United Nations Research Institute for Social Development

Working Paper 2015-8

Universalizing Health Care in Brazil

Opportunities and Challenges

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prepared for the UNRISD project on
Towards Universal Social Security in Emerging Economies: Process, Institutions and Actors

April 2015

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In 1988, the Brazilian Constitution established the Unified Health System (Sistema Único de Saúde, or SUS), based on universal access to health services, with health defined as a citizen's right, and access to health services as an obligation of the state. Since then, Brazil has adopted a policy regime that combines both neoliberal policies—associated with those prescribed by the Washington Consensus or Bretton Woods Institutions—and more interventionist policies associated with neo-developmentalist thinking. The macroeconomic and social performance of this hybrid policy regime has been positive, insofar as the average household per capita income increased, and poverty and social inequality significantly declined. In the health sector, the capacity of the system with regard to health facilities and human resources has been expanded, while regional disparities in access to health services have been reduced. Access to primary health care has also been significantly expanded and health outcomes, such as life expectancy and infant mortality, have improved significantly. What steps did Brazil take to achieve universal health coverage, leading to substantial progress in economic and social development? Which institutions and actors have driven the universalization of health care within Brazil's hybrid policy regime?

This paper examines these questions within the following components of health system development: (i) the regionalization and expansion of the public health care system; (ii) stable and sufficient funding to ensure the principle of universality within the SUS; and (iii) the regulation of health science, technology and innovative procedures, and public-private relations. These components highlight the difficulties involved in moving towards universal social policies in a context of regional inequality, chronic underfunding and the great technological vulnerability of the health care system. We argue that the involvement of the state as strategic agent in inducing development in Brazil opens a window of opportunity to create a virtuous complementarity between health and development. However, the strength of this complementarity depends on the capacity of the government to propose and implement public policies in partnership with other actors in society, such as private companies and social movements. It also depends on whether the government has a long-term and integrated perspective which links the health sector to the country's long-term socioeconomic development.

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Acronyms

AIDS	Acquired immunodeficiency syndrome
ANS	National Regulatory Agency for Private Health Insurance and Plans
Anvisa	National Health Surveillance Agency
BNDES	Brazilian Development Bank
BNDES	Brazilian Development Bank
CGR	Regional Management Boards
CIB	Bipartite Inter-management Committee
CIR	Regional Inter-managerial Commissions
CIT	Tripartite Inter-managers Committee
COAP	Organizational Public Action Contracts
DRU	Detachment of Federal Revenues
Finep	Funding Authority for Studies and Projects
Fiocruz	Oswaldo Cruz Foundation
FNS	National Health Fund
GDP	Gross domestic product
GNP	Gross national product
HIV	Human immunodeficiency virus
IMF	International Monetary Fund
INPI	National Industrial Property Institute
IPEA	Institute for Applied Economic Research
PDP	Partnership for Productive Development
RAWP	Resource Allocation Working Party
RENAME	National List of Essential Medications
RENASES	National List of Health Services and Actions
STD	Sexually transmitted disease
STI	Science, technology and innovation
SUS	Unified Health System
USD	United States dollar

Introduction

Brazil is one of the world's largest economies—a country with a recently recovered, yet stable, democracy based on relatively solid political institutions. Despite difficulties related to the global economic crisis, Brazil enjoys a privileged position in the region, enabling it to shape a new developmental model that integrates economic and social policies with a strong emphasis on universalism. This model, known as "new developmentalism," is characterized by its strong emphasis on the role of the state in guaranteeing social rights, such as minimum income, education, housing and health care (EESP-FGV 2010). According to this model, the state seeks to reduce the impact of social inequalities caused by the market, especially in terms of income and access to services, through policies and rules framed by a collective interest that promote the principles of collective ownership and social security (Bauman 2011).

The policy regime associated with the model of "new developmentalism" in Brazil is characterized as hybrid in the sense that it combines both neoliberal policies—associated with those prescribed by the Washington Consensus or Bretton Woods institutions (e.g., a policy priority of macroeconomic stability, privatization, liberalization and deregulation reforms and conditional cash transfers)—and more interventionist ones associated with neo-developmentalist thinking, such as reduced reliance on foreign savings; an "off-the-books" stimulus package during crises; the state as owner and investor in industry and banking; increases in the minimum wage; industrial policies targeted at high employment sectors and the use of state-owned firms to expand welfare and employment (Ban 2013).

Evidence suggests that the macroeconomic and social performance of this hybrid policy regime has been positive. A recent study (IPEA 2012a) reports the following changes during the period 2001-2011: an increase of 32.4 per cent in average household incomes per capita; a 55 per cent reduction in the population with household incomes below the poverty line; and a reduction in inequality, measured by the Gini coefficient, from 0.594 to 0.527. According to the study, this decrease in inequality is explained by the increase in real labour income (58 per cent), social security benefits (19 per cent), conditional cash transfer programmes such as Bolsa Família and Brasil Sem Miseria (13 per cent), social assistance benefits to the elderly (4 per cent) and other income (6 per cent). During this period, there was also great expansion of the formal labour market, with continuing reduction in the degree of informality, which decreased from 55.1 per cent in 2001 to 45.4 per cent in 2011 (IPEA 2012b).

One of the social policy sectors that have made notable progress is the health sector. The capacity of the system to provide health facilities and care networks for outpatients has significantly expanded, while regional disparities in access to health services have been reduced. Access to primary health care has also significantly expanded, while health outcomes such as life expectancy and infant mortality have been considerably reduced (see table 1 and figure 1). Although many challenges and limitations, such as gaps in primary care coverage and barriers to accessing specialist and high-complexity care, remain, Brazil has significantly developed its health system and became a "stellar performer, with nearly universal coverage and limited geographic disparities" in the areas of "immunizations, antenatal care, and hospital deliveries" (Gragnolati et al., 2013:6).

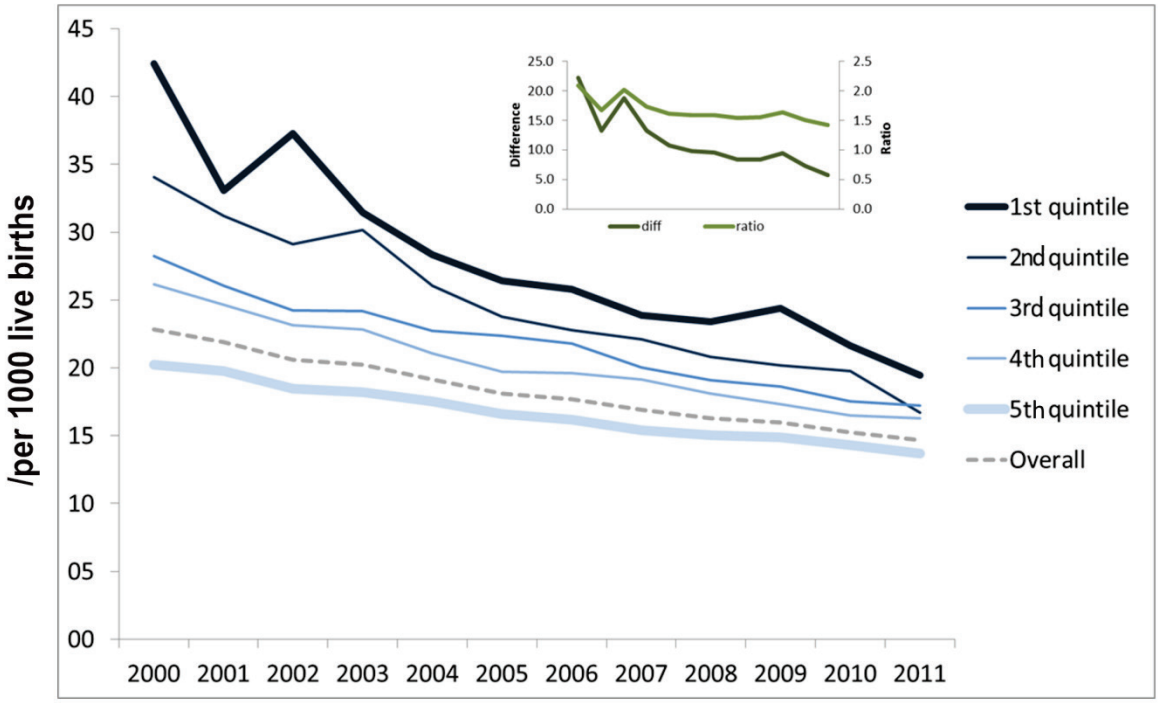
Table 1: Expansion of Health Facilities and Human Resources, Brazil, 1970-2010

	1970[a]	1980	1990	2000	2010[b]
Health facilities					
Health stations and centres	2149	8,767 (1981)	19,839		41,667
Public (%)		98.9	98.3		98.7
Specialised outpatient clinics		6,261	8,296		29,374
Public (%)		53.9	20.6		10.7
Polyclinics	32				4,501
Public (%)					26
Unities of services of diagnostic and therapeutic support			4,050 (1992)	7,318 (1999)	16,226
Public (%)			5.4	4.9	6.4
General and specialised emergency services	100	292 (1981)	286		789
Public (%)		43.5	65.7		77.9
Hospitals	3,397 (1968)	5,660	6,532	7,423 (2002)[c]	6,384
Public (%)	14.9	16.4	21.1	34.8	31.9
Human resources - Family health teams[d]					
Communitary health agents	–	–	78,705 (1998)	134,273	244,000[e]
Family health teams	–	–	3,062	8,503	33,000
Personnel specialised in oral health teams	–	–	0	0	17,807 (2008)

Source: Data retrieved from Instituto Brasileiro de Geografia e Estatística, IBGE. Series estatísticas & series históricas. Rio de Janeiro: O Instituto. http://ibge.gov.br/series_estatisticas/ and cited in Paim, J. et al. (2011). "O sistema de saúde brasileiro: historia, avanços e desafios." *The Lancet*, Series Saúde no Brasil. DOI:10.1016/SS0140-6763(11)60054-8

Notes: [a] Instituto Brasileiro de Geografia e Estatística, IBGE. Microdados PNAD. Rio de Janeiro: O Instituto; 1981, 1998, 2003 e 2008. [b] Ministério da Saúde. Rede Interagêncial de Informações para a Saúde - RIPSA. Indicadores e Dados Básicos - Brasil, 2008 - IDB. [c] IPEA http://www.ipeadata.gov.br/ipeaweb.dll/ipeadata?968882109. [d] Pereira, A. P. Consumo residencial de energia e desenvolvimento: um estudo da realidade brasileira [dissertação]. *Itajubá*: Universidade de Itajubá: 2008. [e] Ministério da Saúde. Departamento de Atenção Básica - DAB. Brasília-DF: O Ministério; 2008.

Figure 1. Under-five mortality rates according to municipal Human Development Index (HDI-M) quintiles of the 5,507 Brazilian municipalities[a]



Source: Barreto ML, Rasella D, Machado DB, *et al.* (2014) Monitoring and Evaluating Progress towards Universal Health Coverage in Brazil. *PLoS Med* 11(9): e1001692. DOI: 10.1371/journal.pmed.1001692.
Note: [a] The small graph inside the box shows the absolute differences and ratios between the U5MRs of the poorest and richest quintiles. (DOI:10.1371/journal.pmed.1001692.g002).

Universality and equality of health services were not constitutional rights in Brazil until 1988 when the new Constitution stated that health is a right of all and a duty of the state and shall be guaranteed by means of social and economic policies aimed at reducing the risk of illness and other hazards and at universal and equal access to procedures and services for health promotion, protection and recovery (Brazil 2013a). In that year the Constitution formally established the Brazilian Unified Health System (Sistema Único de Saúde/SUS), based on three overarching principles: universal access to health services with health defined as a citizen's right and an obligation of the state; equality of access to health care; and integrality (comprehensiveness) and continuity of care (Gragnolati et al., 2013).

How did Brazilian society make such significant progress in terms of economic and social development and take such important steps towards universal health coverage? What are the institutions and actors that have driven the universalization of health care within Brazil's hybrid policy regime, particularly given the fact that one of its main pillars is neoliberalism, often regarded as the single most important variable in explaining the reduced role of the state and welfare retrenchment?

The Institutional Context of Universalization

Brazil is a federative country, whose political structure includes three levels of government: federal, state and municipal. Article 198 of the Brazilian Constitution calls for a Unified Health System (SUS) based on a regionalized and decentralized network of health services with coordinated management at each level of government,

community participation and the prioritization of prevention as part of an integrated approach to health services delivery. Subsequent legislation attempted to define the role of each level of government in healthcare management and provision.

Article 199 of the Constitution is also notable in that it defines the participation of the private sector in the SUS. Accordingly, the private practice of medicine and medical institutions was allowed to play a complementary role in the SUS (Elias and Cohn 2003). Thus, universal health coverage guaranteed in the Constitution has been implemented by two major systems of health care: public health services dependent upon resources from the budget of each level of government (but carried out by both public and private sectors regulated by the government), and individual medical care for urban workers, funded by monthly fees for voluntary-based health care plans, insurance premiums and out-of-pocket payments.[1]

In terms of provision of services, the public system comprises Brazil's largest network of primary health care providers, especially in the poorest regions such as the Northeast. The majority of hospitals and medical clinics are, however, private and located in the most developed regions. In terms of its financial structure, Brazil has a similar structure of public/private provision to those of many developing countries in which health care is predominantly privately financed.[2] Most hospitals in Brazil are privately owned and the majority of their revenues come from voluntary, pre-paid health care plans and out-of-pocket payments. Decisions on adopting new health technologies are made primarily by the administrators of these private organizations (Silva and Viana 2011).

Access to the private system is provided by a large number of insurance companies that operate health care plans. Concentrated in Brazil's wealthier regions such as the Southeast, they process about USD 50 billion a year. These companies use a variety of legal and institutional formats and can be grouped into different categories according to criteria that take into account, for example, the nature of services provided (medical, dental etc.), the type of clientele (closed or open groups), relationships established with health care providers (health professionals and facilities), or even the size of the companies, (i.e., the number of individuals insured or the level of revenues). Approximately 25 per cent of Brazil's population is currently covered by these health care plans.

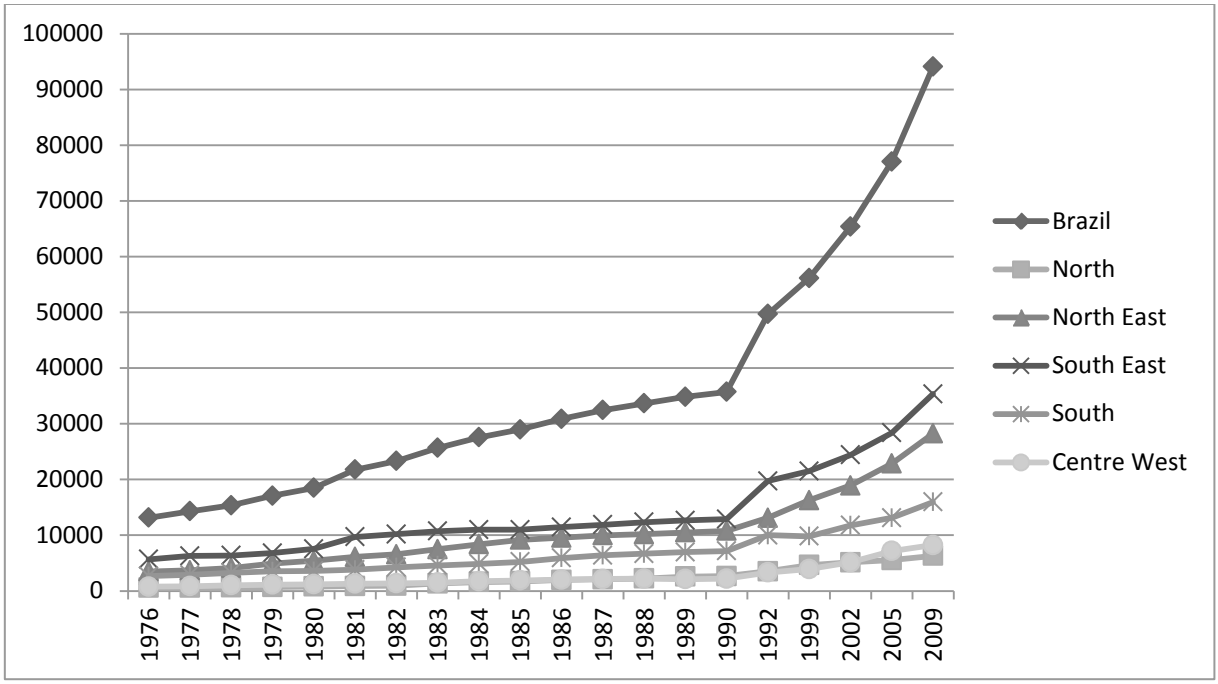
Thus, the health system in Brazil can be characterized as a mixed system—both public and private, with segmentation of customers (those who can afford private care and those who cannot) and a variety of relationships between providers and customers. Indeed, a significant number of hospitals and physicians have a direct relationship of buying and selling services through both the public and private health sectors. At the same time, public health facilities deliver care to the insured through private carriers, especially for procedures that are too expensive or not covered by health care plans, such as medicines for AIDS treatment, hemodialysis and surgical transplants. In this context, implementation of the SUS has been complicated by the concentration of health services in the more developed regions of the country, as well as chronic underfunding and state support for the private sector.

[1] In 2012, 24.7 per cent of the population had private health care insurance and another 9.6 per cent had private dental plans. National Regulatory Agency for Private Health Insurance and Plans (ANS). Retrieved from: http://www.ans.gov.br/the-sector/sector-data.

[2] About 64% of total health expenditure in the mid-low income countries were private in 2010, according to the World Health Organization, World Health Statistics 2013. http://apps.who.int/iris/bitstream/10665/81965/1/9789241564588_eng.pdf

Despite these limitations, the SUS has managed to vastly improve access to primary and emergency care by expanding health facilities (see figure 2). It has reached universal coverage in vaccination and prenatal care, improved access to drugs in health facilities and drugstores, and made investments in the expansion and qualification of human resources in the SUS—with specific policies aimed to attract and train health professionals—and technology, including major efforts to meet the country's most essential pharmaceutical needs (Paim et al., 2011). Those institutions and actors driving universalization of health care are especially visible in the following dimensions of health system development: (i) regionalization and expansion of the public health care system; (ii) stable and sufficient funding to ensure the principle of universality within the SUS; and (iii) regulation of health science, technology and innovation procedures and public-private relations. The interactions between neoliberal and interventionist policies, which constitute the institutional and political arrangements in these dimensions, also create policy challenges for the health system which need to be resolved urgently.

Figure 2. Health facilities by regions of Brazil (1976-2009)



Source: Ministério do Planejamento, Orçamento e Gestão. Instituto Brasileiro de Geografia e Estatística (IBGE), Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais. Estatísticas da Saúde, Assistência Médico-Sanitária, 2009.

Regionalization and expansion of the public health care system

When the democratization process began in the 1980s, the issue of decentralization became central to the democracy debate among Brazil's democratic players. This was due to the strong reaction of anti-authoritarian movements against centralized government on the one hand, and the relative strength of some states vis-à-vis the nascent federal government (which was facing severe fiscal challenges) on the other (Pierce, 2013).[3] The transfer of resources, competencies and responsibilities to sub-national levels of government was seen as the antithesis of military rule and authoritarianism and as a result of the demand for broader democracy and greater

[3] http://jia.sipa.columbia.edu/online-articles/decentralization-and-social-policy-in-brazil/

governmental efficiency.[4] Actors from the public health movement and the Sanitarista movement, which started in the 1970s, dominated the constitutional legislation process in health-related areas, and Article 198 of the 1988 Constitution described decentralization as one of three major principles underpinning the health system, together with unified care with a focus on prevention and the participation of civil society in health policy deliberation (Avritzer, 2009).

Despite an overall consensus on the necessity of decentralization, however, significant differences in the means of decentralizing power existed within and between progressive and conservative political forces,[5] in particular with regard to health policy. In addition, the process of decentralization was not accompanied by other economic and social interventions driving development (Gadelha et al. 2009). On the contrary, the developmentalist agenda was replaced by the debate on the re-democratization of the country in the 1980s and the pursuit of monetary stabilization in the 1990s (Sallum, Jr. 2004).

Neoliberal agenda items such as downsizing the state and achieving macroeconomic stability became prominent in the policy discourse in the context of structural adjustment policies promulgated by international financial institutions such as the IMF (Elias and Cohn 2003; Sallum, Jr. 2004). The health budget of the federal government was also significantly reduced, in particular during the late Sarney and Collor governments between 1989 and 1992 when the federal share of health spending dropped from 77.7 per cent of the total budget in the 1980s to 53.7 per cent in 1996 (Elias and Cohn 2003).

In this policy context, those who had led anti-authoritarian movements in the 1970s and 1980s pushed for the establishment of participatory regulating mechanisms, such as national health conferences and health councils. The Organic Health Law of 1990 legally mandated health conferences and health councils to play the role of permanent deliberative institutions composed of representatives of the state, service providers and representatives of the population, as well as participating in the elaboration of strategies and the implementation of health policies at each level of government (Brazil 1990a, 1990b).

Elements of the neoliberal retrenchment of the state's role, both in terms of finance and in democratic participatory mechanisms, constituted the process of decentralization. This implies that despite ideological and political differences, both democratic and conservative political forces reached a certain degree of consensus on the need to decentralize the health care system and on the implementation of the SUS to achieve universal health coverage (Ribeiro 2009).

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[4] Various ideological doctrines and experiences informed the decentralization process of health policy in the 1980s and 1990s (Ribeiro, 2009). In the reformist health agenda, decentralization was tied to higher value, conceived as a fundamental process for the universalization, comprehensiveness and construction of the health system itself (Viana, 1994).

[5] It is difficult to identify which political parties belonged to democratic or conservative political forces in Brazil in the 1990s, since the country was one of the most fragmented in the world. Power and Zucco (2009), using expert opinion surveys, suggest that PCdoB, PSTU, PSOL, PT, PCB*, PDT were the parties to the left of center; PSDB and PMDB were at the centre, and PTB, PL, PFL*, PDC*, PDS* and PRN* were to the right of centre. However, the ideological map of political parties in Brazil is not clear, and the differences between parties are constantly shrinking as the parties move towards the centre of the political spectrum. (Power, Timothy, and Zucco, Jr., Cesar 2009. "Estimating the Ideology of Brazilian Legislative Parties, 1990-2005: A Research Communication." *Latin American Research Review*, 44, 1, 218-246; Lucas, Kevin and Samuels, David 2010., "The Ideological 'Coherence' of the Brazilian Party System, 1990-2009, *Journal of Politics in Latin America*, 2, 3, 39-69; Samuels, David and Zucco, Jr., Cesar. 2013. "The Power of Partisanship in Brazil: Evidence from Survey Experiments." *American Journal of Political Science*, Vol.58, Issue 1, pp.212-225.) (*) Political parties that no longer exist.

However, from the late 1980s to the 1990s, the overall design of decentralization was affected much more by the neoliberal agenda of downsizing the state than by achieving macroeconomic stability in the context of fiscal and financial restraints. Indeed, the decentralization of the health system was designed and implemented in line with this broadly neoliberal policy.[6]

The resulting plan for the implementation of the SUS was different from the original design of public health system reform in that elements such as technical support and stable and regular funding—which would achieve the objectives of the national health policy (i.e., guaranteed universal access to health programmes and services and comprehensive care consistent with the needs and demands of the public)—were not included. Consequently, the results of the decentralization of the Brazilian health care system became highly dependent on existing local conditions (Viana, Fausto and Lima 2003). In other words, the characteristics of the decentralized health systems are highly heterogeneous nationwide, reflecting different financial, administrative and operational capabilities for health care provision and the different political arrangements of governors and mayors (Souza 2002).

The narrow understanding of the federative design of the country in the 1988 Constitution is another factor that shaped the nature of decentralization. National governments during the 1980s and 1990s disregarded the role of state-level governments and emphasized the responsibilities of municipalities in the provision of services, a process often dubbed "municipalization." This approach to decentralization was especially strengthened by the Cardoso government (1995–2002), which sought to drastically reduce the role of the state in favour of the market. During his administration, private expenditure on health was above 55 per cent of the total health expenditure (WHO, 2013), and 24.4 per cent of the Brazilian population was already covered by private health insurance plans with differing benefit packages and pricing (IBGE, 2000).

As a result, municipalities with populations ranging from a few thousand to several million assumed considerable autonomy in terms of organizing and managing the health system and health resources. Even though the federal transfer of health system resources to sub-national governments was significantly reduced throughout the 1990s because of federal budget cuts, municipal financing as a share of the total grew considerably, increasing by approximately 12 per cent per capita during the first half of the 1990s (Elias and Cohn 2003). Overall public spending in the health sector remained at approximately 3.4 per cent of Brazilian GNP during this period.

Hence, decentralization over the first decade was based on the practice of direct relations between the federal and municipal spheres that had been adopted since the beginning of the process (Levcovitz et al., 2001). The fragility of the relations between states and municipalities made it difficult to organize regional, hierarchical health networks to ensure that the population had access to all levels of care (stipulated in the 1988 Constitution) was not actively promoted in this process (Dourado and Elias 2011; Vargas et al. 2014).

Despite these limitations, with the deliberate transfer of skills and resources to municipalities guided by normative tools from the Ministry of Health (called Basic Operational Norms) and with the establishment of heath councils at the municipal level, municipalization could facilitate the incorporation of innovative practices in the field of

[6] Melo 1996; Costa 2002; Noronha and Soares 2001.

management and assistance, as well as including more health policy stakeholders, such as local politicians, health care managers, health care providers and users, in health care system management at the local level. Nevertheless, the problems of the intense fragmentation and disorganization of health services remained, with thousands of isolated local systems (Dourado and Elias 2011; Viana et al., 2010).

Regionalization only gained significance in the 2000s. The definition of a "health region" appeared for the first time in Health Care Operational Regulations, published in 2001, whose main objective was a fair allocation of funds and access to health care services. Regionalization was then defined as a macro strategy to enhance decentralization, based on a framework of integrated planning which included the concepts of territoriality in the definition of intervention priorities and the formation of "functional health systems." One of the major institutional conditions of regionalization was the enhanced role and functioning of state-level governments. Drawing on the experience of implementing structural adjustment programmes over the previous 10 years, most Brazilian states were able to enhance their administrative capacity to manage public finances in an efficient and responsible manner. Thanks to the 1998 fiscal adjustment programme to restructure the debts of some state governments, the public finances of most state governments were in relatively better shape than before (Piancastelli and Boueri, 2008).

The Lula government promoted a system of management and decision making for health regions based on cooperation, solidarity and consensus by establishing the Pact for Health[7] in 2006. The Pact reaffirms regionalization as a basic part of the health system and promotes it as "the guiding framework of the Administrative Pact" which orientated both the decentralization process and intergovernmental relations. It intended to increase the scale of health procedures and services with regional scope by establishing health regions that would be delineated through understandings between states and municipal managers, as legitimized in Bipartite Inter-management Committees (CIBs), on which were represented municipal and state secretaries, and Tripartite Inter-managers Committees (CITs), on which federal representatives also sat (Dourado and Elias 2011). To operationalize the planning and management of the health regions, the Pact established Regional Management Boards (CGR) in each region (Brazil 2009). The Boards are constituted of representatives of state health departments (from the central level or from regional state structures) and the municipal health secretariats of each region. These boards have become a permanent channel for intergovernmental negotiation and decision making at the regional level. However, the implementation of this policy is far from being optimal and effective, especially because its success depends on hard negotiation and allocation of complex responsibilities to a level of government too small to assume them (Vargas et al, 2014).

The Roussef government revised the idea of health care networks to address the problem of the lack of coordination across different levels of health care by establishing new guidelines.[8] These networks include services and facilities for primary care, urgent and emergency care and psychosocial care. The following processes were designed to support the functions of the networks: the mapping of all public and private services in

[7] Brazil. Ministerial Directive GM/MS 399, 22 February 2006, promotes the Pact for Health 2006 – Consolidation of the SUS and approves the Operational Directives of the Pact; BRAZIL. Ministerial Directive GM/MS 699, 30 March 2006, regulates the operational directives of the Pacts for Life and Management.

[8] Brazil. Decree 7508, of 28 June 2011. Regulates Law 8080 of 19 September 1990 which calls for the organization of the Unified Health System (SUS) to provide health planning, inter-federative relations, health care, and other services.

the regions (the health map); Organizational Public Action Contracts (COAP)[9] based on the defined rules and legal agreements between federative entities in the regions; national, state and municipal health plans; the National List of Health Services and Actions (RENASES); the National List of Essential Medications (RENAME) and the Inter-managerial Committees (responsible for the regional governance of the networks, including Regional Inter-managerial Commissions (CIR).

A review of health policy development over the last two decades shows that the health system has made significant progress towards universal health coverage in Brazil through the process of decentralization and regionalization of the SUS. Table 2 summarizes the evolution of healthcare coverage for Family Health Teams, medical and dental consultations, mammography tests, hospital admissions in the public system and prenatal care for the period 1998-2012.

Table 2: Selected healthcare coverage indicators in Brazil, 1998-2012

	1998	2003	2008	2012
Population covered by Family Health Teams (%)*	3.1	35.7	49.5	54.5
Medical consultations (per habitant)**	2.28	2.42	2.59	2.77
Population that had a medical consultation in the last 12 months (%)***	54.7	62.8	67.7	
Population that had dental consultation in less than 1 year (%)***	33.2	38.8	40.2	
Women of 50-69 years who never had a mammography test in the last 2 years (%)***		45.3	28.9	
Live births with 7 or more prenatal care consultations (%)****	49.4	51.1	57.7	61.8 (2011)
Hospital admissions in the public system (per 100 habitants)*****	7.2	6.5	5.6	5.6

Source: Ministry of Health, Indicadores e Dados Básicos de Saúde – IDB 2012. * MS/SAS/Departamento de Atenção Básica – DAB. Histórico de Cobertura da Saúde da Família. ** MS/SE/Datasus – Sistema de Informações Ambulatoriais do SUS (SIA/SUS). *** IBGE – Pesquisa Nacional por Amostra de Domicílios – PNAD – Suplemento Saúde. ***** MS/SVS – Sistemas de Informações sobre Nascidos Vivos (SINASC)

Despite moves toward the legislative and financial centralization of state functions highlighted by some authors (Almeida, 2007; Arretche, 2009), the 1990s witnessed a transition from a centralized system to a model in which thousands of local governments acquired greater autonomy, assuming an important role in the area of health. However, the establishment of heath regions—contiguous geographic areas consisting of clusters of neighbouring municipalities, delimited by cultural, economic and social identities and by shared communications and infrastructure designed to integrate the organization, planning and execution of health care services—only became the focus of national health policy much later.

An analysis of health policy decentralization and regionalization over the past decade leaves no doubt about the central role played by the federal government in the regulation of these processes. A number of regulatory provisions have put in place strategies and instruments designed to stimulate the organization of regionalized health

[9] The main objective of COAPs (Organizational Public Action Contracts in Health) is to ensure comprehensive care for users by organizing and integrating actions and services inside Health Regions. They consist of four parts: (1) organizational responsibilities of contracting parties; (2) executive responsibilities (guidelines, goals, regional targets, indicators, individual responsibilities and forms of monitoring); (3) budget and financial responsibilities; and 4) responsibilities for monitoring, assessment and audit. The contract must be signed by the following authorities after negotiation and approval: the Brazilian Ministry of Health (at the Federal level); the Governor and Secretary of State for Health (at the state level); the Mayor and Municipal Secretary of Health (at city level). As of October 2014, only three states (out of 26) had signed COAPs together with their municipalities and the Federal Government.

care networks and the establishment and formalization of federative agreements at the state and regional levels. In light of the nature of the Brazilian federation (with three levels of independent governments) and the decentralization of health care towards states and municipalities, the introduction of new arrangements of collegiate management requiring more coordinated and cooperative actions among governments was one of the best ways to improve the implementation of health care policies at the regional level.

The four key elements that constitute the regulatory mechanisms of these management processes have been summarized in table 3: (i) *mechanisms of federal funding* (used for the transfer of federal funds to states and municipalities); (ii) *health care models* (the organization and delivery of health care); (iii) *systemic rationale* (integrating procedures and services within the national territory); and (iv) *federal agreements and relations* (relationships and the division of roles and responsibilities between the state and regional governments).

At the same time, from the perspective of the current phase of construction and consolidation of the SUS, the advancement of the regionalization of health in Brazil has brought challenges for managers and leaders by:

- introducing organizational innovations into SUS management that support an integrated vision of the territory and strengthen regional planning of the health system;
- formulating specific proposals to support the regionalization of the SUS in the Brazilian states, taking into account the distinct conditions and stages of implementation of each state;
- emphasizing, updating and diversifying mechanisms of intergovernmental negotiation and agreement;
- developing mechanisms for the intergovernmental transfer of financial resources and incentives for the implementation of policies related to regional care networks; and
- developing an agenda for regional negotiation at the national and state levels that subsidizes managerial commitments to integrate health care into actions for promoting the industrial health complex, including staff training and allocation strategies, and to further develop the Policy on Science, Technology and Innovation of the SUS.

Table 3: The process of regulating decentralization and regionalization in the SUS, Brazil, 1990 to 2013

Period	Federal funding mechanisms	Healthcare model	Systemic rationale	Federative relations and Agreements
1990 to 1992	Fee for service (predominant form)	Absent	Absent	Negotiations at the national level
1993 to 1995	Fee for service (predominant form) Block grants in amounts defined by financial limits	Definition of responsibility for some programmatic and health surveillance actions for more advanced, effective management at local level	Weak: tied to isolated municipal negotiations	Negotiations at the national and state levels Lack of coordination among inter-municipal consortia initiatives Formalization of intergovernmental agreements
1996 to 2000	Fee for service Project grants by level of health care, type of service and programmes (predominant form)	Health Community Agents Programme + Family Health Programme Priority programmes and projects for disease and health problem control	Moderate: tied to inter-municipal negotiations, with participation and mediation by states	Negotiations on national and state levels as well as isolated regional experiences in negotiations Isolated consortia initiatives Formalization of intergovernmental agreements
2001 to 2005	Fee for service Project grants by level of health care and type of service and programmes, including the definition of inter-municipal references (predominant form)	Maintenance of previous programmes and: Definition of minimum responsibilities and contents for primary health care Redefined procedures for medium- and high-complexity care Creation of clinical protocols	Strong: tied to the definitions of a set of procedures and services to be included in regional planning; emphasis on inter-municipal negotiations in the planning process under the coordination of state powers	Negotiations on national and state levels and isolated regional experiences in negotiations Isolated inter-municipal consortia initiatives Formalization of intergovernmental agreements Implementation of results assessment mechanisms for primary health care programmes
2006 to 2010	Large block grants according to level of health care, type of service, programmes and functions (predominant form)	Definition of responsibilities at all levels and fields of care	Strong: tied to the broadened concept of state-level regionalization of health; emphasis on political agreement between the different spheres of government; maintenance of instruments established in the previous period	Negotiations at national, state and regional levels Formalization of agreements between managers within National Health Pacts Implementation of mechanisms for monitoring and evaluating agreed commitments (set of target-related indicators)
Since 2011	Large block grants according to level of health care, type of service, programmes and functions (predominant form) Definition of financial commitments of each federative body in the regions.	Definition of responsibilities at all levels and fields of care. Induced formation of specific networks (Emergency Care Network, Maternity Network, Oncological Care Network, Mental Health Care Network) to strengthen health research, translate knowledge and deliver integrated health care services to the population.	Strong: tied to defined minimum procedures and services in each region, the health care network and lists of actions, services and medications; emphasis on formalized commitments among the different spheres of government at the regional level; emphasis on bottom-to-top planning and the creation of new support tools for regionalization.	Negotiations at national, state and regional levels Formalization of agreements among managers at all levels Mechanisms for monitoring, performance evaluation and auditing defined in contract.

Source: Adapted from Viana, Lima and Oliveira 2002.

Secure and Sufficient Funding to Uphold the Principle of Universality

According to the Brazilian Constitution, health is one of the three constituent areas of social welfare; the other two being social security (retirement benefits and pensions) and welfare assistance. Article 195 of the Constitution establishes that these areas must be financed, directly and indirectly, by the whole of society with funds coming from the budgets of all levels of government (federal, states, the Federal District and municipal) and a set of welfare contributions levied on payrolls and other labour revenues, sales and corporate profits, proceeds of lotteries and, since 2003, import taxes as well.

In the early 1990s, two events aggravated the funding problems of public health services and procedures in Brazil. First, the main social contribution in terms of total proceeds—payroll taxes—was earmarked for social security, reducing the proportion of the welfare budget available for other areas, including health. Second, the establishment of the Emergency Social Fund (now called the DRU—Detachment of Federal Revenues) allowed the federal government to direct up to 20 per cent of taxes and contribution revenues to ensure the country's economic stability and the financial reorganization of the federal exchequer, thus further reducing the resources available for investments in health.[10]

In 1996 a social contribution (the Provisional Contribution on Financial Transactions, or CPMF), designed to be spent only on health care in order to end the chronic underfunding of the sector, was introduced. However, at no time were all the collected funds allocated exclusively to health. This was because the original Emergency Social Fund allowed that a part of CPMF funds be used by the federal government for other expenses, especially interest payments on the national debt. Additionally, from 1999 the fund was used to finance other welfare and social assistance programs and was dissolved in 2007.

One turning point for the funding of the unified health system was the introduction of a set of rules by Constitutional Amendment 29 (EC29), approved in 2000. It established minimum limits for the funds to be allocated by the three spheres of government to finance public health services and procedures, as follows:

- for the federal government: the amount allocated to health care in the previous year, corrected by the variation in nominal GDP;
- for the states and the Federal District: 12 per cent of the proceeds from tax collection and constitutional transfers from the federal government, the amount of which depends upon the size of the population of each administrative unit; and
- for the municipalities: 15 per cent of the proceeds from tax collection and constitutional transfers, the amount of which depends upon the size of the population of each administrative unit.

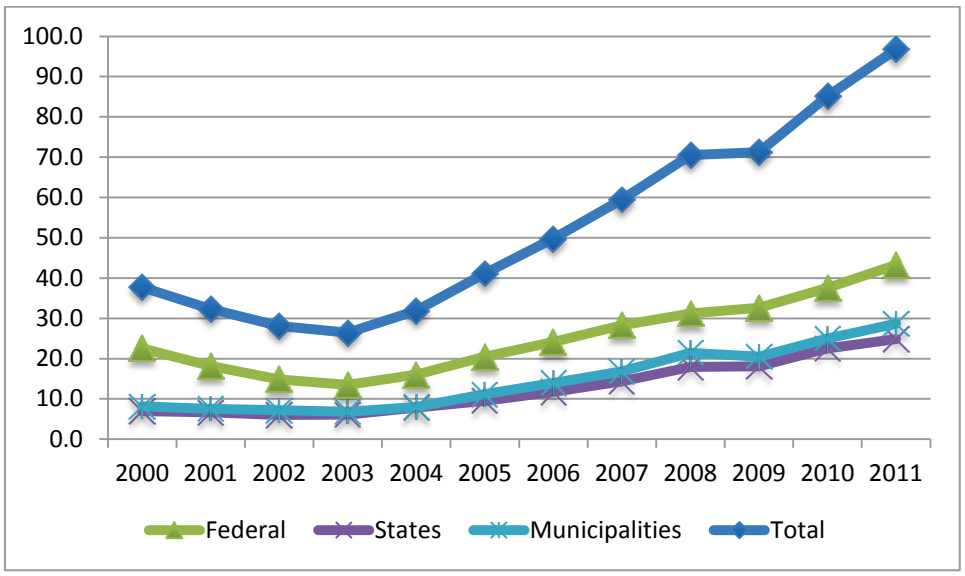
This amendment was, in fact, a mechanism to reduce the negative impacts on the health sector of a newly established macroeconomic management regime emphasizing fiscal austerity, put in place after the currency crisis of 1999, which targeted the fiscal surplus

[10] Estimates show that approximately USD 200 billion were subtracted from the Social Welfare budget in the period 2005-2013 (ANFIP, 2014).

as a ratio of GDP (on average, 3 per cent) (Araujo et al. 2012).[11] The series of laws aimed at fiscal consolidation has proven to be effective in helping the government to secure and expand fiscal space, in particular when the country's economic growth started up again, beginning in the early 2000s.

These new rules for public health funding resulted in increased resources for the Unified Health System in all three governmental spheres. Data compiled by the Institute for Applied Economic Research (IPEA) show that total spending by the federal government, states and municipalities rose continuously from 2000 to 2011: from USD 37.8 billion in 2000 to USD 96.7 billion in 2011 (figure 3). At the same time, the federal government's share of public spending on health fell from around 60 per cent in 2000 to 44.7 per cent in 2011. In the same period, the contribution from the states rose from 18.5 per cent to 25.7 per cent, and from the municipalities from 21.7 per cent to 29.6 per cent (figure 4). It is evident that the approval of Constitutional Amendment 29 had impacts on each entity of the federation and successfully upheld the constitutional principle of decentralization, increasing the state and municipal stakes in public health funding (Piola et al. 2013).

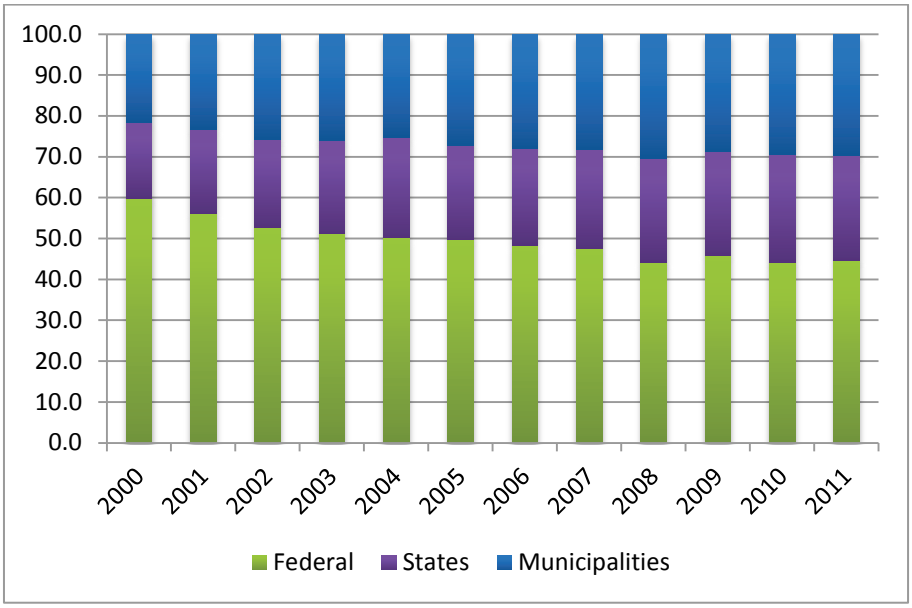
Figure 3. Public health spending in Brazil, total and per governmental spheres (2000-2011) *US dollars (constant 2011)*



Source: Adapted from Piola et al. 2013.

[11] http://www.bis.org/publ/bppdf/bispap67.pdf

Figure 4. Public health spending in Brazil, total and per governmental spheres (2000-2011, per cent)



Source: Adapted from Piola et al. 2013.

Despite the additional allocation of funds for public health services and procedures in Brazil, the limits of this expansion should be highlighted. First, since the scale of funding depends on the development of state and municipal public revenues, the disparities between states and municipalities in social infrastructure for sanitation, health and education are less likely to be reduced. Second, the scale of funding also depends on the growth rate of the economy, since federal allocations should be corrected by nominal variations in GDP. However, the procyclicality[12] of federal budget allocations undermines the capacity of governments at various levels to redress hardships during an economic downturn. Furthermore, there are suspicions that many states and municipalities simply break the commitment to redress hardships by introducing other items under health spending or by underestimating the amount of available funds that is used to calculate the percentage of health spending.

In comparative terms, total health spending in Brazil accounted for 9 per cent of GDP in 2010, higher than the average among mid-high income countries (6 per cent), but lower than that in high-income countries (12.4 per cent) (WHO 2013, see table 4). In absolute terms, this level corresponds to USD 1,009 per capita annually. However, only 47.0 per cent of the total amount comes from governmental funds allocated to the SUS. This is clearly incompatible with the pattern found in developed countries, which have universal, public health systems, and where the level of public resources tends to exceed 70 per cent. In terms of private resources, monthly fees for health care plans and insurance premiums in Brazil constitute an estimated 40.4 per cent of total health expenditure, whereas out-of-pocket expenditures account for 57.8 per cent.

It is clear, therefore, that the pattern of health care financing in Brazil is characterized by a high share of private funding. Nevertheless, it is also important to point out that private health care plans and insurance schemes receive public funds in a variety of ways: by allowing public facilities under the SUS system to provide health care services to those with private schemes at a cost below market price; through the purchase of

[12] Procyclicality describes how an economic quantity is related to economic fluctuations.

private health care plans for civil servants; by offering income tax deductions for the health care expenses of individuals and companies, including health plan and insurance costs; and through tax exemption for philanthropic organizations that sell private health care plans, among other direct and indirect subsidies. This reduces the proportion of money available to the public system (SUS). Hence, the Brazilian government is in fact funding private health care plans and insurance premiums.[13]

Table 4. Health expenditure in Brazil and groups of countries, 2010

Countries / Groups of countries	Total health expenditure as a percentage of GDP	Total health expenditure, USD per capita (PPP)	Governmental expenditure on health as a percentage of total health expenditure	Out-of-pocket expenses as a percentage of private expenditure on health	Prepaid plans as a percentage of private expenditure on health
Brazil	9.0	1,009	47.0	57.8	40.4
Low Income	5.3	63	38.5	77.7	1.4
Mid-Low Income	4.3	152	36.1	87.8	4.1
Mid-High Income	6.0	598	55.5	75.1	16.8
High Income	12.4	4,612	61.8	36.1	52.0
Global	9.2	1,017	58.9	49.9	39.3

Source: WHO 2013.

In the early 1990s, Brazilian legislation introduced a combination of diverse criteria for the apportionment of federal government resources to states and municipalities:[14] demographic profile of the region; epidemiological profile of the population to be covered; quantitative and qualitative characteristics of the health care network in the region; the technical, economic and financial performance in the previous period; the share of the municipal and state budgets allocated to the health sector; the forecast of the five-year revenue investment plan; and the reimbursement of services provided to other governmental spheres. Furthermore, according to the legislation, half of the funds transferred to the states and municipalities should be distributed according to the result of their division by the number of inhabitants.

With the approval of new legislation that establishes the apportionment criteria for transferring health resources (Brazil, 2012), public health needs, together with the epidemiological, demographic, socioeconomic and spatial dimensions of public health and the capacity to provide health services and procedures, began to guide the apportionment of federal government funds earmarked for public health care and transferred to the states and municipalities. However, the issues of how to measure public health needs and which indicators to use have not yet been defined. Some studies investigating the use of health needs indicators to guide funding allocations have already been carried out (Porto et al., 2001; Heimann et al. 2002). Although there are some difficulties, per capita criteria prevail in allocating funding for primary health care. As for medium- and high-complexity outpatient and hospital services, including

[13] Fair allocation of funds represents one of the challenges for health policy financing. As a rule, this concept means that each territory should have enough resources available to meet the health needs of its population (Tobar et al., 2003). Historically speaking, several countries have advanced in the formulation and implementation of funding models that strive for fair distribution of health care resources. Among them, the British experience is considered the most paradigmatic, both for establishing the basis for a progressive improvement in the territorial distribution of resources and because it has served as an inspiration for many other countries. This was the methodology of the Resource Allocation Working Party (RAWP), adopted in the United Kingdom from the 1970s. According to this methodology, funds should be distributed considering the size of the population to be served, but corrected in function of the differences in the breakdown of sex and age, as well as regional variations in the cost of medical care and other needs for service use. In the decades that followed, the RAWP calculation formula was revised to incorporate other factors capable of estimating public health needs more precisely, such as the use of health services by different population groups (Lobato and Giovanella, 2008).

[14] Brazil. Law 8080, of 19 September 1990. Provides information about conditions for the promotion, protection and recovery of health, the organization and functioning of the corresponding services and other provisions.

emergency services, criteria that prioritize installed capacity and services provided are also used.

Progress has been made in making funding criteria responsive to health needs through the establishment of the "fund-to-fund" transfer. This is an automatic, regular transfer of financial resources from the National Health Fund (FNS) to state and municipal funds. However, from the late 1990s onwards, federal resources have been transferred in the form of "stamps," and their allocation has been tied to the development of specific actions and programmes. In 2004, for example, more than 100 "stamped" items were accounted for among all the federal government resources transferred for SUS funding to Brazilian states and municipalities.

The complexity involved in financial transfers from the federal to sub-national governments was only attenuated by changes introduced by the Pact for Health in 2006. These changes mainly apply to the transfer of federal funds, and were designed to equity in fund-to-fund transfers and to overcome the challenges posed by the fragmentation of health policies and programmes. As a result, the transfer of federal funds for health activities and public health services came to be executed in the form of block grants for: (i) primary health care; (ii) medium- and high-complexity outpatient and hospital care; (iii) health surveillance; (iv) pharmaceutical assistance; (v) sus management; and (vi) investments in the health service network.

This new model of federal transfers of SUS resources for decentralized health care funding was expected to allow state and municipal health managers greater autonomy in allocating funds, enabling them to allocate resources to actions according to local needs.[15]

Therefore, the reforms needed to achieve stable and sufficient financing to uphold the principle of universality are:

- Increased government expenditure per capita in the public health care sector,
- Reduced weight of private expenditure in total health expenditure,
- Greater flexibility in the use of funds transferred to states and municipalities,
- The adoption of new criteria for the allocation of federal government funds, including public health needs, the capacities of states and municipalities for self-financing, the distribution of health services and actions in the territory (Fiocruz, 2012); and
- Managerial innovations that reward the efficient use of resources.

Strategies for Science, Technology and Innovation in the Health Sector

An analysis of federal policies on science, technology and innovation (STI) in health reveals institutional complementarity between the industrial sector and health services. Regarding innovation and the production of technologies in the health sector, the Brazilian government has adopted policy instruments to increase domestic production of drugs, vaccines, medical devices, blood products etc. These instruments are geared towards scientific and technological development (stimulating innovative processes), the strengthening of which requires a relationship with the private sector. Among the instruments available for this are the use of the procurement and financing mechanisms

[15] However, transferring funds between blocks is not permitted.

of government agencies such as the Brazilian Development Bank (BNDES) and the Funding Authority for Studies and Projects (Finep) that promote production and innovation.

With regard to health care itself, priorities established in national health policy are now used to inform research and development activities. This means that these activities should satisfy public health needs and help to address inequalities in access to the health system, broadening and strengthening the principles of the SUS. Such is the case with the domestic production of antiretroviral drugs used in the treatment of HIV infection which supply the National STD/AIDS Programme,[16] many different hyper-immune serums and antivenins,[17] reagent kits for laboratory diagnoses,[18] different types of vaccines[19] to respond to the public health demands of the Brazilian vaccination schedule of the Ministry of Health, blood products[20] to make Brazil self-sufficient in the blood products sector, and with the production of basic medicines for people who live with hemophilia, genetic or acquired immunodeficiency, cirrhosis, cancer and AIDS, as well as burn victims. Strengthening the complementarity between the industrial and health sectors is crucial, since many of the challenges the Brazilian health system faces can be found in the interface between these two sectors. These challenges include a strong dependence on foreign sources for health supplies and technologies; increasing health costs; growing commercial deficits in low value-added products manufactured by Brazilian companies in the health care value chain; limited links between health policy and other public policies, whether policies aimed at economic growth or those for social protection; weak connections between the Ministry of Health's internal plans and policies; significant regional inequality in access to health services, especially services requiring complex technologies; and significant regional inequality in services offered.

When it comes to strengthening complementarity, two major problems can be identified. First, while health coverage is expanding rapidly, the industries directly linked to health care (such as pharmaceuticals and medical devices) are declining in terms of productivity and capacity for innovation. This decline is closely associated with weakened government policies on industry and innovation in recent decades. Second, the fragmentation of the health system and the increased focus on local areas discourage the development of policies for promoting research and development for medicine.

In the current Brazilian setting, the federal government is still the protagonist in the area of Science, Technology and Innovation in health care for the following reasons: it defines health priorities (such as the National Agenda of Priorities for Health Research and the List of Strategic Products for the SUS, both compiled by the Ministry of Health in recent years); it finances research and infrastructure (approximately USD 500 million in research grants from the Ministry of Health budget since 2002); and it purchases

[16] Produced by The Institute of Drug Technology (Farmanguinhos), a public pharmaceutical laboratory linked to the Ministry of Health.

[17] Antibothropic, anticrotalic, antibothropic-crotalic, antielapidic, anti-bothropic-lachetic, antiescorpionic, antiarachnidic, anti-lonomia, anti-Africanized bee, antidiphtheric, antitetanic, antibotulinic A, B, E, anti-rabies, and anti-human thymocytes. These bio products are produced by Instituto Butantan, a Brazilian biomedical research centre affiliated with the São Paulo State Secretary of Health.

[18] For example, for Chagas disease, Leishmaniasis, Leptospirosis, AIDS and diseases caused by helminths. These reagents are produced by the Immunobiological Technology Institute (Biomanguinhos), a Fiocruz unit.

[19] Including those for DTP, tetanus, recombinant hepatitis B, BCG, yellow fever, haemophilus influenzae type B, meningitis A and C, poliomyelitis, the measles, mumps, and rubella produced by both the Instituto Butantan and the Oswaldo Cruz Foundation (Fiocruz).

[20] Albumin, fibrin glue, protrombinic complex, factor of coagulation VIII and IX, Von Willebrand factor, and immunoglobulin. These blood products will be produced by the Brazilian Company of Blood Derivatives and Biotechnology (Hemobrás), a public company linked to the Ministry of Health. The Hemobrás blood derivatives plant will begin production by the end of 2014.

equipment, medicines and other strategic technologies (the Ministry of Health purchases over USD 8 billion in health technologies annually). Various initiatives can be identified that use government procurement to drive national production in the area of health. These include Partnerships for Productive Development (PDPs) and the granting of preferential margins in the purchase of national products.

PDPs are partnerships between public institutions and private companies that are intended to expand access to health technologies considered a priority for the country. These partnerships are expected to reduce the vulnerability of the SUS in the long term by internalizing the production of high value-added technologies at a lower cost. The products and services targeted by these partnerships can be categorized as follows: pharmaceuticals, medicines, adjuvants, blood products, vaccines, serums, biological or biotechnological products of human or animal origin, medical devices, diagnostic products for use *in vitro*; and materials, parts, software and other technological components.

As of August 2014, the federal government, through the Ministry of Health, had established 104 partnerships covering 19 public laboratories and 57 private companies engaged in manufacturing 97 different health products, primarily drugs and vaccines. It is estimated that the manufacture of these products in the country will mobilize USD 4 billion per year in government procurement, resulting in annual savings of USD 1.5 billion, with a reduction of equal value expected in the trade deficit.[21]

In addition, the Brazilian government has implemented other initiatives to strengthen the local production of strategic technologies and, thus, reduce the technological dependence and vulnerability of the SUS (Brazil 2013c):

- the establishment of a margin of preference of up to 25 per cent in open bidding conducted within the federal government for the purchase of drugs and medical devices developed in Brazil;
- the creation of specific lines of credit operated by the main funding agencies[22] in the amount of USD 3.5 billion by 2017; and
- changes in the regulatory framework of the National Industrial Property Institute (INPI) and the National Health Surveillance Agency (Anvisa) in order to accelerate the assessment of strategic patents for the SUS and the approval of health technologies for production and commercialization.

The effort to persuade Brazilian-owned businesses to commit to the development of medicinal products in Brazil is a challenge, as it demands their active participation in policy discussions and deliberations. In this regard, it is important to highlight strategies for fostering innovative forms of public-private partnership which can reach even small and medium-sized business owners. Another unresolved issue is the need to create regulatory instruments capable of ensuring that public investments benefit nationally owned enterprises, bearing in mind the fact that many nationally owned companies in which publicly funded projects have invested have already been sold to large transnational companies.

Although there are significant changes under way in the Brazilian regulatory framework for STI in health care, it needs to be stressed that changes in policies on production and

[21] Some products manufactured via PDP are already being acquired by the Brazilian Ministry of Health, such as clozapine, imatinib mesylate, olanzapine, quetiapine, rivastigmine, tacrolimus, tenofovir, and some vaccines (Brazil, 2013b). Figures retrieved from http://www.blog.saude.gov.br/index.php/570-destaques/34290-saude-cria-nova-regulacao-para-a-producao-nacional-de-medicamentos-e-equipamentos.

[22] Finep and the Brazilian Development Bank (BNDES).

innovation are not sufficient. This discussion should be accompanied by institutional transformations which effectively reduce moral risks, including bias in favour of particular businesses or political groups.

This leads to the question of the evolution of productive health care arrangements or models—involving producers of supplies, medications and equipment, health care services and public research and production institutions—and how they functioned together, or combined, before and after the foundation of the SUS (Viana and Silva 2012).

The first productive health care model has the main characteristic of being public and national, as it is composed of public services and institutions, relies on public financing and has a low degree of external dependence. This constitutes a genuinely national scientific development in the field of biotechnology (serums and vaccines). This first model was constructed and has evolved since the First Republic (1889–1930). It involves federal and state governmental bodies of health services and the development and coordination of public institutes of science and technology created in the late nineteenth and early twentieth centuries, such as the Oswaldo Cruz Foundation (Fiocruz) and the Butantan Institute.

The second productive care model was developed from the 1930s onwards from the health care services provided to individuals insured by social security. Unlike the first model, this second arrangement is essentially of a private and international nature. This model predominantly offers private services (associated and contracted private hospitals and laboratories). It receives mixed (public and private) funding and has a chain of global producers and suppliers of materials, medicines and medical equipment. Hence, it involves heavy external dependence on imported health technologies, characterized by growing deficits in the balance of trade of products in the industrial-economic complex of health care, especially during the first decade of the twenty-first century.[23] Table 4 summarizes the main characteristics of the two productive health care models in Brazil.

Table 5. Characteristics of the two productive healthcare models in Brazil

Characteristic	Model public-national	Private-international
Origin	1889-1930	1930s onwards
Emphasis	Public health actions and programmes (immunization, health surveillance etc.)	Individual health care attached to social security (specialized care + hospitalization)
Delivery of care	Mostly public (primary care facilities) + private non-profit (charitable hospitals)	Mostly private for-profit (medical clinics and hospitals)
Funding	Public	Public + Private
STI development	National Public pharmaceutical laboratories Mainly serums and vaccines	International Foreign companies Mainly drugs, medications and medical devices
Degree of external dependence	Low	High

Source: Adapted from Viana and Silva 2012.

[23] Estimated trade deficit for 2014 is approximately USD 11 billion, including medications (27 per cent of the total), drugs (23 per cent), medical devices (22 per cent), blood products (17 per cent), vaccines (six per cent), reagents for diagnosis (four per cent) and serums (one per cent)

In the history of Brazil's national health policy, these two models have been combined in various ways according to patterns of development. In the developmentalist period (1930-80), they functioned alongside each other. But the public and national model was gradually replaced by the private and international one because of several factors: technological change (from biotechnological products to synthetics in the area of medications); the creation of private laboratories that produce serums and vaccines; basic industry and investments in infrastructure taking a leading role in the developmental agenda of the country; and, finally, the internationalization of capital and the arrival of multinational companies in Brazil.

In the period of transition to a new developmental cycle (1980-2004), characterized by neoliberal policies (privatization and the reduction of state involvement), the two models coexisted, with the government emphasizing public policy initiatives to foster the public model by expanding immunization programmes (vaccination campaigns), promoting the public production of vaccines and strengthening the public pharmaceutical laboratories network.[24] There was also an expansion of primary health care and the emergence of the Family Health Programme in 1994.

In the current period, the first public-national model provides a basis for health system reform, as illustrated in specific policies to promote science and technology activities and support the industrial-economic complex of health care. This has occurred simultaneously with the expansion of public health services, especially in the poorest regions of the country such as the Northeast, through increased public hospital and outpatient service capacity—roughly 70 per cent of the health establishments in Brazil that do not offer hospitalization are now public, while the gap between the number of public and private hospital beds is shrinking (IBGE 2009). However, the second (private and internationalized) arrangement is also expanding through increased levels of coverage of private health care plans by means of the geographically concentrated expansion and intense capitalization of the companies that sell health insurance and plans. At the same time, recently approved legislation (Brazil, 2015)[25] allows foreign investors to openly invest in Brazilian hospitals and other health facilities, including not-for-profit hospitals, a measure expected to stimulate private investments in the healthcare sector, which tends to reinforce the private and internationalized model.

In this new context, the provision of high-cost, state-of-the-art medical equipment in large private and teaching hospitals is no longer controlled by health policy-makers, or by third party payers of the public (SUS) or private health plans sectors. Instead, these decisions are made by hospital and clinic managers who are able to leverage the required funds to acquire such technologies. Such decisions, in turn, are heavily influenced by large international companies from the industrial health care complex that adopt various strategies to convince/pressure managers with regard to the technical and financial viability of their products, in a process that clearly serves the interests of the health care complex (Silva and Viana, 2011).

[24] There are 21 public pharmaceutical laboratories in Brazil linked to the federal and state governments. According to Gomes, Chaves and Ninomya (2008), their production can supply around 40 per cent of the medicines required by the SUS.

[25] The previous legislation allowed foreign investments in health insurers, which in turn could purchase hospitals, but hospital companies themselves were blocked from purchasing peers with foreign capital. Considering this situation, pro-market supporters claim that the new measure only corrects an asymmetry of the previous legislation. However, many segments historically attached to the implementation of SUS consider that this change in legislation will increase inequality because private investments will expand access of health care services mainly for people who can afford them. In doing so, it makes more difficult to implement a health system where all citizens are covered under the same terms and conditions (Souza, 2015).

The current period, therefore, is one of the reinstatement of both models and of the accentuation of their historic characteristics in an international setting that is highly favorable to the expansion of the economic dimension of health care. Regardless of how the health system is organized, what matters in the economic context is a guaranteed, growing demand for health services and an increasing use of goods (drugs, vaccines, serums, reagents for diagnostics, medical devices, information systems, etc.) produced by the companies that form the economic-industrial health complex.

It should be stressed that the current structure of the Brazilian health system, characterized by the segmentation of clientele and multiple relationships between the public and private sectors, can be attributed to the development of these two productive care models (involving producers of supplies, medications and equipment, providers of health services and research and production institutions). Therefore the current system, although it envisions a universal and inclusive health care system with equal access to health care, can be conducive to the expansion of private as well as public health care networks. The system has already resulted in the creation of a substantial private health care market, the establishment of several Brazilian companies that produce high-cost medical goods targeting the private health care system, and the introduction of major foreign conglomerates providing the Brazilian market with new, expensive and sophisticated technologies.

The question that arises, in light of this scenario, is how can a sound association between health and development be ensured? In other words, what needs to be done so that the productive care arrangements in the field of health contribute to a synthesis between the public and collective framework for welfare and social inclusion and the logic of the private, individualist market? The answer to this question necessarily involves the acknowledgement that it is the role of the state to define and coordinate public policies to integrate the multiple dimensions of development: scientific, technological, industrial and social. It is our understanding that the state is the key to the establishment and regulation of this process and that its role is to help combine market interests with public health concerns.

Conclusion

Studies and reflections on specific issues relating to the Brazilian health care system must take into account the challenges and contradictions of the economic processes and political choices that have been involved in the operation of a social state still under construction. The challenges posed today to the consolidation of the Unified Health System (SUS) are closely associated with the ways in which Brazil has navigated a wide range of policies, creating a space for a struggle or confluence of political and ideological positions in search of public policies aimed at building a fairer and more egalitarian society.

The institutionalization process of the SUS, especially since the 1990s when political and ideological differences most visibly clashed, has created a space in which many solutions could be tested and implemented to expand access for all Brazilians, as illustrated by the implementation of several successful initiatives, including those focused on the health family strategy, the national immunization programme, HIV prevention and AIDS treatment, pharmaceutical care, etc. However, the country still faces many challenges in order to increase the degree of universality in terms of population, costs and services covered by the system.

The three challenges discussed in this text—the regionalization and expansion of the public health care system; stable and sufficient funding to uphold the principle of universality; and the regulation of science, technology and innovation activities and public-private relations in health care—highlight the difficulties involved in moving towards universal social policies in a context of great social inequality, chronic underfunding and great technological vulnerability of the health care system.

The return of the state as the strategic agent in supporting development in Brazil opens a window of opportunity to create a virtuous complementarity between health and development. The strength of this complementarity obviously depends on the capacity of the government to propose and implement public policies in partnership with other actors of society, such as private companies and social movements. It also depends on whether the government has a long-term and integrated perspective which links the health sector to the long-term socioeconomic development of the country.

As correctly stated by some studies (Paim et al., 2011), the challenges facing the SUS are ultimately political. They cannot be fully resolved in the technical sphere; they can only be resolved through the concerted efforts of individuals and of society.

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