From Mexico to Mali: progress in health policy and systems research

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In 2004, the ministerial summit in Mexico drew attention to the historic neglect of health policy and systems research (HPSR) and called for increased funding, investment in national institutional capacity for HPSR, and resources for selected priority research topics. On the basis of meeting discussions, published reports, and available data from research funders and organisations in low-income and middle-income countries, we discuss how HPSR has evolved since the summit in Mexico. Funding for HPSR, particularly in low-income countries, is mainly supported by international and bilateral organisations. Increased interest in health systems has translated into increased support for HPSR. However, small grants and lack of coordination between funders inhibit capacity development, and substantial gaps remain between institutional capacities of high-income and low-income countries. Lack of national capacity is judged to be the key constraint to the development of HPSR. Recommendations from the summit in Mexico remain pertinent, and momentum towards their achievement must be accelerated through the ministerial forum in Mali and beyond.

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Introduction

In 2004, stakeholders in global health research—including ministers of health, researchers, research funders, and civil society organisations—met in Mexico to discuss key challenges of international health research. One of the crucial issues that emerged from the background documents,[1,2] the ministerial summit itself,[3,4] and the subsequent World Health Assembly resolution[5] was the historic neglect of health policy and systems research (HPSR). The invigoration of HPSR was one of the main recommendations of the summit. Recommendations and subsequent related documents called for:

- Increased funding for HPSR. Grants should support a substantial and sustainable programme of health-systems research aligned with priority country needs, and national governments should make commitments to fund health research to strengthen national health-research systems;[3,5]
- Increased institutional capacity for HPSR. Investments in HPSR should be "complemented by a strong effort to build national capacity and effective institutions for health systems research to flourish";[1]
- Knowledge development in HPSR. Prioritisation of 12 issues identified by the Task Force on health-systems research as key elements of a priority global research agenda, and recommendations to governments to set priorities for research, particularly health-systems research.[3,5,6]

Our aim was to understand how HPSR, particularly in low-income and middle-income countries, has evolved since the summit in Mexico. We aimed to (i) critically assess developments in HPSR in low-income and middle-income countries, and its application to policy, (ii) highlight current gaps, priorities, and challenges in HPSR that need to be addressed, and (iii) address how best to move HPSR forward.[7] Here, we focus on the progress of the summit recommendations, drawing on the stocktaking meeting discussions, and the collective knowledge of the authors (panel 1).

We believe that progress is essential on all three recommendations to achieve the benefits of stronger health policies and systems that can improve the health of populations in low-income and middle-income countries. Health-services research, to which HPSR is closely related, emerged as a distinct research area in developed countries in the early 1960s.[8] Health-services research in low-income and middle-income countries began to be developed during the 1970s, but it is often viewed as lacking in prestige, and hence funding has been insufficient.[9] Recommendations of the summit in Mexico invited increased attention to health-services research, particularly in low-income and middle-income countries.

With HPSR we refer to the creation of new knowledge to improve how societies organise themselves to achieve health goals, focusing on policies, organisations, and programmes, but not on clinical management of patients or basic scientific research. HPSR is not specific to a disease or service, but rather relates to any of the six parts of the health system: leadership and governance, health financing, health workforce, medical products and technologies, information and evidence, and service delivery.[10]

Attention to health systems has greatly affected the profile of health-systems research. Since the 1970s, development approaches have alternated between focusing on a cross-cutting health-systems approach and a vertically-oriented disease-specific approach. In 2004, the balance began to shift towards a health-systems approach, after several years in which the focus had been disease-specific.[11] This shift mirrored: (i) the increasing recognition that scaling up priority health services (notably, antiretroviral therapy and maternal and child health services) was unlikely to be successful without a serious investment in health systems;[12–15] (ii) concerns about aid structure and, in particular, the fragmented and directed nature of donor funding,[16] which has led to a stronger focus on country

health plans and health-systems strengthening; (iii) the growing importance of the health-workforce crisis[17,18] that has formed a rallying point for a broader set of health-systems concerns; and (iv) growing understanding of the complex linkages between poverty and illnesses, and in particular the contribution of health-care costs to impoverishment.[19,20]

The renewed interest in health systems has manifested itself in new funding streams (such as those for health-systems strengthening through the Global Alliance for Vaccines and Immunizations [now known as the GAVI Alliance], and the Global Fund to fight AIDS, Tuberculosis, and Malaria), and new initiatives (such as the Canadian-Funded Catalytic Initiative, the Norwegian Government Support to the Results-Based Financing Initiative, and Providing for Health, which is supported by Germany and France). Many of the initiatives are linked under the International Health Partnership, which also has a strong focus on health systems. Furthermore, several health-systems partnerships have recently emerged, including the Health Metrics Network and the Global Health Workforce Alliance. Finally, recent articles have called for intensified investment, methods development, and capacity building in the assessment and research that accompanies health-systems investment and, ultimately, strengthens implementation processes.[21–23] However, to what extent the actions of agencies and governments have lived up to the recommendations of the summit in Mexico has been unclear.

Panel 1: **Sources of evidence**

- A survey of research institutions involved in HPSR relevant to low-income and middle-income countries was done in April, 2008, to explore changes in the funding environment and institutional capacity. Emails were sent to 164 research institutions that were partners of the Alliance HPSR. 63 responses were received, 52 of which were from research institutions, and were included in the analysis. A similar group of research institutions was previously surveyed in 2003. The 2008 survey included institutions in high-income countries that do research in low-income and middle-income countries, whereas the 2003 survey did not. Because of the turnover in the Alliance partners, the high non-response rate, and the small sample size, there was limited overlap between the participant organisations in 2003 and those in 2008. Findings are thus indicative but not statistically reliable
- A web-based survey of international funders of health research was undertaken between February, 2008, and May, 2008, showing trends in donor funding for health-systems research since 2004, covering 19 organisations, ten of which were bilateral donors, five were foundations, and four were multilateral organisations (Zarowsky C, unpublished). Organisations were sampled purposively to capture various perspectives and histories, and to give a range of organisation types. Information was extracted from websites and reports available on websites about approach to health-systems research, policy evolution, spending patterns, and countries of interest
- A bibliometric analysis was done to assess growth of research publications in key areas. Three of the topics identified by theTask Force on health-systems research were purposively selected for investigation, including (i) models for service delivery that involve private providers (eg, social marketing and use of vouchers to improve utilisation of health services), (ii) insurance schemes, fund pooling, and insurance coverage (to promote financial protection), and (iii) health-workforce issues related to in-service training, quality assurance, and health-personnel distribution and management. Searches in PubMed were done to identify publications in any language on these topics between 2000 and 2007, and with a specific focus on low-income and middle-income countries. Further analysis assessed the country of origin of the main author
- A meeting to take stock of achievements in HPSR was discussed. More than 40 researchers from 28 countries (both high-income, and low-income and middle-income countries) met in May, 2008, to discuss the evidence obtained through the strategies described above. Invitations to the meeting were extended to people with different backgrounds to ensure a range of regional and disciplinary perspectives from people already working within HPSR

	Total (N=300)	Low-income countries (N=90)	Middle-income countries (N=210)
Mean grant size	138 850	227 337	100 928
Median grant size	28 150	34 906	25 555
Source of funding for research grants†			
International or bilateral	51·0%	67·8%	43·8%
National government	27·0%	11·1%	33·8%
Private	5·3%	14·4%	1·4%
Other	16·7%	6·7%	21·0%

*In US$. †Percentages sum up to more than 100% because some projects are supported by multiple sources.

Table 1: **Research grant funding in 2003***

Funding for HPSR

Funding for HPSR can come from many sources: international and domestic research funding bodies, ministries of health, and international donors. Such funding can be assigned to research institutions either through core grants, which are designed to provide broad institutional support, or through project-specific funding, which is often awarded on a competitive basis. HPSR is a public good and its outputs have little commercial value; therefore, public-sector funding is crucial.

Data from the survey of research institutions in 2003 and 2008 suggest that, particularly for institutions in low-income countries, international and bilateral aid is the main funding source for HPSR project grants, with scarce funding received from national governments (tables 1 and 2). This evidence is supported by other studies that are not specific to HPSR.[24] This situation has changed little over the past 5 years. The 2008 survey suggests that only 34·7% of participating research institutions received core funding, with those in high-income countries much more likely to receive this type of funding (63·6%) than those in low-income countries (23·5%).

The quality of the data makes it difficult to compare between years. However, in 2003 small grants were the main source of funding (table 1), and this situation persists in 2008. In 2008, the median grant size in high-income countries was nearly 30 times that of low-income and middle-income countries (table 2).

Participants at the stocktaking workshop thought that overall data mirrored funding patterns well, the one caveat being that institutions in high-income countries often receive grant funding that is then channelled on to institutions in developing countries. This fact could explain part of the large differences in funding observed.

Funding distribution might adjust slowly to changes in funding policy because of the long time needed for approval of research projects. Most researchers (75%) participating in the 2008 survey thought that interest in HPSR had increased, but only 44% thought that this had been followed by increased funding. 62% of researchers in high-income countries thought that funding had increased, whereas only 33% of those in middle-income countries had this perception.

Recent analysis has suggested that product-focused and disease-focused research continues to account for the biggest share of research funding. For example, 97% of research grants to address child illness, issued by the Bill & Melinda Gates Foundation and the US National Institutes of Health (NIH)—which are the largest private and public funders of global health research in the world, respectively—were for technology development. The authors argue that the number of lives saved would have been much greater if investments had instead been made in improving service delivery.[25] However, we are aware of several new international research investments in HPSR relevant to low-income and middle-income countries (panel 2), and other established funders of HPSR (including the UK Department for International Development [DfID] and the Australian Agency for International Development [AusAID]) have recently released strategy documents that signal increased commitment to HPSR.[26,27] On the basis of the knowledge of the authors of this paper and stocktaking meeting participants, the current interest in health systems has increased investment in HPSR, even for funders not traditionally active in this area. For example, the Bill & Melinda Gates Foundation has not previously had an interest in health systems, but their global health strategy is now concentrated on three themes, one of which is delivery, encompassing efforts to ensure that effective health solutions reach people who need them most;[28] the draft delivery strategy includes substantial resources for research on topics such as health financing and the role of the non-state sector (Kress D, Bill & Melinda Gates Foundation, personal communication).

The perception that HPSR often does not yield high-quality research seems to be holding back greater investment, particularly by non-traditional funders. This has been the case of the Wellcome Trust (UK), which is willing to consider HPSR applications, particularly from low-income and middle-income countries through its general response-mode schemes; however, these applications are seldom perceived to be competitive and rarely funded (Whitworth J, Wellcome Trust, personal communication).

	Total low-income and middle-income countries (N=106)	Low-income countries (N=44)	Middle-income countries (N=62)	High-income countries (N=24)
Mean grant size	152 334	152 598	152 151	1 814 248
Median grant size	28 250	23 000	30 000	675 000
Number of grants per year	5·2	2·2	3·6	12·4
Source of funding for research grants†				
International or bilateral	53·0%	69·6%	44·2%	44·8%
National government	35·3%	15·2%	42·6%	51·7%
Private	11·8%	8·7%	14·8%	10·4%
Other	9·6%	13·0%	8·2%	6·9%

*In US$. †Percentages sum up to more than 100% because some projects are supported by multiple sources.

Table 2: **Research grant funding in 2008***

***Panel 2:* Examples of major new funding sources for health-systems research**

- Doris Duke Charitable Foundation (DDCF): African Health Initiative launched in September, 2007 (US$100 million over 5–7 years). The funding encompasses both programme activities and research, and assessment
- The Carso Health Institute is now spending US$20 million per year, of which $1·5 million per year is allocated for health systems and services research through the Latin American Health Observatory based in Funsalud, Mexico
- Canadian International Development Agency (CIDA)'s Africa Health Systems Initiative (AHSI) has a budget of C$450 million over 10 years, of which $5 million had been allocated to the African Research Partnerships programme through the global health research initiative (GHRI). AHSI is important because it emphasises mainstreaming operational research and real-time monitoring or learning while doing, and also earmarking funds specifically for research
- The Canadian GHRI, a partnership of Canadian research agencies, has spent about C$30 million over 5 years. The largest programme under GHRI—the Teasdale-Corti global health-research partnership programme—has four eligible areas, including HPSR
- The Bill & Melinda Gates Foundation has no defined portfolio or investment strategy related to health-systems research, but is increasingly funding activities in several core areas of health systems (ie, financing, human resources, regulation, and information systems). The delivery team is currently developing a strategy that will specifically address and fund health-systems performance issues
- The European Union (EU), under its Framework Programme 7, has allocated €6 billion for cooperative health-research programmes, and identifies research on optimising the delivery of health care as one of three priority areas (although the beneficiaries of this programme should be EU citizens, collaborations with low-income and middle-income countries are encouraged). The Framework Programme 7 has 63% more funding than the previous framework

The new funding for HPSR is quite diverse in nature (panel 2). Although many funders support some discrete projects or programmes for HPSR, these are rarely clustered under a research agenda, and more often are linked to programming activities. In their documentation, funding agencies refer to their investment by different names—eg, HPSR, operational research, implementation research, programme evaluation (especially impact evaluation), monitoring and evaluation, and surveillance are often used in almost interchangeable ways (eg, Guide to Operational Research in Programmes supported by the Global Fund).[29] In our

	Total (N=111)	Low-income countries (N=42)	Middle-income countries (N=69)
Staffing			
Director with more than 10-year experience	46·0%	35·7%	52·2%
Staff with PhD	24·3%	25·6%	23·5%
Mean number of professional staff	10·9	6·8	13·3
Access to resources			
All researchers have exclusive access to a computer (institutions)	68·5%	64·3%	71·0%
All computers are linked to internet (institutions)	60·4%	31·0%	78·3%

Table 3: **Capacity of institutions undertaking HPSR in 2003**

	Total (N=52)	Low-income countries (N=18)	Middle-income countries (N=21)	High-income countries (N=13)
Staffing				
Director with more than 10-year experience	76·9%	66·7%	76·2%	92·3%
Staff with PhD	34·9%	34·0%	22·3%	58·0%
Mean number of professional staff	52·2	40·1	16·6	126·4
Access to resources				
All researchers have exclusive access to a computer (institutions)	86·5 %	66·7%	95·2%	100%
All computers are linked to internet (institutions)	86·5%	66·7%	95·2%	100%
Access to peer-reviewed HPSR journals (institutions)	80·7%	66·7%	80·9%	100%

Table 4: **Capacity of institutions undertaking HPSR in 2008**

opinion, the tendency to integrate HPSR funding into programme funding makes access to these resources less transparent and competitive than other forms of funding (such as open calls for proposals), although there are likely be advantages to the closer integration of research directly into routine health-systems practice. The confusion around nomenclature indicates both the growing interest in this area and the entry of new investigators from diverse disciplinary and academic backgrounds.

Emphasis on funding long-term capacity development for HPSR remains weak among funders. Of the 19 international funding agencies in the web-based survey, six had a clear focus on capacity development as part of their research strategy, but only four combined this focus with an interest in HPSR. Furthermore, although many funders recognise the complex, long-term nature of health-systems development and the long-term and predictable support needed for research capacity development, financial regulations of many bilateral and multilateral funding agencies make it difficult for them to commit to such long-term support.[30] An unexplored area is that of tying research funding to the institutions of the donor country. Most research funders in high-income countries need principal applicants to be from their own country. However, both DfID and AusAID research competitions are now untied, for example, and DfID's shift to funding of research consortia has increased access to funding for institutions in developing countries.

Organisational capacity to do HPSR in low-income and middle-income countries

Capacity remains a rather elusive concept, referred to as "the ability of individuals, institutions, and societies to perform functions, solve problems, and set and achieve objectives in a sustainable manner".[31] Three levels of capacity exist: individual, organisational, and societal or systemic capacity. These are inter-related so that investments in individual capacity are weakened if similar investments are not made in the organisational or systemic capacities. Hence, effective capacity development is likely to need investment at all three levels. Increasingly, the organisational capacity is regarded as the primary entry point for capacity development, because trained individuals alone are unlikely to deliver results.[32]

Scarce evidence is available about existing levels of capacity for HPSR. The 2008 survey of research institutions suggests higher levels of institutional capacity in 2008, although this result could easily be due to differences in the institutions responding in 2003 and 2008 (tables 3 and 4). Regardless of whether or not there have been improvements between 2003 and 2008, the fact that about a third of research institutions in low-income countries in 2008 still have researchers without their own computer or linked to the internet, or without access to peer-reviewed HPSR journals, is of great concern.

The summit in Mexico identified capacity limitations as the key constraint upon development of HPSR, and participants in the stocktaking workshop in May, 2008, confirmed that this is still the case. They expressed concern that the dominance of international funding for health-systems research in resource-poor settings and the fragmentation of such funding deter national authorities from attempting to build local, sustainable capacity to do HPSR.

Many international programmes have attempted to address research-capacity constraints with ways that range from financial support and fellowships, curriculum development, and mentoring programmes at the individual level, to institutional twinning, networking, organisational assessments, and organisational development grants at the organisational level, and broader research-systems development at the system level. However, most of these programmes (such as the International Clinical Epidemiology Network and the various programmes run by the Special Programme for Research and Training in Tropical Diseases) have focused on capacities for clinical or epidemiological research. There have been very few and mainly small-scale programmes (such as the now finished International Health Policy Programme) that have focused on HPSR.

Panel 3: **HPSR capacity-development strategies in Ghana and Thailand[23]**

Ghana

In 1987, the director of medical services requested that mechanisms be developed to promote generation and use of evidence from ongoing Ministry of Health operational research in policy and programme decision making. The health-research unit was established and peripheral research centres were created shortly after (Navrongo and Dangme West in 1992, and Kintampo in 1994). Researchers were provided with formal (masters and PhDs) training in priority disciplines, and mentoring and on-the-job training in protocol development, data analysis, and report writing. Efforts were also made to train health-system managers to do, interpret, and use applied research. Since then, domestically-driven health research in Ghana has steadily grown; for example, 103 health-research proposals were submitted for ethical review in 2006, and most (76%) were related to HPSR. Furthermore, 95% of these proposals had a Ghanaian principal investigator. Many examples exist of how HPSR has informed programme development and policy.

Thailand

The International Health Policy Programme, Thailand (IHPP), was established in 1998 as a semi-autonomous body under the Ministry of Public Health, aimed at strengthening HPSR capacity. Almost all IHPP fellows were recruited from health professionals working in the health system, and underwent a research apprenticeship in IHPP for a few years, under close mentoring by senior researchers, before placement in a master or PhD training programme abroad. All fellows returned after graduation, and more than 95% continued their research or academic careers.

From 2005 to 2007, IHPP fellows published 32 reports in international and 29 in national peer-reviewed journals, and 16 book chapters. Most research had a direct effect on policy decisions, guideline design, and implementation.[33–35] Policy relevance, scientific rigour, timely delivery, and social credibility due to political impartiality are key determinants of successful policy-research interaction. The relation of IHPP with the Ministry of Public Health, "not too close to be dominated and not too distant to be irrelevant", has also contributed to its success.

Success factors

In both countries, national leadership for research-capacity development, combined with high-quality policy support and institutionalisation of a culture of research within the public sector have been important in the development of HPSR capacity. Also the development and retention of a critical mass of researchers within institutions grounded in the health system with the ability to do high-quality research, attract external research funding, and gain national and international recognition, have been important. In Thailand, international linkages also contributed to success through support of collaborative research and joint publications, while positioning the IHPP research portfolio within current international debates.

Unfortunately, capacity-development strategies are rarely evaluated, and their effectiveness is not clear.[32] Whether the current interest in HPSR of researchers in related research areas can be leveraged to stimulate greater focus on capacity development for HPSR in schools of public health remains to be seen. Case studies of countries that have successfully developed HPSR research capacity (panel 3) draw attention to the key role of national leadership for capacity development, and suggest that successful strategies often build upon a critical mass of individuals engaged in HPSR throughout the health workforce.

Knowledge development in HPSR

Bibliometric analysis has repeatedly identified the imbalance in health research between low-income and middle-income countries on the one hand, and high-income countries on the other,[36] and specifically for HPSR;[37] this is especially the case for multicountry studies of HPSR, which are well positioned to contribute to knowledge development in this research area.[38]

Because of the scarce funding available, the Task Force on Health Systems Research[6] argued that resources should be concentrated on a few high-priority topics to ensure adequate funding for methodologically sound investigations, and proposed 12 different topic areas of high priority. We purposively selected three priority research areas identified by the Task Force, and analysed the recent growth of publications in these areas and the country of the main author (panel 1). Within these priority areas, the number of publications from low-income and middle-income countries was lower than that for HPSR more broadly, with less than 1% of publications related to developing counties (1% of publications on private-sector involvement, 0·1% on health insurance, and 0·7% on human-resources issues). Furthermore, even for those articles focused on issues of low-income and middle-income countries, most lead authors were based in high-income countries (figure 1).

Within all three areas investigated, there has been a slight increase in the number of articles focused on low-income and middle-income countries and published during the period 2004–07 (figure 2), although growth was gradual and small. The rate of growth was most substantial for human resources for health, presumably mirroring the interest stimulated by recent publications (eg, the World Health Report 2006)[18] and initiatives in

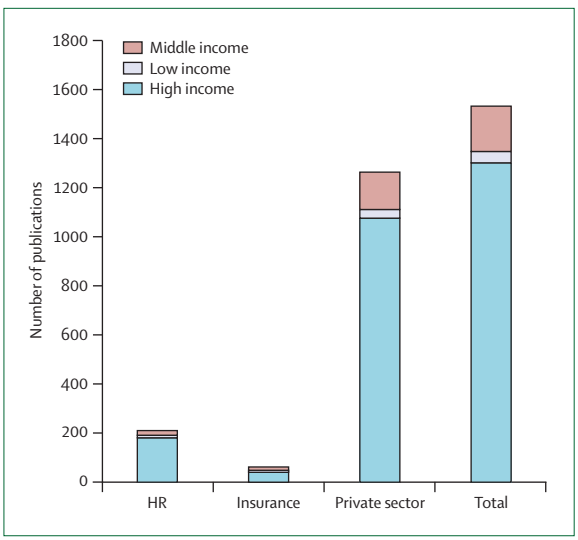

Figure 1: **Number of publications by topic and country of lead author**
HR=human resources.

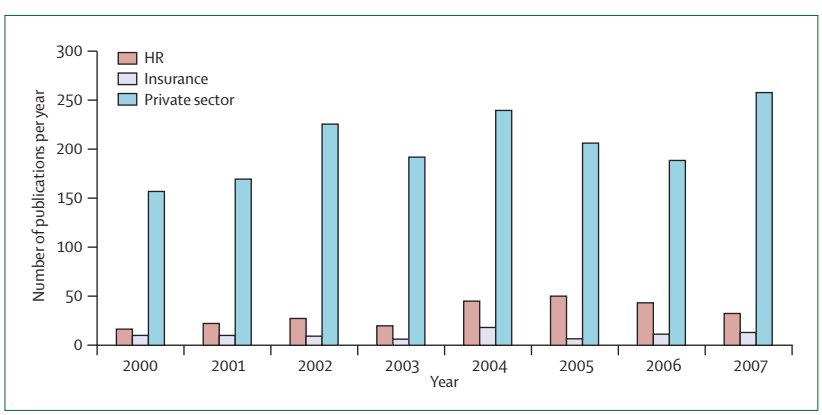

Figure 2: **Number of publications focused on low-income and middle-income countries over time by topic**
HR=human resources.

this area (such as the Global Health Workforce Alliance), but was also evident for publications on the non-state sector.

Participants at the stocktaking meeting reviewed progress in some of the research priority areas identified by the Task Force, and concluded that, although substantial developments have been made in the understanding of some topics (eg. health financing), many basic research questions remain unanswered. In particular, participants thought that enough knowledge still did not exist about how desirable health policies can be developed and implemented, with much HPSR focusing on describing policy problems without developing solutions. We believe that more solution-oriented work is necessary if interest in and funding for HPSR is to be increased. Weak relations between health policy and systems researchers on the one hand, and policy makers and programme managers on the other are a key problem. Closer relations between these two communities might enable research and assessment to be built into programmes in a more innovative fashion, and promote the policy relevance of research undertaken. In view of this, the emphasis given by many funding agencies to embedding research into programming is appropriate.

Much HPSR aims to inform national health policies and is never published in international journals. A review of the published work on health insurance in Ghana, for example, identified 29 reports published between 1999 and 2007, of which only five had been published in international peer-reviewed journals (Agyepong IA, unpublished). Thus, although peer-reviewed publications do not indicate a major increase in HPSR in low-income and middle-income countries, unpublished research studies might have increased in numbers. Furthermore, non-English reports might have been published that were not adequately addressed by our analysis.

Conclusions

Since the summit in Mexico on health research, attention to health systems has grown, and international funding for HPSR has substantially increased. Some of this funding is specifically targeted at stand-alone HPSR, but other funding aims at integrating research and assessment of health-systems strengthening activities. An increasing proportion of HPSR funding is provided as part of broad efforts to tackle a particular cluster of health issues and, as such, might not be clearly defined as HPSR, but termed implementation research, operational research, or evaluation research. Although the proliferation of such terms indicates increasing interest in the area, it also highlights a lack of shared conceptual clarity about the scope and nature of HPSR.

To date, little evidence exists that the increase in international funding for HPSR has trickled down to institutions of developing countries, and there is a large funding gap between institutions in high-income countries and those in low-income and middle-income countries. New funding for HPSR is coming from many organisations and might not be well coordinated. Furthermore, a focus on short-term investments seems to exist, rather than the kind of long-term projects needed to build capacity in this research area. The evidence about national funding for HPSR is even more limited, but national funding for HPSR seems to have changed very little, perhaps with the exception of some middle-income countries.

The crucial role of capacity development in low-income and middle-income countries for health-systems research and analysis was reaffirmed by many after the summit in Mexico, and also at the stocktaking workshop. Although certain indicators of institutional capacity to do HPSR might have improved in low-income and middle-income countries, a large gap remains between the capacities of institutions in high-income countries that work on issues of developing countries and the corresponding capacities

of institutions in low-income and middle-income countries.

Finally, although there are promising signs that increased interest in HPSR is beginning to translate into increased HPSR publications in peer-reviewed journals, the number of publications is still very low and the rate of growth is slow; therefore, the volume of published HPSR studies focused on low-income and middle-income countries remains small and answers to key policy questions remain elusive.

Although some progress has been made in HPSR since the summit in Mexico, these achievements have not greatly improved the funding available to institutions in low-income and middle-income countries, institutional capacity to do HPSR, the volume of HPSR studies, or the knowledge on which to strengthen health systems. Accordingly, recommendations from the summit in Mexico remain highly pertinent, and momentum towards their achievement must be accelerated through the ministerial forum in Mali and beyond.

We think that four key issues must be considered in the Bamako discussions:

- Domestic leadership and funding for HPSR is key. Few institutions in low-income and middle-income countries receive core funding for their work, and much of their funding is obtained from international bodies rather than domestic sources. Initiatives such as the International Health Partnership that aim to increase donor alignment and harmonisation, where strong health-sector plans exist, are a potential model for health research. National governments should be encouraged to develop clear visions and plans for health research, including HPSR, and funders should be encouraged to support such plans;
- Capacity development for HPSR in low-income countries needs a dedicated initiative. Research funders often expect that capacity is built by doing research. However, in many cases, capacity for HPSR is so weak that sustained funding for capacity development is needed, and this should be linked to broader investments in national research systems. Furthermore, evidence is needed about which capacity-development strategies are effective and under what conditions, and investments in capacity development should be accompanied by more regular and systematic efforts to measure progress within HPSR;
- A common understanding of HPSR is needed. The scope of HPSR remains poorly understood and communicated outside the community of people working in this area. HPSR needs to be better described, including how it links to other similar research areas or research approaches, such as operational research, implementation research, and evaluation research. The range of potential study designs, methodologies, and disciplinary perspectives needs to be better documented. Discussions about these topics could promote methodological development within HPSR;
- Progress towards the Millennium Development Goals is greatly hampered by the lack of knowledge of how to strengthen health systems. Insufficient attention has been paid to the call of the Task Force on Health Systems Research to focus on priority research areas. Furthermore, efforts are needed to increase exchange between policy makers and researchers to ensure the usefulness of the work done.

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Conflict of interest statement
We declare that we have no conflict of interest.

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