

B7 | RESEARCH FOR HEALTH

Introduction

This chapter describes the current system of health research and examines what type of research gets funded and the processes through which this happens. It argues that the system is biased towards biomedical approaches and does not pay sufficient attention to the diseases of poor people or to research on the social determinants of health. The second part of the chapter examines the changes that will be needed to make the current system more responsive to the social determinants of health and for it to take up equity-focused research. It proposes new ways of setting priorities, stresses the need for the reallocation of funding, emphasises the need for new ways of commissioning and assessing research, calls for new incentives for researchers, and points to the need for establishing more equitable partnerships.

The current system: what gets funded? And through what processes?

In order for research to have an important impact on the health of disadvantaged people specific conditions must be taken into account in each component of the research cycle, from setting the research priorities, to allocating resources, conducting the research, communicating the results, and translating these results into policies and practices. The main pitfalls of the current system are described briefly below.

Research priorities are not defined in a participatory and systematic way

At the very beginning of the research cycle, setting priorities will allow research to be conducted on topics that have the greatest potential impact on health.

However, most research conducted does not result from a previously defined set of priorities, but is carried out according to other criteria, such as personal interest or availability of funds (Sharan et al. 2007). As a result, there is a discrepancy between research needed and research conducted.

Various attempts have been made in the last decades to define a priority research agenda. However, most of those exercises were not conducted in a systematic and inclusive way, and many researchers have expressed the need for more guidance on the priority-setting methodology (Viergever 2010). A recent review of health research priority-setting exercises performed between 2005 and 2009 revealed that researchers chose to develop their own methodology. Most of them overlooked important elements of good practice in



16 Research on broader determinants of health is neglected (Simon Kneebone)

research priority setting, such as the use of a comprehensive approach, broad stakeholder involvement, and the use of relevant criteria to focus the discussion (Viergever et al. 2010; Viergever 2010).

Stakeholder involvement is of particular importance. Guaranteeing participation and inclusiveness is an effective way of ensuring that the needs of disadvantaged social groups – for example, those categorised on the basis of gender, ethnicity, religion, sexual orientation, ability, and income – are specifically taken into consideration, with a corresponding beneficial impact on health equity (Nuyens 2007; Ghaffar et al. 2009).

On a more global level, 60 ministers of health, science, technology, and education at the 2008 Global Ministerial Forum on Research for Health held in Bamako, Mali (2008) agreed to issue a ‘call to action’. This ‘call to action’ particularly emphasised the need for research priorities to be determined by the countries themselves, not global institutions.

Biases in research funding

Global investment in health research accounted in 2005 for US\$160.3 billion, representing 4.1 per cent of the total estimated health investments worldwide. The relative distribution of health research funding is shifting: the public sector is spending relatively less than before (41 per cent in 2005 compared to 45 per cent in 2003), the private for-profit sector is spending more (51 per cent in 2005 compared to 48 per cent in 2003). Only 3 per cent of the US\$160.3 billion spent on health research is devoted to research conducted in low- and middle-income countries. Most of the 97 per cent of the funds spent by high-income countries goes towards generating products, processes, and services for their own health care market (Burke et al. 2008).

Most investment in health research in high-income countries is funded by the private for-profit sector (pharmaceuticals) rather than the public sector (US\$79.7 billion compared to US\$63.3 billion), while funds for health research in low- and middle-income countries mainly come from the public sector

rather than the private for-profit sector (US\$3 billion compared to US\$1.6 billion) (ibid.).

Overall, the research funding system is dominated by *biomedical research* and *research on individual risk factors*, neglecting the essential areas of health systems research (HSR) and research on the social determinants of health.

The problem with *research on individual risk factors*, such as smoking, alcohol consumption, and eating patterns, is that it often neglects the socio-economic context and the individual's social position. In addition, the *risk-factor* approach fails to reveal multi-causal mechanisms and the root causes of health inequities (Diderichsen et al. 2001; WHO Task Force on Research Priorities for Equity in Health and the WHO Equity Team 2005; CSDH 2008).

A major problem with *biomedical research* is that the health returns on investments in biomedical research are much lower compared to HSR. For example, a study by Leroy et al. (2007) showed that 97 per cent of health research grants from two major US funding organisations were for developing new technologies that could reduce child mortality by 22 per cent. In contrast, only 3 per cent of the grants focused on improving health care delivery and the use of available technologies that have the potential of reducing child mortality by 62.5 per cent. The authors refer to this imbalance as the '3/97 gap' (ibid.).

Why is there such a bias towards *individual risk factors* and *biomedical research*? A major reason is that research on both the social determinants of health and health systems relies on a range of research methods drawn from different disciplines, requires fieldwork as opposed to hospital or lab work, and demands adaptation to local environments. Researchers prefer biomedical research and product development because of the possibility this offers of obtaining patents and gaining increased visibility (Nightingale 2009). Other reasons have been put forward to explain the limited funding of (and for) HSR, such as the fact that few research priority-setting processes properly address HSR, as well as the weak capacity for conceptualising, developing, and implementing HSR in low-income settings (Ranson and Bennett 2009).

Conducting research: equity lens needed

Funders and researchers often lack training in equity analysis and research, as well as in the importance of research on the social determinants of health and health systems. Public health objectives, such as lowering the mortality rate, often do not take into consideration equity issues, such as the distribution of the burden of mortality across social groups, and as such are 'equity-blind'. Some authors have stressed the need to develop and use an equity-adjusted measure that combines both health and equity outcomes into a single dimension (or composite indicator), which can be maximised, thus reorienting the global health agenda and encouraging better resource distribution (Reidpath et al. 2009).

Furthermore, we still lack empirical evidence on how intersections between



17 Health research is not prioritised (Simon Kneebone)

different social determinants operate within disadvantaged social groups. For example, we still do not have much knowledge on how gender affects class inequalities or on how gender relations are modified by class.

Other disadvantages of using an equity lens in research have been identified; for example: studies on how inequities are influenced by policies within and beyond the health sector; the fact that health research is often conducted by ‘experts’ parachuted in, instead of being undertaken by research teams from within each country; and the imperative for disaggregating empirical data into – at a minimum – age group, sex, and specific health outcomes (Evans et al. 2001).

What Changes Are Needed?

New systems for prioritising, funding, conducting, and using research are urgently required. We propose a new architecture for research that is relevant nationally and internationally, with the following elements:

- New ways of setting research priorities
- More funds for research on the social determinants of health and HSR
- New ways of assessing and commissioning research
- New incentives for academic researchers
- Improved capacity to use research
- More equitable partnerships in research

New ways of setting research priorities

Most research priorities are set by researchers in rich countries and reflect the dominant biomedical and behavioural understandings of health, which are focused almost entirely on curing diseases that are prevalent in rich countries (WHO Expert Working Group on Research and Development Financing 2009). Corporations, particularly the food and pharmaceutical industry, also have a considerable control over the research agenda (Knai et al. 2010). Here are some ideas for the ways in which research priority-setting processes can be broadened.

Internationally Involvement of public-interest NGOs (that is, those that do not receive funding from vested interests such as pharmaceutical companies) in the setting of research priorities for international agencies is crucial. It is also important that priority-setting be informed *inter alia* by NGOs and independent researchers with specific understanding of the social determinants of health.

Amazingly, WHO has not had a policy on health research until recently. The Pan American Health Organization (PAHO) adopted a Research for Health Policy in November 2009 and was the first WHO region to do so. The policy calls on ‘countries of the region to work with PAHO to reinforce and monitor their national health research systems and improve the quality, leadership and management of research for health. It recommends establishing governance mechanisms for research for health that will allow coordinating effectively the strategies of the relevant sectors’ (PAHO 2009). PAHO has adopted a regional plan to strengthen research effort on health equity. WHO and its partners have also developed a nine-point checklist for good practices in health research priority setting (Viergever 2010).

Nationally National medical and health research funding bodies need to develop processes for ensuring that policy, community, and citizen voices are heard when setting research priorities and that research for health equity is prioritised. PAHO has called for countries to put in place or reinforce national research management mechanisms and policies on research for health. They have also called on better-resourced countries to assist those with fewer resources in developing and implementing their plans. We call on WHO to adopt such policies in all regions and call on international agencies to fund national health systems to develop health research priorities and strategies to address these priorities.

The Global Forum for Health Research has developed a tool for setting priorities in research for health – the 3D Combined Approach Matrix (CAM) (Ghaffar et al. 2009) – which could be used by national health and medical research bodies in setting their priorities. The CAM methodology has been implemented in several low- and middle-income country settings (Rudan et al. 2010). The Canadian Institutes for Health Research (CIHR)

have developed a policy of Integrated Knowledge Translation that emphasises interaction between researchers, research funding agencies, policy-makers, and other stakeholders in priority settings for research (CIHR 2010). The Child Health and Nutritional Research Initiative (Rudan et al. 2008) is another interesting framework, an evidence-based and consensus-building approach among a range of stakeholders, including policy-makers, donors, students, specialists, health care providers, and NGOs.

Tertiary institution–community partnerships Research priority-setting may also be influenced by tertiary institutions, such as universities, where again biomedical approaches to health research tend to dominate. However, in some countries, the tertiary sector is seeing a growing trend towards institutional–community partnerships and community-based participatory research. Such approaches are demonstrably more likely to recognise and incorporate research on identifying and understanding the social determinants of health and on implementing interventions designed to address these social determinants (see, for example, CBRC 2010; CCPH 2010).

More funds for studies on social determinants of health and health systems research

International and national agencies funding health and medical research need to allocate protected funds for the study of the social determinants of health and HSR.

Health systems research As health systems become increasingly inequitable and fragmented, research on the drivers and effects of the liberalisation, segmentation, and commercialisation of health care systems becomes even more essential (McCoy et al. 2004), yet little research on this crucial topic receives funding (Ranson and Bennett 2009). Detailed research is particularly required on the operation of primary health care services to determine how they can better provide effective, equitable, and accessible services and promote the health of the communities they serve. There is also an urgent need for more research on why available and affordable technology and knowledge are not used – for example, to prevent millions of children from dying of diarrhoeal disease and acute respiratory infections (Fontaine et al. 2009).

Research on the efficacy of interventions in a controlled environment is different from research on the practicability of applying effective interventions in the real world. More action research that involves service providers can help to bridge the gap between research and implementation, and ensure that research is embedded within the day-to-day realities and constraints of under-resourced health care systems (Winter and Munn-Giddings 2001). The use of participatory research methods can also help poor communities shape health systems to meet their needs (de Koning and Martin 1996).

Social determinants of health Far greater research effort is required on studying the social determinants of health and on assessing how these affect health and equity at the international, national, regional, and local levels. This will require the disaggregation of data by a range of variables, including socio-economic status, race, gender, and location (especially rural versus urban). It will also require vastly increased investment in research on how the global political economy affects health and health equity. The Commission on the Social Determinants of Health (CSDH) went some way in leading research in this area by establishing a global knowledge network on globalisation, which enabled CSDH to document some of the negative health effects of economic globalisation, but ongoing research is needed on this topic.

Research on effective interventions Research is needed to understand how action on the social determinants of health can be most effective. This research should be multi-sectoral and should include: (a) comparative policy analysis of the effectiveness of policies on health in a range of sectors, including urban planning, education, social welfare, and employment; and (b) evaluation of the impact of particular programmes in local communities. Much of the new research to be funded would emphasise the ‘science of delivery’ rather than the ‘science of discovery’ (Catford 2009).

Research on the social determinants of health would also benefit from new measures of health and well-being that focus on providing positive health rather than on only measuring diseases, and provide an idea of how well a society is doing. Increased efforts to provide such measures have been made in the past few years (see Box B7.1).

New ways of assessing and commissioning research

The traditional method of assessing research grants, which sees researchers commenting on each other’s proposals in a system of peer review, needs to be altered so that those from the communities likely to be affected by the research are also involved (see Box 7.2)

New incentives for academic researchers

Currently, the research culture and the incentive system encourage researchers to be more concerned with publishing the results of their research studies in academic journals than with ensuring that their research leads to improved policy and practice. Promotion in universities depends largely on an academic’s success in publishing in academic journals with high-impact factors – that is, how much the articles published in these journals are quoted by other academics and researchers. The system has a bias towards medical rather than health research, as medical journals typically have higher-impact factors than public health or social science journals, and the articles they publish are often multi-authored. A study in Australia suggested that the grant system

Box B7.1 Alternative indicators of social progress

Human development index (HDI)

- UN Development Programme
 - Composite index of average achievement in longevity and health, education, and standard of living
- hdr.undp.org/en/

Happy planet index (HPI)

- New Economics Foundation
 - Efficiency of conversion of natural resources into ‘long and happy lives’
- www.happyplanetindex.org/

Stiglitz Commission on Measurement of Economic Performance and Social Progress (2009)

- Production, income, consumption and wealth, and their distribution
 - Physical, natural, human, and social capital, and their sustainability
 - Quality of life: health, education, employment, participation, environment, security, and their distribution
 - Subjective well-being
- www.stiglitz-sen-fitoussi.fr/en/index.htm

Ecological footprint

- Global Footprint Network and Mathis Wackernagel
 - National per capita demand on natural and ecological resources (expressed as land area), relative to global average demand at sustainable levels
- www.footprintnetwork.org/en/index.php/GFN/

Genuine progress indicator (GPI)

- Redefining progress
 - GDP data adjusted for multiple factors, including income distribution and various quality-of-life and sustainability factors
- www.rprogress.org/index.htm

and the journal publishing system were strongly biased in favour of public health researchers conducting relatively straightforward research, such as a cross-sectional survey on behavioural risk factors, rather than those conducting an evaluation of a complex community-based intervention (Kavanagh et al. 2002). Concerted efforts are required to change this situation and to

Box 7.2 Cooperative Research Centre for Aboriginal Health (CRAH)

Facilitated development approach

- The CRAH works with the Aboriginal health sector to identify areas where research may be able to make a real difference. It then brings together researcher and industry partners to design and conduct the research and spread the results or findings. ('Industry partners' means the Aboriginal community-controlled health sector, Aboriginal health organisations, and governments and other organisations with an interest in Aboriginal health.)
- Research transfer means ensuring the research is done in a way that makes it most likely to be relevant and of use – and to be used – to inform and bring about positive change.
- Capacity development involves 'building up the skills and abilities of Aboriginal people, communities and organisations to carry out, direct and use health research; and the capacity of non-Aboriginal researchers to work collaboratively with Aboriginal organisations and communities ...' (CRAH 2006)

ensure that research incentives encourage research that improves the health of the poorest and the most disadvantaged sections of society as a matter of priority. This could be done by ensuring research assessment systems that take into account the effort required by researchers who collect data (as opposed to those who analyse existing data sets), especially if the data are from either health service research or from an intervention affecting the social determinants of health. Academic reward systems could strongly encourage academics to engage in partnerships with governments, civil society, and local communities, and to conduct long-term evaluations of interventions (CCPH 2010). Publication metrics could be downgraded as a means of judging the value of researchers' work, and could be complemented by also assessing their policy engagement with, and their success in, evaluating interventions aimed at bringing about health service delivery and system change and on improving the social determinants of health.

Improved capacity to use research

Policy-makers and programme implementers in developing countries are either sceptical about the value of research or do not have the skills to appraise and use new information (Lomas 2000). The lack of capacity in the public sector has been further exacerbated by the steady brain drain of capable health



18 Flaws in the peer review system (Simon Kneebone)

professionals to richer countries (Vujicic et al. 2004; Pang et al. 2002), or from the public sector to the domestic private and non-government sectors. Efforts at concerted capacity-building are necessary and should be an activity that WHO can lead. PAHO is already leading the way in this regard with their recently adopted policy.

Equitable partnerships in research

A redistribution of power is particularly necessary in the relationship between researchers in rich and poor countries, and between researchers and research participants.

Between researchers in rich and poor countries Many academic and non-government institutions in more developed countries benefit disproportionately from the meagre research funds allocated to health in developing countries (McCoy et al. 2004). This imbalance occurs in a context where academic and research institutions in developing countries are struggling to secure their own funding and finding it difficult to retain good staff. Practical ways of addressing the inequities within the health research community include mapping out the distribution of research funds for health problems between research institutions in rich and poor countries, documenting the obstacles to the development of research capacity in developing countries, and conducting in-depth case studies on the health research funding policies and patterns of selected donor and international agencies. Capacity-building schemes that develop the research capacity in poor countries are essential so that young researchers no longer have to travel overseas to receive research training and instead can do this

within their own countries in their own community settings. Funding also needs to be provided so that researchers from resource-poor countries can attend international conferences and present their results.

Between researchers and participants in the research In the overwhelming majority of research studies, power lies with the researcher rather than with those who are the subject of the research. Research is likely to be more relevant if subjects, patients, and/or citizens are involved in the endeavour. For example, the involvement of patient groups in the design of trials and studies should be possible, especially in the case of health services research, which seeks to study interventions in their real-world setting rather than in a highly controlled environment (e.g. Kim et al. 2005).

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