7 (26/30)
Captopril 25 mg/pill	0.0 (0/25)	0.0 (0/25)	96.0 (24/25)	96.0 (24/25)	92.3 (24/26)	100.0 (26/26)	88.5 (23/26)	100.0 (26/26)	0.0 (0/30)	0.0 (0/30)	100.0 (30/30)	100.0 (30/30)	0.0 (0/30)	0.0 (0/30)	100.0 (30/30)	100.0 (30/30)	100.0 (30/30)
Hydrochlorothiazide 25 mg/pill	0.0 (0/25)	0.0 (0/25)	100.0 (25/25)	100.0 (25/25)	92.3 (24/26)	69.2 (18/26)	73.1 (19/26)	100.0 (26/26)	0.0 (0/30)	0.0 (0/30)	86.7 (26/30)	86.7 (26/30)	0.0 (0/30)	0.0 (0/30)	86.7 (26/30)	86.7 (26/30)	86.7 (26/30)
Diabetes				100.0 (25/25)				100.0 (26/26)					100.0 (26/26)				23.3 (7/30)
Metformin 500 mg/pill	4.0 (1/25)	80.0 (20/25)	16.0 (4/25)	100.0 (25/25)	88.5 (23/26)	96.2 (25/26)	73.1 (19/26)	100.0 (26/26)	0.0 (0/30)	0.0 (0/30)	20.0 (6/30)	20.0 (6/30)	3.3 (1/30)	3.3 (1/30)	20.0 (6/30)	23.3 (7/30)	23.3 (7/30)
Glibenclamide 5 mg/pill	0.0 (0/25)	0.0 (0/25)	100.0 (25/25)	100.0 (25/25)	92.3 (24/26)	92.3 (24/26)	69.2 (18/26)	100.0 (26/26)	0.0 (0/30)	0.0 (0/30)	90.0 (27/30)	90.0 (27/30)	3.3 (1/30)	3.3 (1/30)	90.0 (27/30)	93.0 (28/30)	93.0 (28/30)

<sup>1</sup> Ministério da Saúde, Secretaria de Ciência, Tecnologia e Insumos Estratégicos, Departamento de Assistência Farmacêutica e Insumos Estratégicos. Formulário terapêutico nacional 2008: Rename 2006. Brasília, DF; 2008 [cited 2008 Nov 05]. Available from: [http://www.hub.unb.br/wwwroot/formulario\\_terapeutico\\_nacional\\_2008.pdf](http://www.hub.unb.br/wwwroot/formulario_terapeutico_nacional_2008.pdf)

<sup>2</sup> Rio de Janeiro (Estado). Lei nº 5.357, de 23 de dezembro de 2008. Institui pisos salariais, no âmbito do Estado do Rio de Janeiro, para as categorias profissionais que menciona e estabelece outras providências. Rio de Janeiro; 2008 [cited 2008 Nov 05]. Available from: [http://www.normaslegais.com.br/legislacao/leirj5357\\_2008.htm](http://www.normaslegais.com.br/legislacao/leirj5357_2008.htm)

<sup>3</sup> Brasil. Lei nº 11.498, de 28 de junho de 2007. Dispõe sobre o salário mínimo a partir de 1º de abril de 2007. *Diário Oficial União*. 29 jun 2007;Seção nº1:2.

**Table 2.** Comparison of median of lowest prices of selected medicines, according to sector. Brazil, 2007.

Medicine	Median price (lowest and highest prices)			% saved (median price)	
	FPB - P	FPB - E	Private	FPB - P/ Private	FPB - E/ Private
Captopril 25 mg/comp.	0.04 (0.04 - 0.04)	0.04 (0.02 - 0.21)	0.41 (0.03 - 0.61)	90.3%	91.3%
Hydrochlorothiazide 25 mg/comp.	0.02 (0.02 - 0.02)	0.01 (0.01 - 0.04)	0.13 (0.06 - 0.52)	84.0%	90.6%
Metformin 500 mg/comp.	0.08 (0.08 - 0.08)	0.02 (0.01 - 0.73)	0.22 (0.12 - 0.41)	64.0%	92.3%
Glibenclamide 5 mg/comp.	0.04 (0.04 - 0.04)	0.02 (0.01 - 0.03)	0.17 (0.06 - 0.23)	76.0%	89.6%

The results were tabulated and analyzed in an electronic spreadsheet.

This study was approved by the ENSP/Fiocruz (Sergio Arouca National School of Public Health/ Oswaldo Cruz Foundation) Research Ethics Committee (Process 88/06, CAAE: 0083.0.031.000-06), on 9/10/2006. The establishments visited were researched after individuals responsible for these facilities signed an informed consent form.

## RESULTS

Table 1 shows the results of the availability analysis. The FPB-E revealed greater general availability (100%) of all medicines among the analyzed sectors. For the reference and generic versions, the percentages of availability of all medicines in the FPB-E were also the highest among the sectors.

In the FPB-P, the general availability was high, although it varied in terms of the availability of different medicine versions. Availability of the reference (4.0%) and similar (16.0%) versions of metformin was low; however, this availability of the generic version was 80.0%, contrasting with the availability of generic versions of the remaining medicines, which was non-existent.

The public sector showed the lowest percentages of general availability; the low result for metformin (23.3%) seems to be a result of the lack of availability of both their reference version (0%) and generic (3.3%) or similar versions (20.0%). In general, availability of generic versions was low, varying from zero for hypertension medicines to 3.3% for diabetes medicines.

Regarding the availability of treatments for these two morbidity conditions, the FPB-E showed the greatest availability of treatment for hypertension and diabetes (100% for both), followed by FPB-P (96.0% and 100%, respectively) and the public sector (86.6% and 23.3%, respectively).

Table 2 shows the results of price analysis. Depending on the sector, there are different levels of variation in the lowest prices. Variation was non-existent in the

FPB-P. In the FPB-E, the greatest variation was that for metformin, while the lowest was for hydrochlorothiazide and glibenclamide. In the private sector, the level of variation was lower; the greatest variation was for captopril, while the lowest was for diabetes medicines.

The lowest prices for all medicines were found in the FPB-E, whereas the private sector charged the highest prices. In addition, in terms of regulated prices, the performance of the FPB-P for the four medicines was lower than that of the FPB-E, with higher medians of the lowest prices. In all sectors, hydrochlorothiazide was the cheapest medicine.

The percentages in savings in the purchase of hypertension and diabetes medicines, considering the median of the lowest prices, when compared to the private sector, was higher than 60% for all medicines in the FPB-P, whereas this percentage varied between 89.6% and 92.3% in the FPB-E. The medicine with the greatest difference in price among sectors was metformin, which showed a lowest price in the private sector that was 92.3% higher than in the FPB-E.

In terms of spending on hypertension treatment, a worker receiving one federal minimum wage per month would need approximately three working days to obtain one month of treatment with captopril in the private sector, whereas ¼ of a working day would pay for the same treatment in the FPB-E.

Treatments combining hydrochlorothiazide and captopril would require 0.28 working days in the FPB-E, 0.33 days in the FPB-P and 3.22 days in the private sector. In terms of co-morbidities, for example, treatment with captopril and metformin would require about four working days in the private sector, whereas 0.3 and 0.7 working days would be needed, if they were acquired in the FPB-E or FPB-P, respectively (Table 3).

## DISCUSSION

The availability of generic versions in the public sector and FPB-P was low or non-existent. The FPB-P shows a uniform set of medicines and stock is centrally

**Table 3.** Median of lowest prices paid for hypertension and diabetes treatments, in absolute values and in working days, indexed by the federal minimum wage. Brazil, 2007.

Condition	Medicine	Dosage and frequency (30 days)	Spending on treatment <sup>a</sup> (R\$)			Working days		
			FPB - P	FPB - E	Private	FPB - P	FPB - E	Private
Hypertension	captopril	pill/tablet 25mg, 3 times/day	3.60	3.22	37.00	0.28	0.25	2.92
	hydrochlorothiazide	pill/tablet 25mg, 1 time/day	0.60	0.35	3.75	0.05	0.03	0.30
Diabetes	metformin	pill/tablet 500mg, 2 times/day	4.80	1.02	13.32	0.38	0.08	1.05
	glibenclamide	pill/tablet 5mg, 2 times/day	2.40	1.03	10.22	0.19	0.08	0.79

<sup>a</sup>Median

controlled, preventing shortages and reducing overstock. Purchases in both FPB-P and public sector are made by tender.<sup>1</sup> Due to purchase volume, it is acceptable to affirm that there is little or no difference in versions of medicines available in the facilities, in a certain period of time. These two sectors still operate under Law 9,787/99,<sup>j</sup> which requires management to prioritize the generic version, provided there are equal conditions and prices. In the FPB-P documents, the existence of a record of generic medicines is an essential criterion for the Program,<sup>m</sup> having been a determinant factor to select which medicines should be made available.

Assuming that managers meet the requirements of the law that regulates purchases, greater availability of similar medicines, to the detriment of generic medicines in both sectors, could mean either that the generic medicines that competed in the tender process did not show the lowest prices, or that they were not available. Other data from the Brazilian WHO/HAI study corroborate this result; the general availability of generic medicines for 71% of the medicines that were registered as generics was lower than 10% in the five Brazilian regions.<sup>10</sup>

In the FPB-E, all medicine versions can be found in the same establishment, because it follows the private sector logic, according to market rules. The Program does not regulate the way by which medicines are purchased by partner establishments.

The public sector showed low general availability, in relation to other sectors. In 2004, Guerra Jr. et al<sup>5</sup> showed low availability of essential medicines in public facilities, both in spot checks (presence of medicine at the time of the visit to the facility) and in a 12 month-period. Low availability in the public

sector also seems to be a problem in other countries;<sup>1,7</sup> in India, the availability of medicines analyzed varied between 0 and 30%.<sup>7</sup>

The measure of availability proposed by the WHO/HAI methodology is feeble, because it considers the medicine that shows one dosage form in stock as “available”, disregarding treatment, seasonal variations and demands, among other issues. This form of measure originates from other studies proposed by the WHO,<sup>9</sup> compromising the debate on access or on rationality of use. As regards treatments, information about the existence of sufficient units for the provision of the therapeutic regimen would be important.

The public sector showed low combined availability of medicines for morbidity conditions. In terms of treatments, the use of medicines may be combined, as in the case of hydrochlorothiazide and captopril, and these can also be combined with one of the two hypoglycemic medicines. Combinations among oral hypoglycemic medicines are usually avoided, due to a higher risk of symptomatic hypoglycemia and mortality.<sup>n,k</sup> As the availability of both medicines is desirable and 100% of availability is considered adequate, a statement could be made that the availability of diabetes medicines is lower than that of hypertension medicines in the public sector. This discrepancy, unfavorable for glibenclamide, has also been reported by other authors.<sup>5</sup> Considering the prevalence of these morbidities and the possibility that public managers can estimate consumption and demand,<sup>3</sup> greater availability for treatments and balance of results would be expected.

In the context of primary health care actions, the Brazilian Ministry of Health launched the Programa Hipertensão e Diabetes (Diabetes and Hypertension Program), through

<sup>1</sup> Brasil. Lei nº 8.666, de 21 de junho de 1993. Regulamenta o art.37, inciso XXI, da Constituição Federal, institui normas para licitações e contratos da Administração Pública e dá outras providências. Brasília, DF; 1993 [cited 2008 May 23]. Available from: [http://www.planalto.gov.br/ccivil\\_03/LEIS/L8666cons.htm](http://www.planalto.gov.br/ccivil_03/LEIS/L8666cons.htm)

<sup>m</sup> Ministério da Saúde. Farmácia Popular do Brasil. Critérios utilizados para a definição do elenco de medicamentos para o Programa Farmácia Popular do Brasil. [cited 2008 May 12]. Available from: [http://dtr2002.saude.gov.br/farmaciapopular/farmacia\\_popular\\_arquivos/documentos/criteriosparadefinicaoodoelencofinal.pdf](http://dtr2002.saude.gov.br/farmaciapopular/farmacia_popular_arquivos/documentos/criteriosparadefinicaoodoelencofinal.pdf)

<sup>n</sup> Wannmacher L. Antidiabéticos orais: comparação entre diferentes intervenções. Uso Racional de Medicamentos: Temas Selecionados [internet].2005 [cited 2008 May 09];2(11). Available from: [http://portal.saude.gov.br/portal/arquivos/pdf/novo\\_antidiabeticos\\_orais.pdf](http://portal.saude.gov.br/portal/arquivos/pdf/novo_antidiabeticos_orais.pdf)

which medicines to control and prevent hypertension and diabetes are made available.<sup>9</sup> In this sense, given the relevance of such diseases, greater availability in the public sector would also be expected.

There have been more than 16 million individuals served by the FPB-P since its establishment<sup>12</sup> and more than 15 million individuals served annually in the registered facilities.<sup>p</sup> However, one of the main objectives of the Program, to cater to those individuals in classes C and D who do not depend on the Sistema Único de Saúde (SUS – National Health System), has not been fully achieved. A great number of users depend on the Program as an alternative for access,<sup>12</sup> indicating possible flaws in the free provision of medicines in Brazil. Another possibility is the migration to the private sector, where expenses can prevent the control of the morbidity condition especially in the case of chronic diseases.<sup>8</sup>

There were differences in the variation of prices in each sector: non-existent in the FPB-P – where prices are regulated – small in the private sector and greater in the FPB-E, because the Program does not fix prices and the establishment is free to determine the desired profit margin. In addition, federal subsidies enable establishments to offer prices that are lower than the competitors', using the Program to attract clients.

Results show that the FPB-E enables users to save more money. Analysis of the prices of three of the four medicines (captopril, hydrochlorothiazide and metformin) showed that more than 90% of savings were possible in the FPB-E, when compared to the private sector. In these cases, the FPB represents the best purchasing source of medicines and significantly contributes to access, aiming at affordability.<sup>9</sup>

However, the greater amount saved by the population in the FPB is based on higher spending by the federal government. By covering purchases and regulating prices in the FPB-P and directly subsidizing them in the FPB-E, the government funds a co-payment system, which should be replenished by user fees, to enable its sustainability in the long term.<sup>13</sup> Even if the goal pursued by the Program, i.e. to increase access, is being achieved, it should be admitted that the Program

is enabled by public resources that are channeled to the private sector.

According to the Federal Constitution, the right to health is warranted by public policies that, in the health sector, are guided by SUS principles. In this sense, initiatives that promote access to and rational use of medicines are welcome. By focusing on actions for the part of the population who do not resort to SUS, albeit lacking sufficient funds for complete medicine treatments, the FPB complements, but does not replace, the existing means of access.<sup>9</sup> As in the public facilities, the partner private-sector managed facilities only provide medicines by means of a prescription, according to the health legislation and in agreement with the rational use of medicines.

Criticism against the FPB includes the use of SUS resources and the lack of cost-free provision. Regarding governmental subsidies to the FPB, there is evident use of federal resources involved by partnerships with the private sector, in this strategy to increase access. However, the Política Nacional de Assistência Farmacêutica (National Pharmaceutical Services Policy) suggests the allocation of resources for this purpose.<sup>f</sup> In addition, as this is a public health policy, the FPB must be funded by public resources. It is questionable whether the co-payment system does not harm the SUS notion of universal access. However, universal does not mean cost-free access, a term which is not made explicit in the Constitution, nor in Law 8080.<sup>5</sup>

Spending on hypertension and diabetes treatment is lower in the FPB-E, followed by the FPB-P. A worker can obtain treatment for hypertension at lower costs than the equivalent to one working day in the FPB, although he would have to work up to four days to be able to purchase the same treatment in the private sector. Moreover, hypertension and diabetes treatments often involve more than one chronic-use medicine, resulting in fixed monthly expenses for patients.

In Brazil, in 2005, approximately 16.8 million and 5 million individuals, aged 40 years or older, had diabetes and hypertension, respectively.<sup>1</sup> It is estimated that a

<sup>9</sup> Ministério da Saúde. Portaria nº. 371, de 04 de março de 2002. [Institui o Programa Nacional de Assistência Farmacêutica para Hipertensão Arterial e Diabetes Mellitus, parte integrante do Plano Nacional de Reorganização da Atenção a Hipertensão Arterial e Diabetes Mellitus]. [cited 2008 May 12]. Available from: <http://www.mp.sc.gov.br/portal/site/contendo/cao/ccf/quadro%20sinotico%20sus/portaria%20gm%20n%C2%BA%20371-02%20-%20hipertensos%20e%20diabeticos.pdf>

<sup>p</sup> Presidência da República. Fome Zero. Acordo amplia Farmácia Popular em 30 mil unidades. Brasília, DF; 2008 [cited 2008 Sep 23]. Available from:

<http://www.fomezero.gov.br/noticias/acordo-amplia-farmacia-popular-em-30-mil-unidades>

<sup>8</sup> Ministério da Saúde. Fundação Oswaldo Cruz. Programa Farmácia Popular do Brasil: manual básico. Brasília, DF; 2005 [cited 2008 Jun 17]. (Série A. Normas e manuais técnicos). Available from: [http://portal.saude.gov.br/portal/arquivos/pdf/05\\_0568\\_M.pdf](http://portal.saude.gov.br/portal/arquivos/pdf/05_0568_M.pdf)

<sup>f</sup> Conselho Nacional de Saúde. Resolução 338, de 06 de maio de 2004. [Aprova a Política Nacional de Assistência Farmacêutica]. Brasília, DF; 2004 [cited 2008 Jun 17]. Available from: [http://portal.saude.gov.br/portal/arquivos/pdf/resol\\_cns338.pdf](http://portal.saude.gov.br/portal/arquivos/pdf/resol_cns338.pdf)

<sup>5</sup> Ministério da Saúde. Lei nº. 8.080, de 19 de setembro de 1990. Dispõe sobre as condições para a promoção, proteção e recuperação da saúde, a organização e o funcionamento dos serviços correspondentes e dá outras providências. *Diário Oficial União*. 20 set 1990; Seção nº1:18.054.

<sup>1</sup> Ministério da Saúde. Hipertensão e diabetes: Saúde propõe reduzir preço de medicamentos. Brasília, DF; 2005 [cited 2008 Nov 18]. Available from: [http://portal.saude.gov.br/portal/aplicacoes/noticias/noticias\\_detalhe.cfm?co\\_seq\\_noticia=15428](http://portal.saude.gov.br/portal/aplicacoes/noticias/noticias_detalhe.cfm?co_seq_noticia=15428)

portion of these suffer from both diseases and that the prevalence is rising, resulting in increased spending on treatment, usually unavailable in the public health network. The case of metformin is the best one to illustrate this, with lower availability in public facilities and higher prices in the private network.

In Brazil, 31% of the population lives with up to ½ a minimum wage per month, of which 11% lives with up to ¼ of a minimum wage and approximately 4% with up to one dollar per day (extreme poverty line).<sup>11</sup> For this population, expenses on medicines can be unsustainable.<sup>4</sup> It is estimated that the Brazilian elderly, retirees and pensioners, spend up to 51% of a minimum wage on medicines.<sup>8</sup> In this sense, the most probable outcome, in view of the impossibility of obtaining treatment, is improper treatment or the lack thereof, leading to increased morbidity with subsequent increase in SUS spending.

One of the limitations to this study is the small number of analyzed medicines; the choice could be justified by the presence of these medicines in the sectors studied and by the importance of hypertension and diabetes in the national context. Lack of sample representativeness

leads to low possibility of extrapolating results of this study, a limitation of the WHO/HAI method itself. However, other 45 studies have been performed in 36 countries with the same methodology, which is considered to be a reliable source of information of the pharmaceutical sector in such countries.<sup>2</sup> Its main advantages are the systematic collection and standardized analysis, promoting financial feasibility and study replication. In addition, this methodology promotes the comparison of data among countries with different levels of health sector organization and development.<sup>14</sup>

In conclusion, the availability of the medicines analyzed is higher in the FPB than in the public sector. The prices charged in the FPB result in a decrease in treatment spending, when compared to the private sector. Both pieces of evidence suggest that the FPB combines desirable attributes of medicines provision strategies. As a public policy, the FPB seems to add efforts in the provision of medicines in Brazil, rather than replacing them. It is estimated that this Program has been achieving its objective of greater access, becoming an innovative form of provision, marked by private-public sector interaction and in agreement with the landmarks of the Política Nacional de Assistência Farmacêutica.

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<sup>11</sup> Programa das Nações Unidas para o Desenvolvimento. Brasil faz mais pelos mais pobres. Brasília, DF; 2007 [cited 2008 May 23]. Available from: [http://www.pnud.org.br/pobreza\\_desigualdade/reportagens/index.php?id01=2805&lay=pde](http://www.pnud.org.br/pobreza_desigualdade/reportagens/index.php?id01=2805&lay=pde)

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The authors declare there are no conflicts of interest.