

Innovation in health and neglected diseases

The World Health Organization (WHO) and Doctors Without Borders recently proposed the classification of diseases as *global* (occurring worldwide), *neglected* (more prevalent in the developing countries), and *most neglected* (exclusive to the developing countries). This classification represents an evolution in the term “tropical diseases”, since it contemplates the political, economic, and social development contexts. It extends beyond the view (inherited from colonialism) of geographic determinism in disease causality. It also signals that the struggle against these diseases, which particularly affect marginalized populations, is essential for achieving the United Nations Millennium Development Goals.

If the principal causes of a disease were limited to geographic factors, it would suffice to develop a specific intervention against the specific agent to make its control possible. This view framed the research programs created in the 1970s (the Integrated Program on Endemic Diseases in Brazil and the WHO Special Program for Research and Training in Tropical Diseases), which focused their initial priorities on financing research. Although necessary, research activities are not *sufficient* to control neglected diseases, but are merely a component in a complex system of *health innovation*. Smallpox eradication is a good example of what we are talking about: (a) *Product* innovation: research activities generated an effective, low-cost vaccine; (b) *Method* innovation: development of a bifurcated needle for inoculation of a constant amount of vaccine; (c) *Process* innovation: involvement of local system levels in application of the vaccine, thereby reducing costs; and (d) *Strategy* innovation: adoption of vaccination in “rings” rather than mass vaccinations, thus guaranteeing the sustainability of eradication.

Why do neglected diseases persist? They persist because of different causes or “failures” that we classify in three types: *science failure* (insufficient knowledge); *market failure* (the medicines or vaccines exist, but at a prohibitive cost); and *public health failure* (cheap or even free medicines exist but are not used, due to deficient planning) (*Innovation Strategy Today* 2006, 2:1-12). For different diagnoses, different treatments. Failures of science require more research. Market failures require innovative financing strategies or negotiations to reduce prices. Public health failures require new strategies.

There is a clear need to devise a *Global Health Innovation System*, capable of integrating the industrialized countries’ systems with those of the developing countries, which lag behind in their development (*Innovation Strategy Today* 2005, 1:1-15; 2006, 2:1-12; *Science* 2005, 309:401-4).

What are Brazil’s prospects in this scenario? The challenge is huge, since the country has invested unevenly in research, technological development, and innovation. It has failed to invest sufficiently in education for Brazilians to either enjoy the “knowledge economy” or to decrease the inequity that divides us. Neither has it succeeded in developing an industrial policy linking academia, government, and industry.

Some recent developments like the passage and regulation of the Innovation Act have pointed in the right direction. In the health field, important strides include the creation of the Department of Science and Technology under the Ministry of Health’s Secretariat for Science, Technology, and Strategic Inputs, and the Department’s issuing of various calls for projects stimulating health innovation (including for *neglected diseases*). However, much remains to be done in order for Brazil’s public health achievements, like the internationally acknowledged National STD/AIDS Program, to be repeated in relation to neglected diseases, an area whose very nomenclature is indicative of its low priority.

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