

Contributions to the improvement of Health Economics in the Brazilian Health System

Contribuições para o avanço da Economia da Saúde no sistema de saúde brasileiro

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Introduction

Structuring and consolidating economic schemes to make health systems with universal coverage viable remain as challenges globally. It is not unique to Brazil the need to find a balance, as much as possible, to provide the population with adequate access to health actions and services aimed at promoting quality of life and socioeconomic development.

The evolution of the Brazilian Unified Health System (SUS) in its 30 years of existence inevitably leads to evaluating measures that can better sustain its operation. The qualification of management in the three spheres of the government, combined with the continuous improvement of health care networks (Mendes, 2011), is an aspect that, together with health economics, is essential to allow the SUS to renew its central role as the State public policy (Brazil, 1988).

In the Health Economics (HE) area, main drivers have been developed over the last decades in the country, including financing public health actions and services, resource allocation, health efficiency, qualification and economic regulation of health prices, and the health sector's role as a social and economic development instrument. At the federal level, the Department of Health Economics/Ministry of Health coordinates, encourages and participates in various strategic actions to deepen the technical capacity of the SUS. It ensures an action model viable from society's interest since it is a constitutionally guaranteed social right (Brazil, 2003).

Formalized in the regimental structure of the Ministry of Health in 2003 (Brazil, 2003), the then Department of Health Economics was responsible for coordinating the Brazilian System on Public Health Budget (SIOPS) and the Health Price Database. It was already active in conducting technical analyzes involving the topics described above, supporting institutional management.

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From 2007 to 2009, being a part of the Federal Executive Secretariat structure (Brazil, 2007a, 2007b), the Health Economics department formally regained its autonomy in 2009. Its performance has been expanded to encompass programs and projects, including investments in infrastructure and equipment (Brazil, 2016a, 2019). As of 2011, the area assumes the current nomenclature – Department of Health Economics, Investment and Development (DESID) – consolidating its national and international cooperation (Brazil, 2019).

Main areas of action

The performance of DESID in the areas of monitoring health costs, qualification and economic regulation of prices, management of SIOPS, and preparation of economic studies for decision-making at various levels has contributed to the evolution of the health economy and the SUS in the last 18 years.

Human Resources Training

By expanding the health system's technical management capacity through fostering human resources and research training, 160 specialization places in Health Economics and 60 vacancies for professional master's degrees in Health Management and Economics in partnerships with universities have been offered. Updating public health budgets and cost management courses were also held with groups of technicians and managers all over the country.

Regarding training human resources, it is noteworthy that even high-income countries have fundamental challenges in managing limited health resources, and this scenario becomes more acute in low- and middle-income countries (Pitt *et al.*, 2016). Health economists in these locations face a lack of data, severely limited skilled personnel, and weak governance, combined with complex disease burdens, including infectious and noncommunicable chronic diseases. Education in Health Economics (HE) becomes an essential ally in developing critical thinking skills, communicating technical details to decision-makers, and working in multidisciplinary HE teams (Frew *et al.*, 2018; Rosa *et al.*, 2018).

Strategic knowledge generation

Within the scope of the development of research lines consolidated in HE's medium and long term, several studies on diseases cost, such as diabetes and chronic kidney disease, were promoted to expand knowledge to guide resources application.

The initiative to strategically invest resources in a study of the cost attributable to diabetes in the SUS has allowed us to observe several beneficial findings for planning public policies, such as the characterization of expenditure on hospital admissions associated with the disease under analysis and attributable complications, totaling 4.6% of the

total amounts calculated in 2014, as well as the direct and indirect costs per patient and total for the management of diabetes and macro and microvascular complications. The values with hospitalizations associated with diabetes were 19% higher than those without this comorbidity, especially those for cardiovascular diseases related to diabetes (Frew *et al.*, 2018). Another example was the epidemiological profile of renal replacement therapy patients in Brazil, analyzing chronic kidney disease costs (Rosa *et al.*, 2018).

To provide the Brazilian population with an essential instrument for monitoring health expenditure and its participation in the economy, tracking the share of public spending concerning total spending, an inter-institutional initiative for conducting health accounts began in the 2000s. It was based on a collaborative network among the Ministry of Health, the National Supplementary Health Agency (ANS), the Oswaldo Cruz Foundation (Fiocruz), the Brazilian Institute of Geography and Statistics (IBGE), and the Institute for Applied Economic Research (Ipea). Since then, five editions of the "Health Satellite Account: Brazil" have made it possible to analyze the spending evolution from 2005 to 2017 (Cherchiglia, 2010). It is the only satellite-account success case found in Brazil.

About the last year analyzed, 9.2% of the Gross Domestic Product (GDP) expenditure on health was found, with 3.9% government spending in the three spheres. The health sector's role in the economy could also be quantified, noting that health activities contributed 7.6% of income generation in the country in gross value added. It is equivalent to R\$ 429.2 billion and makes it possible to reduce the common sense that using health resources is only an expense and would not generate economic development. In the end, these data favor the comparison with other countries for assessing the Brazilian Health System and the discussion of priorities (IBGE, 2019).

The collaborative network of Health Accounts was also responsible for introducing, since 2014, the methodology of *Health Accounts System*, recommended by the Organization for Economic Cooperation and Development (OECD) and adopted by the World Health Organization in 2018. After the pilot project from the Reproductive, Maternal, Neonatal, and Child Health Account, a study conducted by DESID and Fiocruz to assess the SUS, an analysis of public health expenditure from 2010 to 2014 showed that 52.4% of the public health expenditure refers to remedial actions, in addition to 11.3% with prevention, promotion and health surveillance (Brazil, 2018a).

Another 11.2% are addressed to diagnostic tests and transport, and only 2.9% to rehabilitation and long-term care. Such data unequivocally allow measuring the amount invested in health and each sponsor's participation, in addition to the allocation of resources in health classifications

(Barros, 2016). Since then, the analysis of data from 2015 to 2019 has been ongoing.

DESID's economic studies team also develops several scientific studies for the Ministry of Health's internal consumption to guide decisions on reimbursing amounts for procedures, technical positioning on financial aspects in planning the main object areas of the Department, and the technical positioning on general health funding, etc. Analyzes of federal spending on chronic noncommunicable diseases and values of renal replacement therapy procedures are some examples of high impact for the institutional mission.

Health price qualification

There is transparency as a management strategy and instrumentalized action to allocate public resources in this topic efficiently. More specifically, it is intended to highlight the practice of transparency in computerized systems for providing information on public purchases of medicines and health products, presenting the experience of the Health Price Database System (BPS) and the Health Material Catalog (CATMAT/MS). It was highlighted by Barros (2016):

"the attitude of public sphere transparency has as an ally the computerization process, which allowed public organizations to get to know each other and make themselves known better. The last two decades have been rich in expanding government performance and their organizations in the virtual environment, especially in the world wide web, the internet. This phenomenon was called e-government".

The development of the BPS system by the Ministry of Health in 1998 aims to provide transparency to values set in public purchases of medicines and health products to allow greater social control and generate positive consequences for management. It is a public and accessible system that allows monitoring a market that turns over tens of billions of 'reais' in contracts signed with the SUS in its different instances – federal, state, municipal, and district (Brazil, 2017). Considering updated data¹, BPS has 17,605 registered users, who are linked to 6,585 institutions, which, in turn, represent 4,009 municipalities. Thus, 72% of Brazilian cities have institutions registered in the system.

In an accessory but no less significant way, the Cataloging Unit of the Ministry of Health (UC/MS) is presented. It is worth mentioning that the pillar on which a database is constructed for price research is based on the structure of a broad catalog with an adequate description of items. The Material Catalog (CATMAT) of the Integrated General Services Administration System (SIASG) of the Ministry of Economy (ME) is a computerized system that allows cataloging

materials intended for the core and supportive activities of the Public Administration. The health item catalog generated by the UC/MS team currently totals a portfolio of approximately 50,000 items, of which about 30,000 are available for price consultation in the BPS. The legitimization and consolidation of the BPS as a public price research tool are dissociated from generating and cataloging items at UC/MS (Brazil, 2001).

What at first glance appears as a simple way of making purchase data available - with items properly described - for the public knowledge, it unfolds into an essential management tool with the potential to promote substantial savings in the public expenditure on contracts for purchasing medicines and health products. Enabling this information to the public domain allows SUS managers and technicians to research and compare prices of approximately 30,000 health items, which are transacted in the order of billions of 'reais'.

The availability of price research using BPS makes the purchasing process more efficient regarding the following aspects: legal-administrative, economic regulation, and, above all, in reducing information asymmetry in the market for purchased items.

First, the use of BPS complies with purchasing legislation, which directs that prior price research be carried out. On the other hand, it facilitates price research. In a specific virtual environment, it centralizes information on purchases made throughout the national territory, which, through reports, can be viewed regionally by type of purchase, by the supplier manufacturer, etc. It is also worth noting that such information is statistically treated to eliminate "outliers" and provide values fitted to the reality.

Regarding the economic regulation of the market, the BPS allows consultation of the regulated prices of medicines, per the table published by the Drug Market Regulation Chamber – CMED (Brazil, 202-). Thus, in BPS reports, it is possible to consult the prices set and the prices of economically regulated drugs. The availability of regulated prices, as of 2017, is one of the main evolutions of the BPS system in the recent period.

A critical aspect is the purchased item. BPS uses the information to minimize/correct market failures and let one knows the acquired good's market structure. For example, the drug market has high deviation rates: highly concentrated by therapeutic class and active substances, which sell products with low price elasticity and highly asymmetric information (Fiuza & Lisboa, 2001). The literature on the subject generally addresses information asymmetry from the following relations: 1) consumer vs. prescriber and 2) prescriber vs. manufacturer. However, another view should be observed (Brazil, 2001).

When referring to public purchases of medicines, there is another perspective for addressing the information

¹ The item description for public purchases must comply with a technique that describes it in a non-generic way – compromising the identification of the purchase object – nor very specific, to direct the purchase.

asymmetry, i.e., the relationship between SUS decentralized institutions vs. drugs' manufacturers/suppliers. The asymmetric relationship between these two poles takes place fundamentally in the aspect of unequal knowledge of the variable "set price", and here are the main contributions of the BPS to the efficient management of public resources. This asymmetry is evident when considering the high dispersion of prices charged. It is not uncommon for users of the BPS system who, when using the system's research report, find a high price dispersion for the same item in their respective price surveys, with a high coefficient of variation. This dispersion does not only occur at a national level, which logistic, tax issues, etc., could hypothetically justify it but also at the regional, municipal level. The same company often charges different prices for the same item for geographically bordering municipal institutions.

This scenario of high price dispersion also allows us to infer great savings potential in this market. In this way, the BPS, by providing transparency to purchase information and allowing knowledge of the prices charged, contributes to reducing information asymmetry and enables the convergence of values set in acquisitions to the best prices charged to the public administration, making purchasing processes efficient.

The BPS potential contribution to the identification and formulation of efficient acquisition arrangements is a highly relevant perspective. In its different segments, SUS is inserted in the health items market as the primary institutional buyer. This insertion pattern places it in the condition of an oligopsonist in this market and, consequently, gives it, hypothetically, high potential in negotiating the prices of contracted items.

However, in practical terms, SUS is administratively decentralized. Contrary to the practice of homogeneous prices, the reality is divergent prices and a high coefficient of variation for identical items throughout the national territory. The ideal scenario would be the practice of relatively homogeneous prices by federated entities and, at the same time, adherent to the best prices set in this market for the different items purchased.

The BPS's main contribution in the aspect mentioned above is to demonstrate that a possible way to circumvent the price dispersion caused by administrative decentralization – and consequent nationally dispersed purchasing processes – is being aware of prices charged. A significant example is consortia: in general, it appears that consortia offer better prices *vis-à-vis* those practiced in the context of decentralized purchases.

As challenges in managing the BPS system and the cataloging unit of health items (CATMAT/MS), it is possible to point out the need for expansion, quality, regularity, and presentation of the information provided to managers.

Calculation and cost management at the SUS

One of the health economics aspects is cost management for decision-making, mainly by health service managers, to better allocate available resources. The survey of the health service costs offered by the SUS is an essential tool for providing public managers with information on the output process of health activities and providing people with adequate information on the resource consumption, thus enabling measuring and analyzing the SUS efficiency, transparency, social participation and the (re)formulation of public health policies.

Therefore, cost management emerges as a fundamental action. It should be directed towards strategic decision-making for ensuring the provision of health care services to system users. It is allied to the quality management of such services, controlling, and managing expenses, i.e., decision-making based on the cost of the best treatment provided for the most acceptable cost, thus ensuring efficiency to the service provision.

Efficiency can also be defined as the relationship between goods and services and resource costs used for such generation. It can be achieved, maintaining quality if costs are minimized to produce the same quantity of goods and services performed (input-oriented) or if this quantity is maximized at the same price (output-oriented). Given this, the discussion on SUS efficiency should also make use of the implementation of cost management in health facilities so that, in this way, the debate can be substantially enriched.

Intending to foster cost management in SUS health facilities, DESID has been carrying out actions since 2004 to advance cost management based on successful experiences conducted by SUS public providers.

At that time, a working group (WG) was created to systematize the National Cost Management Policy (after a workshop with representatives of hospitals that worked with costs in the SUS). WG discussions resulted in the proposition to create the National Cost Management Program (PNGC).

From there on, some activities were carried out to implement the Program, such as the preparation of the PNGC Technical Manual, published in 2006; the survey of the costing systems most used at the time; and visits to institutions that had cost systems in place, to acquire knowledge and good practices.

The PNGC is a set of actions that involve the generation, improvement, and encouragement of the effective use of cost information by health managers, aiming to optimize the SUS's performance. In short, it aims to provide a standardized methodology and specific information system, and technical support in all phases of cost management implementation. The PNGC's information tool is the SUS Cost Management and Calculation System (APURASUS), developed with DATASUS

to incorporate technological and methodological advances that better serve the SUS units.

As a strategy for calculating and managing healthcare costs, APURASUS is available to those who voluntarily adhere to the PNGC, considering that the Program is not mandatory. It is a website with restricted access to program participants only and has several profiles. It can be used in several health units, allowing them to determine the cost of services provided. Its methodology is absorption costing, with reciprocal allocation. It enables the unit's configuration by cost center in a standardized and structured way, considering the specificities of the SUS.

Despite their track record of results, only in 2018, the PNGC and APURASUS were officially established under the Ministry of Health, representing yet another progress in the consolidation of cost management in the SUS (Brazil, 2018b).

Due to the incipience of public administration, many SUS health units, the complexity of the health sector, and the said issue, states, and municipalities willing to have a team responsible for monitoring the process are prioritized as an implementation strategy at the local level, to facilitate the implementation of the Program, consolidating and sustaining costs management and calculation.

Another strategy adopted was to start cost management by hospitals and emergency care units (UPAs), gaining expertise, and only later including other health units. Pilot projects are currently being developed to include primary health units, polyclinics, and blood centers.

The implementation of the PNGC takes place in five major successive and dependent stages. Units are required to go through these stages to achieve the Program's main objectives. For the Program to be considered 100% implemented, the following steps must be completed: (i) Sensitization at the strategic, tactical, and operational level; (ii) training in cost management methodology by the Ministry of Health; (iii) structuring of cost centers and data collection; (iv) training in APURASUS and data processing; and (v) analysis, monitoring, and evaluation of the information entered in APURASUS.

The PNGC's technical team provides training in cost management introduction for employees of state and municipal health secretariats and hospitals, makes APURASUS available and enables it to be used, and performs constant technical monitoring at all stages of implementation. The mere availability of the system did not prove to be effective since the main difficulties identified by the system users are conceptual and methodological.

In March 2021, 219 units implemented cost management through the PNGC. Of these, 36 were collecting data and 183 using data from APURASUS. Altogether 13 state secretariats (*Acre, Amapá, Amazonas, Bahia, Distrito Federal, Paraíba, Pernambuco, Rio de Janeiro, Rio Grande do Norte, Rio Grande do*

Sul, São Paulo, Sergipe and Tocantins), 14 municipal secretariats (*Aracaju, Bento Gonçalves, Campo Bom, Cássia, Fortaleza, Ibiraci, Joinville, Mauá, Natal, Parauapebas, Petrópolis, Porto Alegre, Rio de Janeiro and São Sebastião do Paraíso*), 8 university hospitals linked to EBSERH (*Hospital Universitário da Universidade Federal de Juiz de Fora, Hospital de Clínicas da Universidade Federal do Triângulo Mineiro, Hospital Universitário da Universidade Federal da Grande Dourados, Hospital Escola da Universidade Federal de Pelotas, Hospital Universitário de Sergipe – HUSE –, Hospital Universitário Maria Aparecida Pedrossian – HUMAP –, Hospital Universitário Antônio Pedro – HUAP-UFF – and Hospital Universitário de Lagarto – HUL*) and *Instituto Fernandes Figueira da Fiocruz* have participated.

Regarding PNGC benefits, the following should be mentioned: (i) formation of technical capacity through training in cost management, (ii) adoption of a costing methodology suitable for the different SUS health sites, (iii) technical support in person, remotely, and full support to implement the Program and information qualification, (iv) encouragement and support for information exchange and experiences in costs calculation among participants, (v) availability of the information system (APURASUS) and training for using it, and (vi) creation of a cost information database for different health units, heterogeneous structures, and other regions.

Implementing cost management in any organization, public or private, requires the organization of work processes, working structuring systems, decentralization of information, and staff with exclusive dedication, which is not always consistent with the reality of the SUS health units. In addition, the PNGC is extremely sensitive to a robust institutional governance system that includes its development in the priority schedule, spanning the three levels of management and its dependents, and supporting its implementation, expansion, and continuity.

The constant management changes in partner institutions, the high turnover of technicians responsible for cost management, the lack of knowledge about the use and benefits of cost information, among other aspects, make the implementation of cost management in the SUS more challenging and complex.

The applicability of information from this process is highly strategic for management planning, monitoring, and evaluation. Among these points, the following stand out: 1) prepare the budget based on the total cost of the health unit; 2) know the costs of the services provided, monitoring them month by month, making it possible to identify what influences the dynamics of calculated costs; 3) identify inefficient activities and their causes; 4) know if it is really advantageous to outsource services; 5) subsidize the hiring of ICU beds and other services; 6) define the cost of implementing a new service or expanding an existing one;

7) generate indicators to demonstrate successful experiences; 8) strengthen social control through transparency in the use of resources and costs of services provided by each health unit to society; 9) support the control of agreements between municipalities; 10) discuss management contract values with third sector institutions responsible for health services; 11) respond to demands from control agencies; 12) improve human resource management; 13) support economic evaluation in health; 14) generate standardized indicators that enable benchmarking; among others.

In time, regardless of its paramount importance, cost information cannot be the focus point. Ideally, cost information should be used together with other indicators to understand the context better and support qualified decision-making.

Information on public health budgets

In basic terms, SIOPS is a computerized system, accessible via the internet, with mandatory feed which data are generated by the federated entity accounting sector, as a record recommended by the central accounting agency of the Brazilian government, which is the National Treasury Department (STN-ME). The system also enables the consolidation of expenses with public health actions and services (ASPS), calculating the percentage applied by the entity and comparing it with the minimum rates established by Constitutional Amendment No. 29. The rule considers 12% of states' revenues or 15% of municipalities' revenues. For calculating the Brazilian government minimum application, the rule outlined in Constitutional Amendment No. 95/2017 is used, and the sum of paid expenses and those remaining to be paid from the previous year, corrected by the variation of the Extended National Consumer Price Index – IPCA (Brazil, 2016b).

SIOPS has a relevant role in enabling the consolidation of budget data from all federated entities. There is no other information system in Brazil that allows the consolidation of health budget data like SIOPS. To achieve this consolidation level of information and data quality required the hard work of several people and entities. They searched for continuous improvement of the system, not as an accountability instrument but as a management tool that enables the actors involved with the federated entity's administration to follow, monitor, and evaluate the health area budget.

In addition, from the data collected through SIOPS, reports – including the health annex of the Budget Execution Summary Report (RREO) –, indicators and other information are generated to support the society and public managers in the search for knowledge in the field of public health.

The system provides an overview of total revenues and expenditures on public health. Its content enables consultations that work as an instrument for planning, management, control, and evaluation. It also allows other

ways of research and investigation, such as comparing federal entities in the execution of budget resources; or the dimensioning of health expenditure by government sphere, providing detection of changes in the pattern of health expenditure over time (Figure 1, Graph 1).

The availability of information in SIOPS has primarily contributed to monitoring resources minimum legal application for public health actions and services to analyze public spending behavior by government sphere and over the years. Verifying the composition of the financing by federative entity plays a fundamental role in the agreements of the Tripartite Intermanagers' Commission and the Bipartite Intermanagers' Commission. The system allows the monitoring of resources application by each manager, with a level of detailing by sub-function and expense elements, which favors the organization of the resource allocation process.

Another highlight of SIOPS in the search for information reliability provided in the system lies in the fact that it has an exclusive access module for the Courts of Auditors, the External Control Module (MCE), through which the courts of accounts can resolve the information provided by federated entities within its jurisdiction. It is a way for the Courts of Auditors to validate the information provided by federated entities in SIOPS – including the possibility of overlaying the data approved by the health manager if any inconsistency in the declared data is detected.

Final considerations

As the SUS consolidates, society has come to understand its relevance as a social achievement; however, it is necessary to strengthen the availability of information that allows each system user to understand the predominant role of health actions in their life cycle. By building a solid knowledge framework on issues related to health economics and presenting it with an adequate translation of knowledge to managers, health professionals, and users, the consensus on the importance of making choices involving trade-offs for guaranteeing access to healthcare with equity and efficiency.

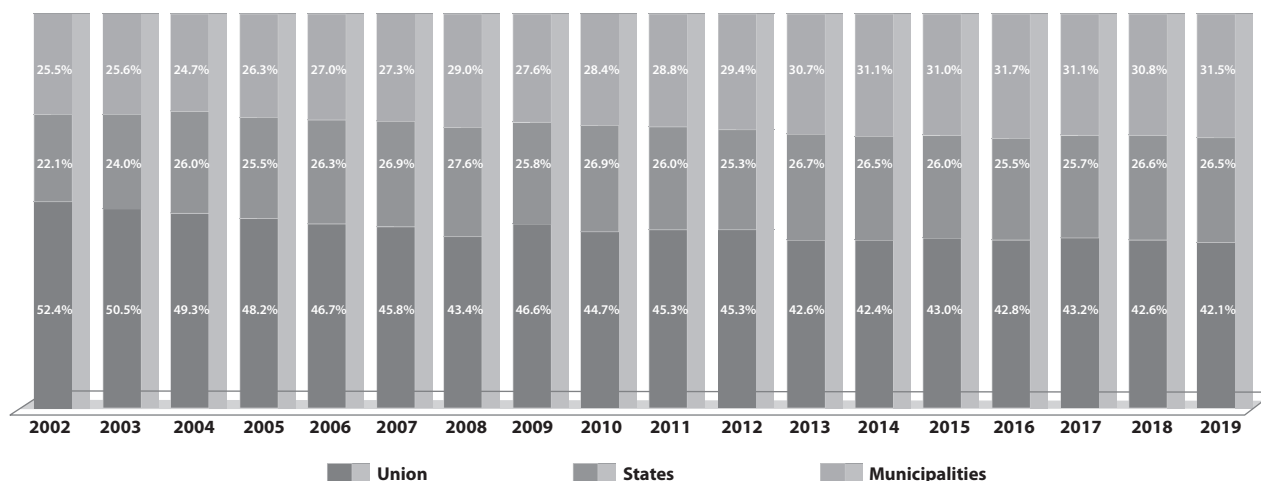
Understanding that financing a health care system with universal coverage bringing immense social and economic benefits is part of the process to reduce individual choices to guarantee access to private health in favor of increasing public health participation.

Also, understand that there are substantial gains with disseminating national immunization, distributing drugs for chronic diseases, and massively monitoring health conditions with self-care and primary health care. Undoubtedly, this will make the population realize that their health expenses are reduced by accessing these services. More than that, it helps avoid catastrophic expenditures that reduce the productive

Year	Federal			State			Municipal			Total				
	GDP - (R\$ million)	Population	Expenditure (R\$ thousand)	Expenditure per inhabitant (R\$)	GDP proportion (%)	Expenditure (R\$ thousand)	Expenditure per inhabitant (R\$)	GDP proportion (%)	Expenditure (R\$ thousand)	Expenditure per inhabitant (R\$)	GDP proportion (%)	Expenditure (R\$ thousand)	Expenditure per inhabitant (R\$)	GDP proportion (%)
	(B)	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
2002	1,488,788	174,632,960	24,736,843	141.65	1.66%	10,447,105	59.82	0.70%	12,029,688	68.89	0.81%	47,213,635	270.36	3.17%
2003	1,717,951	176,871,437	27,181,155	153.68	1.58%	12,904,186	72.96	0.75%	13,765,417	77.83	0.80%	53,850,758	304.46	3.13%
2004	1,957,750	181,581,024	32,703,495	180.10	1.67%	17,272,899	95.13	0.88%	16,409,723	90.37	0.84%	66,386,118	365.60	3.39%
2005	2,170,584	184,184,264	37,145,779	201.68	1.71%	19,664,416	106.76	0.91%	20,287,287	110.15	0.93%	77,097,481	418.59	3.55%
2006	2,409,450	186,770,562	40,750,155	218.18	1.69%	22,978,253	123.03	0.95%	23,568,595	126.19	0.98%	87,297,003	467.40	3.62%
2007	2,720,263	183,989,711	44,303,496	240.79	1.63%	25,969,634	141.15	0.95%	26,426,564	143.63	0.97%	96,699,694	525.57	3.55%
2008	3,109,803	189,612,814	48,670,190	256.68	1.57%	30,976,460	163.37	1.00%	32,471,345	171.25	1.04%	112,117,994	591.30	3.61%
2009	3,333,039	191,480,630	58,270,259	304.31	1.75%	32,274,085	168.55	0.97%	34,542,847	180.40	1.04%	125,087,191	653.26	3.75%
2010	3,885,847	190,747,855	61,965,198	324.85	1.59%	37,296,383	195.53	0.96%	39,290,644	205.98	1.01%	138,552,225	726.36	3.57%
2011	4,376,382	192,379,287	72,332,284	375.99	1.65%	41,511,838	215.78	0.95%	46,005,793	239.14	1.05%	159,849,915	830.91	3.65%
2012	4,814,759	193,946,886	80,063,148	412.81	1.66%	44,822,698	231.11	0.93%	52,034,361	268.29	1.08%	176,920,208	912.21	3.67%
2013	5,331,618	201,032,714	83,053,255	413.13	1.56%	52,148,018	259.40	0.98%	59,908,108	298.00	1.12%	195,109,381	970.54	3.66%
2014	5,778,953	202,768,562	91,898,531	453.22	1.59%	57,305,396	282.61	0.99%	67,381,118	332.31	1.17%	216,585,044	1,068.14	3.75%
2015	5,995,786	204,450,649	100,054,862	489.38	1.67%	60,540,190	296.11	1.01%	72,223,158	353.25	1.20%	232,818,211	1,138.75	3.88%
2016	6,259,228	206,081,432	106,235,537	515.50	1.70%	63,293,423	307.13	1.01%	78,513,046	380.98	1.25%	248,042,006	1,203.61	3.96%
2017	6,559,940	207,660,929	114,700,610	552.35	1.75%	68,415,055	329.46	1.04%	82,614,406	397.83	1.26%	265,730,071	1,279.63	4.05%
2018	6,889,176	208,494,900	116,820,887	560.31	1.70%	72,859,835	349.46	1.06%	84,619,936	405.86	1.23%	274,300,658	1,315.62	3.98%
2019	7,256,927	210,147,125	122,269,918	581.83	1.68%	76,960,337	366.22	1.06%	91,530,201	435.55	1.26%	290,760,456	1,383.60	4.01%

Source: Department of Health Economics, Investment, and Development (DESID) – Ministry of Health.

Figure 1. Public spending on public health actions and services (ASPS) compared to GDP – 2002 to 2019.



Source: Department of Health Economics, Investment, and Development (DESID) – Ministry of Health.

Graph 1. Scaling public spending on public health actions and services (ASPS) by government sphere – 2002 to 2019

capacity and increase the individual's dependence, overloading the social protection system.

Given these factors that may seem simple, the performance of this thematic area in the last 18 years needs to be increasingly strengthened in the health schedule to ensure sustainability and, consequently, perpetuity to the system.

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