

# Health research in Brazil: context and challenges

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## ABSTRACT

The deficiencies in Brazilian science and technology policies with regard to the challenges of the twenty-first century are discussed, while acknowledging that these policies have in some respects been very successful. The importance of health research within the framework of general endeavors in science, technology and innovation in this country is also demonstrated. The distribution of research around the world is then summarized, and a specific position is claimed for Brazil, along with some other countries, within the global panorama. Some elements needed for maturation of the sectoral system for health innovation are discussed. Finally, the need for the presence of the Ministry of Health within the panorama of health research, for this maturation process to take place adequately, is discussed.

**KEYWORDS:** Research, trends. Research support. Technological development.

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**Table 1** - "Paradigms" guiding science and technology policies at world level, between the end of the Second World War and the present day.

Approximat and period	Paradigm	Context	Technological change model
1945-1965	Science as the "motor of progress"	"Scientific prestige"	Linear model governed by science (offer)
1965-1985	Science as a "problem-solver"	Industrial competitiveness	Linear model governed by the market (demand)
1985 -	Science as a "source of strategic opportunities"	Globalization of the economy and research systems	Complex model associating offer (science) and demand (market)

Source: Modified from Ruivo,<sup>12</sup> 2004

## HEALTH RESEARCH IN BRAZIL: CONTEXT AND CHALLENGES

Science and technology policies at world level relating to the period from just after the Second World War to the present day were classified by Ruivo<sup>12</sup> into three "phases" or "paradigms". On this basis, Brazil has entered the twenty-first century notably out of step with leading countries around the world. According to this author, these three phases are: 1) "science as the motor of progress", which guided science and technology policies from the end of the Second World War until the mid-1960s; 2) "science as a problem-solver", which lasted until the mid-1980s; and 3) "science as a source of strategic opportunities", which has been developing up to the present day.

Until the end of the twentieth century, Brazil presented a science and technology policy sustained by principles, strategies, regulatory norms and institutions that contained strong elements of the first phase and only some elements of the second phase. Table 1 presents a summary of the characteristics of these three phases.

What were the principal characteristics of science and technology policies holding sway until the end of the 1990s? The most important and enduring of these is certainly the idea of "science as the motor of progress" or, said in another way, the hegemony of the explanations of technical progress as a linear process based on the offer of knowledge. The strength of this notion is, for example, confirmed by the virtuous path taken by a federal support agency that was created to overcome it. The *Fincanciadora de Estudos e Projetos* (Finep - Studies and Projects Funding Agency) was dreamed up in the second half of the 1960s as a technological support arm for Brazilian industry. Continuing along Ruivo's analytical scheme, it was envisaged as a tool through which Brazil could advance to the second of the phases indicated in Table 1. Despite the introduction of various elements of this new phase in Brazil – non-refundable large-scale finance, the "integrated programs" in which elements of priority definitions

were outlined (the *Programa Integrado de Doenças Endêmicas* [Integrated Endemic Diseases Program], for example\*), and the programs for directly financing companies – the actions by Finep in the 1970s, by then governing the *Fundo Nacional de Desenvolvimento Científico e Tecnológico* (FNDCT - National Fund for Scientific and Technological Development), ended up directing most of their energies towards financing the construction of the Brazilian postgraduate system. This task, which was relevant and extremely successful, was achieved on a conceptual basis governed predominantly by the offer of academic knowledge.

The construction of the postgraduate system shows another important characteristic of science and technology policies in Brazil that also helps in understanding the Brazilian version of the model based on science as the "motor of progress". It entailed growth with a horizontal pattern, without well-defined priorities, similar to the strategy of import substitution seen in Brazilian industrialization.

Policies like this, over the last half century, have constructed a system that, according to a census by the National Council for Scientific and Technological Development (CNPq - *Conselho Nacional de Desenvolvimento Científico e Tecnológico*),\*\* consists of almost 20,000 research groups and more than 75,000 active researchers who are conducting research in practically all the fields that are researched in the world. These policies have led Brazil from the 27<sup>th</sup> position in the production of scientific articles in 1981 (0.4% of world production) to 18<sup>th</sup> position in 2001 (1.4% of word production).<sup>7</sup>

Nonetheless, there are two important challenges to be faced, among others. Firstly, at least to sustain the positive outcome from the last three decades in the next three ones. And secondly, to increase the rate of incorporation of scientific and technological knowledge into new processes and products that are capable of meeting the needs and desires of Brazilians.

\*This and some other programs were operated by CNPq and conceived under the leadership of José Pelúcio Ferreira, Chairman of Finep and Vice-Chairman of CNPq at that time.

\*\*Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq. Diretório dos Grupos de Pesquisa no Brasil, censo 2004. Available from <http://dgp.cnpq.br/censo2004> [Access in Dec 2005]

For this, it is necessary to recover the lost time in updating the national science and technology policies. The zero point for these policies around the world is the year 1945 and, in 1951, Brazil adapted to the trends in leading countries by creating the then CNPq. In the middle of the 1960s, the resurgence of the Japanese economy led the United States, and subsequently other developed Western countries, to revise the model based on the demand side of knowledge. At the beginning of the 1970s, Brazil attempted to adjust to the market-pull model for industrial competitiveness, through the combination of Finep and FNDCT. Financial globalization, the basic reference for the transition to the third phase in postwar science and technology policies, is a phenomenon of the 1980s. The Brazilian efforts towards updating its science and technology policies only started at the end of the 1990s, almost 20 years later. In this sense too, the 1990s was a lost decade. To face up to these challenges, reforms in national science and technology policies are needed, in order to overcome the characteristics indicated early, even though they had been capable of constructing a significant research system within the perspective of a developing country.

Over the last few years, positive changes have arisen through the creation of Sectoral Funds; the drafting of the Industrial, Technological and Foreign Trade Policy, the Innovation Law and the decree that regulates it; the creation of the Support Program for the Pharmaceutical Industry (Pró-Farma) by the *Banco Nacional de Desenvolvimento Econômico e Social* (BNDES - National Bank for Economic and Social Development); and the implementation of Law No. 11,196 (a tax concessions law) and the bill of law that regulated the FNDCT. Three characteristics are highlighted by this set of changes: 1) increase in the capacity for induction, in the sense of reconciling scientific merit and priorities defined by players within and outside of the scientific community; 2) emphasis on the technological component and the search for innovation, thus shifting the traditional balance observed in research conducted in this country, which has been predominantly scientific; 3) reinforcement of the business component, thus directly stimulating companies or considering their association with research groups and institutions.

One probable result from these changes that is important for the health sector is the reinforcement of the vertical sectoral components for research support. The reinforcement of the mechanisms for inducing and establishing priorities, as proposed in the regulations for the sectoral funds and the industrial policy (which also has sectoral priorities), work towards attenuating

the tradition in the science and technology policies in Brazil that is based on the offer of knowledge.

## THE PLACE OF HEALTH RESEARCH IN THE WORLD AND IN BRAZIL

A survey carried out by the Global Forum for Health Research\* showed that, in 2001, almost 106 billion dollars were spent on research and development around the world. Public sources were responsible for 44% and private sources for 56% of that sum. The same survey also indicated an expenditure growth rate of almost 25% between 1998 and 2001. Around 96% of the total resources came from sources in developed countries.

In an analysis of the worldwide distribution of health research through a different prism, Paraje et al<sup>11</sup> (2005) showed that 90.4% of the world's scientific-technological bibliographic output was concentrated in 42 high-income countries and, of these, the five most productive countries (United States, United Kingdom, Japan, Germany and France) accounted for 72.5% of the total production. The remaining 9.6% were distributed thus: 1.7% among 63 low-income countries, 5.4% among 54 lower middle-income countries and 2.5% among 31 upper middle-income countries. It is worth highlighting the small presence of upper middle-income countries in relation to those of lower middle-income. The leading five countries in this latter subgroup (China, Russian Federation, Brazil, Turkey and South Africa) account for 4.4% of the 5.4%. If the share corresponding to the production from India (a low-income country) is added to this 4.4%, it can be seen that almost 6% of world output in health research is located in just a few countries, among which Brazil. This group was recently given the name Innovative Developing Countries (IDC).<sup>10</sup>

This title was derived from a conceptual framework proposed by Mashelkar,<sup>8</sup> in which the economic strength of a country is compared with its autochthonous research capacity. Within this perspective, a set of countries with a well-developed research capacity can be identified, even though these countries are not (yet) world economic leaders.

The health sector in Brazil today mobilizes between 7.5% and 8% of GDP, and around 40% of this effort comes from the public sector, within the three spheres of government. In addition to the immense network of service provision, the health sector incorporates an important industrial sector that is responsible for manufacturing medications, diagnostic devices, equipment, vaccines and blood derivatives. This segment is inten-

\*Global Forum for Health Research – Financial Flows in Health Research, 2004. Available from [http://www.globalforumhealth.org/filesupld/monitorig\\_financial\\_flows2/MFF04chap0.pdf](http://www.globalforumhealth.org/filesupld/monitorig_financial_flows2/MFF04chap0.pdf) [Access in January 2006]

**Table 2** - Mean annual financial expenditure between 2000 and 2002 on health research and development in Brazil, according to the main sources.

Funding sources	2000	2001	2002	2001-2003	Annual average
Federal government	262,604,143	227,788,605	190,056,764	680,449,512	226,816,504
Ministry of Health	32,487,903	32,093,522	33,326,362	97,907,787	32,635,929
Ministry of Science and Technology	54,021,258	56,997,266	42,147,385	153,165,909	51,055,303
Ministry of Education	176,094,982	138,697,817	114,583,018	429,375,817	143,125,272
State governments	235,195,516	189,058,567	147,225,037	571,479,120	190,493,040
State education departments	171,465,895	133,524,506	107,459,790	412,450,191	137,483,397
Research support agencies	63,729,621	55,534,061	39,765,247	159,028,929	53,009,643
Public sector	497,799,659	416,847,172	337,281,802	1,251,928,633	417,309,544
Private sector	169,049,849	131,648,181	106,230,214	406,928,244	135,642,748
International organizations	10,845,066	20,510,366	29,113,292	60,468,724	20,156,241
Total	677,694,574	569,005,719	472,625,308	1,719,325,601	573,108,534

Amounts in United States dollars

Source: Ministry of Health, Secretariat of Science and Technology and Strategic Supplies, Department of Science and Technology (MS/SCTIE/Decit) - Financial flows for health research in Brazil, 2000-2002.

sive in technology and innovation, although such activities are predominantly developed abroad.

A recent survey on the funding of health research in this country that was commissioned by the Ministry of Health\* revealed that, between 2000 and 2002, the mean annual expenditure on health research and development had reached US\$573 million. The survey included all the universities and institutes with health research activities, the Ministries of Health, Science and Technology (with their support agencies) and Education, along with the principal research support agencies belonging to Brazilian states. The data relating to the private sector were extracted from the Technological Innovation Survey by the *Instituto Brasileiro de Geografia e Estatística* (IBGE - Brazilian Institute for Geography and Statistics).\*\* The private sector was represented by the pharmaceutical industry (245 companies) and health equipment industry (368 companies). Some aggregated data extracted from this survey are shown in Table 2.

The data in Table 2 show a situation that was very typical of an IDC, with three characteristics that reveal an immature national innovation system:

1. a significant volume of financial resources destined for health research and development, corresponding to 1.5% of national health spending and 3.3% of public national health spending;
2. a relatively small participation by the private industrial sector in the health research and development spending;
3. significant autochthonous capacity for research and development funding, expressed through the fact that only 3.5% of the financial resources injected into the system were from sources outside Brazil.

It can also be seen that there was a small financial

presence from the national health authority in the research and development activities (Table 2).

The most wide-ranging data on the installed capacity for health research in Brazil are available from the Research Groups Directory, a database belonging to the Lattes platform of CNPq. The key to identifying health research activities was the link that lines of research had with the "human health" sector of activity, as informed by the leader of the research group. This methodology has been utilized since 2001.<sup>6</sup> According to this criterion, health research was performed by all research groups with at least one line associated with this sector, independent of the predominant field of knowledge in their activities. Likewise, all researchers linked with these research lines related to the human health sector were considered to be the critical mass involved in health research in Brazil at that time. Table 3 presents the dimensions of the health research activities in Brazil in relation to the total volume of research carried out in this country.

In 2004, health research activities represented around one-third of all research activity in Brazil, without taking companies into account.

Research groups relating to all the main field of knowledge had research lines connected with the

**Table 3** - Proportions of health-related groups, research lines and researchers in relation to the total for all sectors. Brazil, 2004.

	Health-related research	Research in all sectors	%
Groups	6,471	19,470	33.2
Lines	18,351	67,903	27.0
Researchers	25,562	77,649	32.9
Researchers with doctorate	15,978	47,973	33.3

Source: CNPq - Brazilian Research Groups Directory. 2004 Survey.

\*Ministério da Saúde/Secretaria de Ciência, Tecnologia. Departamento de Ciência e Tecnologia e Insumos Estratégicos - Fluxos Financeiros para a Pesquisa em Saúde no Brasil, 2000-2002. Research report, 2005. (Coordinated by Cid M M Viana)

\*\*Instituto Brasileiro de Geografia e Estatística - Pesquisa Nacional de Inovação (PINTEC). Available from <http://www.pintec.ibge.gov.br/> [Access in Dec 2005]

“human health” sector of activity. Around 50% of the groups were within health sciences and just under 25% within biological sciences. The remaining quarter was within other large fields of knowledge.

Medicine was the predominant field of knowledge in almost 20% of the groups that conducted health research, but the dispersion among other fields was very large. Health research was being conducted in groups for which the predominant activities were categorized in 72 out of the 75 fields in the CNPq tree. However, the 15 fields that were most present accounted for 71% of the groups.

The geographical distribution of the general and health research activities presented the same pattern of regional concentrations: 63% of the groups were in the southeastern region, 17% in the southern region, 13% in the northeastern region, 5% in the center-west region and 2% in the northern region.

Health research can be subdivided into four segments: clinical, biomedical, technological and public health. Even though there is still no precise methodology for distributing the groups between these four segments, a first attempt to differentiate between the 18,351 lines linked to the human health sector of activity has established the following divisions.\* Clinical research incorporates all the research lines in which the primary link is psychology and some lines linked to nutrition and pharmacy, and in addition to this, it incorporates all the lines in which the primary link is health sciences, except for those linked with public health. Biomedical research incorporates all the lines primarily linked to the large field of biological sciences, and some lines linked to pharmacy and nutrition. Public health research incorporates all the lines linked to collective health, and those linked to applied social sciences and human sciences, except for psychology. Technological health research incorporates all the lines primarily linked to engineering and exact sciences, and in addition to this, it incorporates many research lines linked to agricultural science and some lines linked to nutrition and pharmacy. The results, in Table 4, show the predominance of clinical research, accounting for almost half of Brazilian efforts in health research.

## THE CHALLENGE OF MATURING THE NATIONAL INNOVATION SYSTEM FOR HEALTH

The concept of National Innovation Systems belongs to the field of the technology economy and was developed in Europe and the United States in the 1980s and 1990s. It sought to comprehend the connection processes between the large numbers of players in-

involved in how new products and processes appear on the market, and particularly those involving advanced scientific and technological knowledge. According Albuquerque<sup>1</sup> (1996), a National Innovation System is “an institutional construction that is the product of planned and conscious action or the sum of unplanned and disconnected decisions that moves technological progress forward in complex capitalist economies. By constructing this innovation system, the information flows needed for the technological innovation process are enabled”.

The development of the concept was based initially on an examination of the world’s leading economies and was then extended to the countries that have industrialized more recently, among which the IDCs. The concept has also more recently been extended to economic sectors (sectoral innovation systems). On characteristic of these sectoral systems is the presence of great heterogeneity in the innovation process between different sectors and their subsectors.<sup>5</sup>

The main focus of such studies is generally placed on the relationships between public and private players with regard to economic development. The link between national innovation systems and increases in social welfare and inclusion is a terrain yet to be explored. In Brazil, prominence needs to be given to the research by Albuquerque et al.,<sup>2</sup> who discussed the possibilities in the health field of “combined construction of an innovation system and a social welfare system” and the studies by Gadelha<sup>3</sup> and Gadelha et al.,<sup>4</sup> who coined and developed the concept of the “productive health complex”.

The principal challenge for the health research and development system in Brazil relates to the maturation of the health innovation system. Among other matters, this signifies:

- 1) internalization by companies of their research and development procedures that today are predominantly conducted abroad, and the expansion of the still incipient support mechanisms for these companies’ research and development activities, by the federal and state governments;

**Table 4** - Health research: distribution of research lines by segment. Brazil, 2004.

Segment	Number of lines	%
Clinical research	8,586	46.8
Biomedical research	4,531	24.7
Technological research	2,781	15.2
Public health research	2,431	13.2
Unclassified	22	0.1
<b>Total</b>	<b>18,351</b>	<b>100.0</b>

\*According to the methodology of the CNPq Research Groups Directory, each research line can be linked to up to three fields of knowledge.

- 2) reinforcement of health research activities in universities and research institutes, with adaptation to the priorities established by the health system and in particular by its public component;
- 3) construction of more solid and durable bridges than those existing at present, between companies, research institutions and the health system.

The importance of the knowledge developed in research institutions for advancing the health production complex is well known, particularly its components of biotechnological nature, such as medications, vaccines and diagnostic devices. The recent regulating of the Innovation Law has opened the way towards establishing such bridges. On the other hand, it is also known that the place for innovation, par excellence, is companies. However, even with the recent political and legal advances, the direct support channels to companies for research and development projects are still very obstructed. Nonetheless, as already mentioned, there is a need to join together the Sectoral Innovation System for health as an economic category (generators of employment and income through production) to the health sector as a social inclusion category (generator of employment and income through increases in welfare).

For this, it will be essential to develop what perhaps is the principal support tool for health innovation in companies and which could also bring the Ministry of Health to the center of research and development actions: the utilization of the purchasing capacity of this ministry as an instrument of technological policy. Among the various possibilities of such utilization, the furnishing of guarantees to BNDES and Finep linked to purchases for the National Health System (SUS) (medications, vaccines, equipment and others) that are made by health secretariats in the Ministry of Health can be highlighted.

## THE ROLE OF THE MINISTRY OF HEALTH IN RESEARCH

Between 2004 and the end of 2006, the *Departamento de Ciência e Tecnologia da Secretaria de Ciência, Tecnologia e Insumos Estratégicos* (MS/SCTIE/Decit; part of the Ministry of Health [Department of Science and Technology of the Secretariat of Science, Technology and Strategic Supplies]) will have disbursed around US\$100 million for supporting health research in Brazil. These resources are added to funds coming from other ministries and agencies in the Brazilian states and are put to work with technical support from CNPq, Finep and almost all the research support foundations (FAPs) in the country. These agencies also allocate resources from their budgets

and the Sectoral Funds to the projects supported by Decit (a further US\$25 million).

These actions are carried out through efforts to construct from the concepts: to translate these concepts into an explicit political formulation and gain agreement for this policy, and also for a research priority agenda, with government agencies, researchers, health administrators and SUS users.

There are two basic reasons why the Ministry of Health should occupy a central place in the health research policy. The first of these is to bring together the health research agendas and public health policies.

In many developing countries with some tradition in research, in particular in the Americas, the science, technology and innovation policy is governed by bodies similar to CNPq and by other agencies, which may or may not be subordinate to a ministry with horizontal (transversal) action, like the Ministry of Science and Technology. Within the field of science and technology, horizontal actions relate to all fields of knowledge, without "specializations". Their counterpart is sectoral (vertical) actions, which deal with specific sectors of activity. In Brazil, the principal example of sectoral activity is the agricultural and livestock sector. In this, the Ministry of Agriculture (which is a sectoral ministry, unlike the Ministry of Science and Technology) is the principal player in research activities, through the actions of the *Empresa Brasileira de Pesquisa Agropecuária* (Embrapa - Brazilian Company for Agricultural and Livestock Research). However, the agriculture and livestock sector is an exception. There are other reasons involved, but it is indisputable that the success of Brazilian scientific-technological research and innovation in the agriculture and livestock sector is greatly due to the decision, taken in 1973, of verticalizing its research policy. This success has been both scientific-academic (measured by an international presence among authors of articles that is above the national average for all areas), and technological and innovatory (measured by success in agribusiness and family agriculture).

In essence, the verticalization of a sectoral policy for science, technology and innovation brings its priorities closer to those of the sectoral policy as a whole. For this movement to be a success, there are other important variables involved, such as the degree of priority of the sectoral policy within the government's overall priorities and, even more relevantly, the economic importance of the sector within the overall economy. These two conditions were present in the case of the agricultural and livestock sector and are also present in the health sector.

The second reason why the Ministry of Health must have a role of greater importance within health research is the need to carry more financial resources over to research and to find new sources of funds. Referring back to the recent survey on financial flows within health research and development in Brazil (Table 2), it can be seen that, although the sums coming from the private sector are considerable, a closer look at them reveals another picture, as the data in Table 5 show.

It can be noted that around 85% of the expenditure is destined for the training, sustention and stimulus of the human resources involved in research and development. The public resources destined for activities solely related to stimulating research projects are modest in comparison with the installed capacity for health research in Brazil.

It is within this context that the backing of around US\$100 million for the three-year period 2004-2006 provided by MS/SCTIE/Decit must be assessed. It represents an increase of around 60% in total expenditure, except for bursaries and salaries, in relation to the expenditure on health research in the three-year period 2000-2002.

One of the historical subterfuges for justifying the small extramural presence of the Ministry of Health within the research and development scene in Brazil since its creation in 1953 was to consider that only the research capable of bringing immediate responses to the demands of public health would be of interest to the Ministry of Health.

The increasing pace of the advance of knowledge and the resultant increase in competition for its utilization within the sphere of the health production complex have changed the face of health research and development, thereby decreasing the time taken to transform new knowledge into new products or process and increasing the space for so-called "strategic" research. This change is characterized by exploration of the frontiers of knowledge while, from the outset of the project, taking into consideration the practical utilization of possible new knowledge. In other words, this type of research operates within the environment of "disinterested" research: it makes use of its rigorous conceptual basis and methodological and technical tools while, however, always having an arrival point in mind that is connected with the resolution of a concrete problem within human health.

**Table 5** - Mean annual expenditure on research and development according to large items of expenditure. Brazil, 2000-2002.

	US\$ millions	%
Total for the public sector	417	100
Salaries of researchers and teachers	232	55
Training and productivity bursaries	130	30
Research support	55	15

Source: MS/SCTIE/DECIT. Financial flows for health research and development in Brazil, 2000-2002.

Source: Ministério da Saúde/Secretaria de Ciência, Tecnologia e Insumos Estratégicos/ Departamento de Ciência e Tecnologia - Fluxos Financeiros para a Pesquisa em Saúde no Brasil, 2000-2002. Research report coordinated by Viana CMM, 2005.

The growth in the space for strategic research has, throughout the world, attracted legions of health investigators, particularly bioscientists, thus modifying their research interests, attracting them to new lines of activity and altering their careers. Strategic research has suggested a probable new type of research called "translational" and has coined an explanatory expression for the shift in interests: "from the bench to the bedside".

The activities of the Ministry of Health in the field of research and development should extend to all the areas capable of increasing the coverage and efficacy of health actions. To adequately place the large installed capacity for health research in Brazil at the service of improving the population's health conditions, the Ministry of Health needs to expand its vision, through making itself available to support the different links in the chain of knowledge within health research, with special attention to strategic research. An approach of this nature presupposes abundant resources, which is not the case. Consequently, it becomes necessary to establish priorities.

The proposed budget for the United States National Institutes of Health (NIH) for 2005 was US\$28.6 billion (around 80% for extramural research and 10% for its own institutes). It would be reasonable to think that, with this quantity of resources, the idea of establishing priorities for research support could be abandoned. However, the NIH, which is answerable to the equivalent of the Ministry of Health in the United States, does establish its priorities. They are very extensive, of course, but indispensable for justifying requests to Congress for funds. Equally, all bodies for stimulating health research around the developed world establish their priorities, at a much more modest budget level but nonetheless still impressive in relation to Brazilian standards.\*

\*Medical Research Council, 2004-2005 (United Kingdom): 512.4 million pounds (~US\$887 million). Canadian Institutes for Health Research, 2002-2003 (Canada): 615 million Canadian dollars (~US\$499 million). Institut National de la Santé et de la Recherche Médicale, 2005 (France): 499 million euros (~US\$584 million). Within the world of the Innovative Developing Countries, the figures are much smaller and comparable with the Brazilian figures. The budget for the Indian Council for Medical Research for the fiscal year 2002/2003 was approximately US\$200 million.

In addition to the problem of scarcity of financial resources, definition of priorities is essential for establishing the first justification for the Ministry of Health to occupy itself with health research administration. Determining priorities is essential for the research agenda to be brought closer to public health policies. In 2003 and 2004, Decit/SCTIE worked towards constructing a national agenda, starting from a debate with health researchers, administrators and users. The proposal was discussed and approved at the Second National Conference on Science, Technology and Innovation in Health, which was held in Brasília in 2004.<sup>9</sup> This agenda, which is continually undergoing updates, has been guiding the research stimulation actions of the Ministry of Health.

Historically, the participation by the Ministry of Health in Brazilian efforts within health research was centered on internal stimulation actions, through its own research institutes, and in particular the *Fundação Oswaldo Cruz*. In 2003, the conceptual basis and policies of the new proposal were launched and, since 2004, the Ministry of Health's actions have been expanded towards more vigorous extramural stimulation activities, seeking to reach all of the institutions and research groups active with health-related activities in Brazil.

The greatest fragility of the proposal is its low level of

institutionality. Everything that was done between 2003 and the present day has been sustain solely by the sensitivity and political will of the team directing the ministry. For this policy to be incorporated into the government – and by extension, to be transformed into State policy, with the incorporation of the scientific and technological research within the sphere of the tasks of SUS – it will be necessary to put the proposals onto a more institutional footing. And one of the most important measures for achieving this in our setting is to create a research stimulation body connected to the Ministry of Health, along the lines of the bodies that exist in the leading countries for health research in the world.

Among the 30 countries with offices and representation in the Pan-American Health Organization, it is only in the United States and Canada that the government bodies responsible for public health policies govern health research. These are also the only countries in which this governing action is carried out by means of the activities of a specific body for health research stimulation. These two countries, which are world leaders in this field of research, did not attain this leadership solely by having their sectoral research policies linked to the respective sectoral ministries. Nonetheless, it is not improper to think that the choice of this path may have contributed towards sustaining this position.

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