

WORLD REPORT ON
KNOWLEDGE FOR
BETTER HEALTH

Strengthening Health Systems



WORLD HEALTH ORGANIZATION

GENEVA

2004

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STRENGTHENING HEALTH RESEARCH SYSTEMS

“Research is a system involving people, institutions and processes. Its pursuit depends on systematic analysis, creativity and exploration.”
(Commission on Health Research for Development)

“The health research system is the brains of the health system: it is a tool to organize, understand, operate and improve it.”
(Prawase Wasi)

KEY MESSAGES

- Leadership, funding, researchers and institutions, and the capacity to utilize research findings are as important as new discoveries.
- National health research should focus on priority health problems in the country concerned, on health system challenges and on managing opportunities for future growth and development. International efforts should support strategic research opportunities in particular.
- Research agendas should be set up to succeed. This means adequate, sustainable and transparent funding, professional research managers, ethical standards, and accountability in the use of public funds.
- In addition to peer reviewed journal articles in large, international databases, other forms of research have potential value and should be recognized.
- Funds should also be invested in strengthening human and institutional research capacities to address complex health problems.
- Biomedical discoveries cannot improve

Interesting numbers

10%	Percentage of research outputs produced by health researchers surveyed in 13 low- and middle-income countries that were referenced in international databases of journal articles.
22,000	Estimated number of scientific journals in the world in 2002.
1/3	Proportion of researchers, policy-makers and other users of research in 13 low- and middle-income countries who said in a survey that there was either no rational process to set health research priorities in their countries, or that they were unaware of how priorities were identified or set.
20,000	Number of qualified professionals emigrating annually from Africa since 1990.
3%	Percentage of public sector funding from developing countries directed towards health research, as a proportion of total global spending on health research.

(Sources for these numbers are given on the report web site: www.who.int/rpc/wr2004)

Box 3.7 Technology transfer to developing countries

Sustainable Sciences Institute

The Sustainable Sciences Institute (SSI) is a non-profit organization based in San Francisco in the United States that helps scientists in developing countries gain access to the resources needed to address local problems related to infectious diseases.

Dr Eva Harris and her colleagues at SSI have demonstrated by transferring technologies and adapting these to local conditions in developing countries, sophisticated molecular biology methods which were previously unattainable can contribute to the education, health and human rights of the population.

As part of its technology transfer programmes, SSI runs workshops to introduce researchers mainly from Latin American countries to the techniques of molecular biology, epidemiology and scientific writing. The aim is to sharpen the researchers' ability to initiate independent research. The workshops also adapt biomedical techniques to local research priorities and conditions to help countries build the necessary capability to conduct locally relevant research. This is an essential prerequisite for the development of public health programmes. These workshops address some of the major barriers faced,

including limited access to technologies, scientific isolation, a lack of information and the absence of technical training programmes and scientific career opportunities. The SSI workshops have been held in 12 countries in Latin America as well as in Egypt, sparking collaborative projects, locally funded proposals and scientific publications. So far, SSI has trained more than 600 scientists and health professionals in 20 developing countries.

SSI also runs a small-grants programme that funds some of the best proposals generated during the workshops. In addition, SSI facilitates the donation of scientific equipment and supplies from biotech companies and university laboratories in developed countries to trainee researchers in the developed world.

These programmes show that molecular technologies can be adapted to local conditions and disease priorities in developing countries to be more rapid, versatile, and sensitive than alternative methods. These methods can be cost-effective in low-budget situations, as demonstrated through the work of Bolivian investigator Nataniel Mamani, who created the blenderfuge. This combines a blender, an aluminium bowl and water-tap adapters to create a microcentrifuge, and the turn-

table shaker, where the circular rotation of a record player is transformed into a horizontal shaker for the laboratory.

For more information visit: www.ssilink.org

A record player turntable becomes a laboratory shaker



Photo by Nataniel Mamani, Universidad Mayor de San Andrés, La Paz, Bolivia.

Source: Harris E, Tanner M. Health technology transfer. *British Medical Journal*, 2000, 321:817–820.

continued

Research has shown that pay is not the only concern of those within health research systems. According to data from across 13 low- and middle-income countries, those surveyed within national health research systems ranked transparency of the funding process before salary and benefits. They said these were the most important areas for further strengthening, followed by quality of the work space and facilities, training and ongoing training opportunities.

These areas for strengthening require a change in attitudes and a more performance-oriented culture, not just financial resources. This includes a change in the management and organization of research institutions, as well as a change in social attitudes towards research and health research in particular. For example, the social status attached to research and researchers varies greatly by scientific field, common methods used, institutional ties, or relevance to social problems as well as in relation to other professions. To produce and