

Hillegonda Maria
Dutilh Novaes

Faculdade de Medicina,
Universidade de São Paulo,
São Paulo, Brasil.
hidutilh@usp.br

Setting and implementing new policies for science, technology, and innovation in health

The description of the early years of setting and implementing the National Policy for Science, Technology, and Innovation in Health by the Ministry of Health in the context of the new Administration elected in 2003, an on-going effort, is fascinating, and provides the elements that lead us to recognize it as something new and important in the scenario of Science & Technology and Research & Development policies in Brazil.

This policy is part of an expanding and varied group of proposals and initiatives, both international (WHO, UNESCO, UNICEF, World Bank, NGOs, etc.) and domestic (in developed and developing countries), with increasing importance in the 1990s, having in common the central objective of enhancing the impact of knowledge as an instrument for social change (development, equity), stronger social policies (health, education, environment) and more effective practices (health care). Based on different theoretical, political, and ideological perspectives as well as interests, the proponents agree that scientific and technological development has failed to contribute, as it could and should, to making this world better for everyone (even to the contrary). However, there is disagreement over the reasons for this failure and how to solve it.

Health, one of the most valued social goods in contemporary societies, is the object of many of these initiatives. An initial major problem they have to face is the definition of what is health (not the absence of disease...), and what areas of science and technology will be considered important for improving individual and population health. From a more general perspective, knowledge originating in all areas of Science & Technology may potentially have an impact on health, but usually "Science & Technology for health" puts the medical, biomedical, and public health/collective health areas in a central position, acknowledging that it establishes connections with many other areas when dealing with specific problems, and its poorly defined boundaries usually are dealt with in a more or less *ad hoc* way, as part of specific Research & Development policies.

What has been seen as "not right" with Science & Technology & Innovation in health? Depending on the context and who makes the diagnosis, emphasis is on more resources as a whole for Research & Development, in the right

place and the right time, more interest and resources for Research & Development to procure "new" knowledge and technologies for those problems that mainly affect the poor (infectious and environmental diseases) ¹, more knowledge or evidence (valid and available knowledge) about modifiable risk factors and interventions to reduce the risk of major causes of disease, injury, and disability and the effectiveness of these interventions ², or more evidence for the development and implementation of effective, efficient, and equitable health policies, systems, and services ³. Hardly anybody will disagree that they are important, but what comes first, what is more important? Since resources for Science & Technology, industrial development, and health care are always insufficient, priorities are established and choices have to be made, and in fact are made all the time, explicitly or implicitly.

Transforming, as in the case presented here, the process of establishing thematic priorities in health, obtaining resources, and implementing procedures that make it possible to produce new knowledge about them into a Science & Technology & Innovation policy in itself, with the explicit identification of stakeholders (health and research policymakers, researchers, industry) and their responsibilities in obtaining and using the results, is new in Science & Technology & Innovation policies, and a first essential step. Other steps will follow, each one bringing new challenges.

A major challenge, as experiences in developed countries have shown, is articulating these specific policies with existing research policies and health policies and the overall cultural, political, and economic context ⁴. More and new money for Research & Development is always welcome, particularly in a country like Brazil where research funding, although increasing in volume, is still less than in developing countries, and as the identified priorities are attractive to researchers from many fields, they will seize the opportunity to obtain resources and continue to do research in their usual way.

Researchers and policymakers are known traditionally as "travelers in parallel universes" ⁵, and differ in their decision-making and valuation. Even within these universes, divisions exist, health and research policymakers often belong to different worlds, as do the researchers belonging to the "hard sciences" and the "applied sciences", traditionally considered less scientific, and this policy imposes a change in traditional practices and mindsets. For example, selecting submitted projects in accordance to the perspectives of this new policy,

with different but also valid criteria, will require a specific and not always easy learning process for committee members and administrative officials, and changes in operational rules may prove necessary. Also, the monitoring and impact evaluation of the approved projects and the translation of knowledge into new health policies have been a challenge in all contexts where this type of research policy has been proposed, and it takes time, policy sustainability, and shared responsibilities among researchers, policymakers, advocates, and citizens in order to produce real changes.

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Luiz Jacintho da Silva

*Faculdade de Ciências Médicas, Universidade Estadual de Campinas, Campinas, Brasil.
ljsilva@unicamp.br*

Having made a very small contribution to the pre-conference texts referred to by Guimarães et al., nevertheless I am inevitably part of the process very appropriately described in their paper. I am proud to state that I will never be able to sneer at the process or claim that I was not consulted.

The organization and implementation of the 2nd National Conference on Science, Technology and Innovation in Health was truly an impressive undertaking, and there is little left to comment on, apart from words of praise for those in charge.

What should be under continuous and permanent discussion is the policy, or policies, emerging from the process. As can easily be inferred from the paper by Guimarães et al., the development of a national policy (or agenda) for health research in Brazil did not begin re-

cently, nor can it be given a "date of birth". The Brazilian establishment for research in health-related topics dates back more than a century.

Although many generations of scientists gave come and gone, there really was no national consensus on the agenda to be followed, so that priorities followed individual, institutional, or pressure group interests. Thus the effort by Guimarães et al. has been needed for a long time. However, this necessity should not be seen as a beginning, as their paper sometimes implies, but as a milestone in a long historical process.

Creating a national research agenda by consensus, at least by majority approval, is no small matter, but it may prove to be a fruitless effort if not carried out with and within a receptive scientific environment.

This is what differentiates the present moment from others in the past. Guimarães et al. point out quite appropriately that scientific research in Brazil has grown exponentially, in quantity and quality, in recent years and in different areas, with health and agriculture as excellent examples.

A misguided idea would be to identify a single factor behind this growth. A multitude of factors, many emerging from conflicting interests, were responsible. More than a generation benefited (and still benefits) from government financing of graduate and post-graduate studies abroad as well as financing for research and infrastructure in Brazil. The policies governing these grants have been criticized on several occasions, often for good reason. Even Brazil's sadly remembered military governments help shape the scientific and public health communities of the present.

All this makes the early 21st century a prime moment for setting a national research agenda. The agenda finds both a solid and growing scientific establishment and an expanding national health system in dire need of science-based guidelines. In addition, the economic stability achieved by Brazil makes way for the necessary long-term funding of the research outlined in the agenda.

Another important issue stated appropriately by Guimarães et al. is the definition of a clear role for the Ministry of Health in conducting the process of formulating a national research policy and guaranteeing its financing. This should not be seen as mere inter-institutional bickering or as an attempt to step into the shoes of the Ministry of Science and Technology, the country's main overarching research funding agency, or the Brazilian National Research Council (Conselho Nacional de Desenvolvimento Científico e Tecnológico – CNPq).