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Bulletin of the History of Medicine, Volume 93, Number 3, Fall 2019, pp. 365-400 (Article)

Published by Johns Hopkins University Press
DOI: https://doi.org/10.1353/bhm.2019.0049

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George Weisz and Noémi Tousignant

SUMMARY: An influential policy network emerged from two overlapping developments of the 1970s and 1980s: new research programs focusing on tropical diseases and debates about how to implement the concept of primary health care at the World Health Organization. Participating actors came together in an informal network that, by the late 1980s, expanded advocacy to include the promotion and reorganization of all forms of research that might improve health in the Global South. This goal became associated with a search for new research methods for determining priorities, a quest that reached a peak in the early 1990s when the World Bank entered the picture. The bank brought money, economic analyses, and neoliberal ideology to the research advocacy movement and helped stimulate an upsurge of cost-effective forms of economic thinking in global health (GH) circles. This expanded research network provided some of the conceptual foundations and leadership for several of the most emblematic institutions of the new GH. These included new organizations to bring together and coordinate public and private actors in pursuit of common aims and new forms of economic rationality. The network's advocacy work contributed as well to a massive expansion of GH research at the turn of the century.

KEYWORDS: international health, global health, tropical disease research, health systems research, World Health Organization, Rockefeller Foundation, Global Forum for Health Research, Council on Health Research for Development (COHRED)

During the 1990s the institutional framework for promoting health in the Global South was transformed, signaled by the gradual displacement of the term "international health" by "global health." Global health (GH) is

Research for this article was funded by the Social Sciences and Humanities Council of Canada Grant 430-2015-00988 and by an Associated Medical Services–Hannah Chair Stipend. We are grateful to the archivists at the World Health Organization and the Rockefeller Archive Center for their help.

characterized by the involvement of new actors, including many from the private sector, that joined (and modified the functions of) "traditional" actors like nation-states and international organizations. This shift led to a massive increase in resources during the early years of the twenty-first century. We know some of the impulses behind this transformation: institutional change at the World Health Organization (WHO) and the World Bank (WB);[1] responses to the HIV/AIDS epidemic—as a biosecurity threat and as a spur to activism around access to therapies;[2] and new logics of private-sector involvement in health, particularly what has been called philanthrocapitalism.[3] The role of health research in shaping new investments and alliances has been largely ignored.

The recent expansion of GH research has received attention from anthropologists, focused on the role of American universities,[4] as well as on the globalization of clinical trials,[5] pointing out how these have depended on and generated global inequalities, and reconfigured local social relations.[6] However little attention has been paid to the emergence of research as a key policy concern in the international health arena. From the 1970s efforts to expand and rationalize research on the health problems of the Global South provoked major debates about priorities, investments, and actions on the scale of the global, and generated new

1. Theodore M. Brown, Marcos Cueto, and Elizabeth Fee, "The World Health Organization and the Transition from 'International' to 'Global' Public Health," *Amer. J. Pub. Health* 96, no. 1 (2006): 62–72; Sophie Harman, "The World Bank and Health," in *Global Health Governance: Crisis, Institutions and Political Economy,* ed. Adrian Kay and Owain D. Williams (Basingstoke: Palgrave Macmillan, 2009), 227–44; Jennifer P. Ruger, "The Changing Role of the World Bank in Global Health," *Amer. J. Pub. Health* 95, no. 1 (2005): 60–70.

2. Andrew Lakoff and Stephen J. Collier, *Biosecurity Interventions: Global Health and Security in Question* (New York: Columbia University Press, 2008); Allan M. Brandt, "How AIDS Invented Global Health," *N. Engl. J. Med.* 368, no. 23 (2013): 2149–52; Jennifer Chan, *Politics in the Corridor of Dying: AIDS Activism and Global Health Governance* (Baltimore: Johns Hopkins University Press, 2015).

3. Anne-Emmanuelle Birn, "Philanthrocapitalism, Past and Present: The Rockefeller Foundation, the Gates Foundation, and the Setting (s) of the International/Global Health Agenda," *Hypothesis* 12, no. 1 (2014): 1–27.

4. Johanna T. Crane, *Scrambling for Africa: AIDS, Expertise, and the Rise of American Global Health Science* (Ithaca, N.Y.: Cornell University Press, 2013).

5. Adriana Petryna, *When Experiments Travel: Clinical Trials and the Global Search for Human Subjects* (Princeton, N.J.: Princeton University Press, 2009).

6. E.g., Paul W. Geissler and Noémi Tousignant, "Capacity as History and Horizon: Infrastructure, Autonomy and Future in African Health Science and Care," *Can. J. Afr. Stud.* 50, no. 3 (2016): 349–59; Paul W. Geissler and Catherine Molyneux, eds., *Evidence, Ethos and Experiment: The Anthropology and History of Medical Research in Africa* (New York: Berghahn Books, 2011).

institutions, alliances, and logics of action that contributed to the institutional reconfigurations of the 1990s. This article analyzes the history of these efforts. In doing this we elaborate on scholarly accounts of the role of "global" or "transnational" policy networks in driving change.[7] Such networks "build bridges across different sectors and levels, bringing together actors from governments, international organizations, civil society, and business. Unlike traditional hierarchical organizations, these networks are evolutionary in character and flexible in structure."[8] They provide frameworks for increasing involvement of nonstate actors in policy debates and may bring together disparate assemblages with conflicting perspectives or more closely knit groups with common values, frames of reference, or expertise (epistemic communities).

We argue that an influential policy network emerged from two overlapping developments of the 1970s and 1980s: new research programs focusing on tropical diseases, and debates about whether or how to implement the concept of primary health care at the WHO. Participating actors came together in an informal network that by the late 1980s expanded the scope of its advocacy to the promotion and reorganization of all forms of research that might contribute to the improvement of health in the Global South. This goal became associated with a search for new research methods for determining priorities, which reached a peak at the beginning of the 1990s when the WB entered the picture. The WB brought money, economic analyses, and neoliberal ideology to the research advocacy movement and helped stimulate an upsurge of cost-effective forms of economic thinking in GH circles. This expanded research network provided some of the conceptual foundations, advocacy styles, and leadership for several of the most emblematic institutions of the new GH. These included new structures to bring together and coordinate large numbers of public and private actors in pursuit of common aims utilizing new forms of economic rationality. The network's advocacy work contributed as well to a massive expansion of GH research starting at the turn of the century.

7. Kelly Lee and Hilary Goodman, "Global Policy Networks: The Propagation of Health Care Financing Reform since the 1980s," in *Health Policy in a Globalising World*, ed. Kelly Lee, Kent Buse, and Suzanne Fustukian (Cambridge: Cambridge University Press, 2002), 97–119; Diane Stone, "Transfer Agents and Global Networks in the 'Transnationalization' of Policy," *J. Eur. Pub. Policy* 11, no. 3 (2004): 545–66.

8. Thorsten Benner, Wolfgang H. Reinicke, and Jan Martin Witte, "Global Public Policy Networks: Lessons Learned and Challenges Ahead," *Brookings Review* 21, no. 2 (2003): 18–21, quotation on 18.

The WHO and Health Research

Research had, from the outset, been part of the WHO's mandate. It functioned through a shifting assemblage of collaborating institutions contracted to conduct research. In 1959 the Advisory Committee on Medical Research (ACMR) was formed to review the work of ad hoc scientific groups working on WHO projects and to issue recommendations on planning and support.[9] In 1964 and 1965 the organization considered establishing a World Health Research Centre. This plan was rejected, but it was decided to implement research in epidemiology and communications science.[10] A series of World Health Assembly (WHA) resolutions from 1970 called on the WHO to expand and clarify its research function and to take a more active role in coordinating and setting priorities for research internationally.[11] These reflected a more general faith in the public funding and planning of biomedical research, exemplified in the doubling of the budget of the U.S. National Institutes of Health between 1970 and 1975, and by the targeting of high-priority problems such as in Nixon's "war on cancer."[12] One result was the creation in 1972 of the WHO Special Program for Research, Development and Research Training in Human Reproduction, devoted to finding new or improving existing methods of fertility regulation.[13]

Halfdan Mahler was elected as WHO's director-general in 1973, after serving four years as director of Project Systems Analysis for the organization. In 1974 he identified the lack of scientific capacity in developing countries as the most urgent issue to tackle.[14] In the ensuing discussion,

9. World Health Organization (WHO), *Research and the World Health Organization: A History of the Advisory Committee on Health Research, 1959–1999* (Geneva: WHO, 2010).

10. WHO, *The Medical Research Programme of the World Health Organization, 1964–1968* (Geneva: WHO, 1969).

11. Resolutions "WHA23.59: General Programme of Work Covering a Specific Period," in *Twenty-Third World Health Assembly, Geneva, 5–22 May 1970, Part I Resolutions and Decisions, Annexes*, Official Records of the World Health Organization (ORWHO) no. 184 (Geneva: WHO, 1970), 32–33; and "WHA25.60: WHO's Role in the Development and Coordination of Biomedical Research," in *Twenty-Fifth World Health Assembly, Geneva, 9–26 May 1972, Part I Resolutions and Decisions, Annexes*, ORWHO no. 201 (Geneva: WHO, 1972), 32–33.

12. Paul J. Cruickshank, "The Teleology of Care: Reinventing International Health, 1968–1989" (Ph.D. diss., Harvard University, 2011).

13. A. Kessler and C. C. Standley, "Research and Development of New Techniques: The W.H.O. Expanded Programme of Research, Development and Research Training in Human Reproduction," *Proc. R. Soc. Lond. B Biol. Sci.* 195 (1976): 129–36.

14. Executive Board, Fifty-Third Session, "Annex 1: WHO's Role in the Development and Coordination of Biomedical Research. Report of the Director-General to the Executive Board, 25 March 1974 (A27/11)," agenda item 2.5, EB53/5 Rev.1 (Geneva: WHO, 1974). Our use of the words "developing" and "developed" in this paper follows the language used by our sources.

however, delegates from industrialized countries pressed for international priority setting and information-sharing mechanisms that could streamline and enhance their own research activities. Several discussions about priority setting followed.[15] ACMRs were created for each of the WHO's six regions in order to bring local input to research planning. Discussions highlighted two areas—health systems research (HSR) (a specialty of Mahler's) and tropical disease research (TDR)—as priority targets for investment. HSR stimulated regular discussions at WHO meetings, but little action. The ACMR held consultations and created subcommittees, which recommended, in 1976 and 1977, the creation of a special program for HSR, but there was equally strong support for making this field an integral component of all WHO programs. This lack of consensus about HSR's institutional shape was exacerbated by the absence of agreement about what exactly HSR was and should be.

In contrast, TDR inspired swift, decisive action. Mahler's early proposals were centered on a special program to stimulate developing-country research capacity. "Parasitic diseases" were suggested as an initial focus for this program, which would eventually enable countries to independently define and address a broader range of issues. However this proposal was quickly repackaged as a research program with a dual aim: to produce innovative solutions for the control of tropical diseases, while simultaneously building TDR research capacity in "endemic countries" of the Global South. There was widespread agreement about this formulation. The motion submitted at the WHA to intensify research in tropical diseases was signed by eleven countries in Africa, one in Southeast Asia, and five from the communist world.[16] They were supported by developed nations and the leadership of the WHO. By applying new methods of molecular biology, genetics, and immunology to parasites, "the research potential thus established could be applied to virtually all other problem of biomedical research and public health."[17] Consequently, while strengthening local capacity remained a target, it was now complementary to the more urgent goal of investing in research on diseases that mainly affected low-income nations and that were underfunded.

15. Executive Board, Fifty-Fifth Session, "WHO's Role in the Development and Coordination of Biomedical Research. Progress Report by the Director-General, 9 December 1974," EB55/8 (Geneva: WHO, 1974).

16. "Intensification des maladies parasitaires tropicales: project de resolution . . . ," 27e Assemblee Mondiale de la Sante, point 2.2.3 de l'ordre du jour, A27/A/Conf. Doc. No. 21, 20 mai 1974.

17. Executive Board, Fifty-Fifth Session, provisional agenda item 2.7, 9 Dec. 1974. Appendix 1, EB55/8; Official Record of the WHO No. 218: 27th WHA, 7–23 May 1974, Part 11: 285.

The TDR Movement

The WHO was not alone in focusing investment on TDR. The Edna McConnell Clark Foundation, in search of a new area where its limited resources could acquire "leverage," also chose tropical disease as a funding target. Created in 1974, its Tropical Disease Program had, by 1995, awarded 691 grants totaling ninety million dollars to researchers in developed countries to work first on schistosomiasis and later on onchocerciasis and trachoma.[18] In 1977 the Rockefeller Foundation (RF), beginning to reinvest in international health after having shifted its funding elsewhere for several decades, launched the Great Neglected Diseases of Mankind Program (GND). This eight-year program aimed to stimulate sophisticated research on "neglected"—mainly "tropical" and parasitic—diseases by leading biomedical scientists.[19] It was led by Kenneth Warren, the RF's new director of health who is best known for his advocacy of selective primary care (see below). While only the WHO emphasized local capacity building, all three TDR programs sought to mobilize cutting-edge science to better control diseases affecting populations in the Global South.

The WHO moved quickly to set up the Special Programme for Research on Tropical Diseases (WHO-TDR). The models were organizations that had successfully fund-raised and stimulated research to produce technologies for expanding food production, notably the Consultative Group for International Agricultural Research (CGIAR).[20] Meetings were organized with potential donors and expert groups, and cosponsorship of the United Nations Development Programme (UNDP) was arranged. The WB joined as a cosponsor in 1978. WHO-TDR's six and then eight target diseases were selected on the basis of estimated morbidity and the promise of research-based solutions.[21] Like the Clark Foundation, WHO-TDR focused on drug development—although both programs also included provisions for the "long-shot gambles" of basic research that might lead to the "immense payoffs" of vaccine development.[22] Outside financial support came from the Wellcome Trust, the Clark Foundation, and international agencies

18. . Carolyn Asbury, Barnett L. Cline, and Victoria M. Gammino, "The Edna McConnell Clark Foundation Tropical Disease Research Program: A 25-Year Retrospective Review 1974–1999" (New York: Edna McConnell Clark Foundation, 2000), www.emcf.org/fileadmin/media/PDFs/history/tdr_finalreport.pdf.

19. Conrad Keating, *Kenneth Warren and the Great Neglected Diseases of Mankind Programme: The Transformation of Geographical Medicine in the US and Beyond* (New York: Springer, 2017).

20. Executive Board, Fifty-Third Session (n. 14).

21. John Maurice and Anna Marina Pearce, *Tropical Disease Research: A Global Partnership, Eighth Programme Report. The First Ten Years* (Geneva: WHO, 1987).

22. Executive Board, Fifty-Third Session, "Annex 1" (n. 14), 36..

from Sweden, Norway, Iraq, and Canada. By 1977, the program's first year of full operation, its budget contributions accounted for nearly 10 percent of the WHO's "voluntary fund,"[23] with contributions rising rapidly to around twenty-five million dollars annually by 1980.[24]

This fund-raising power was one reason for the program's popularity. In the mid-1970s voluntary contributions—mainly for earmarked activities such as malaria and smallpox eradication—from member countries, governmental and nongovernmental organizations, and industry were seen as an antidote to recent stagnation in the organization's regular budget. Only later, especially in the 1990s, was the steady growth in extrabudgetary funds widely excoriated for weakening WHO's regular budget and decision-making capacity. But in 1976 Mahler publicly applauded a 500-percent increase in voluntary contributions over the previous three years,[25] while an organizational study encouraged this trend.[26]

The WHO-TDR's commitment to "goal-oriented research" and practical achievements was its most obvious attraction for funders. By 1987 it claimed sixty products.[27] The program's contributions to drug development mainly entailed bringing existing molecules through laboratory and clinical testing to determine and refine their uses, which it did by establishing extensive researcher networks as well as collaborations with drug developers. Notable early achievements were a field test to detect drug-resistant malaria parasites; various diagnostic and vector control tools; a multidrug treatment regimen for leprosy; Ivermectin, developed with Merck, as a treatment of onchocerciasis; difluoromethylornithine, initially developed as an anticancer drug, redeveloped as a treatment for sleeping sickness as well as synthesized through cheaper methods; and clinical trials of the antimalarial mefloquine, developed by the U.S. Army and Hoffman-Laroche. Openness to extensive collaboration with the drug industry constituted a unique organizational model within the WHO. Its focus on cost-effective technical solutions appealed to those who supported targeted vertical programs.

23. Executive Board, Sixty-Second Session, "Voluntary Fund for Health Promotion. Report by the Director-General, 5 May 1978," EB62/7 (Geneva: WHO, 1978).

24. Special Programme for Research and Training in Tropical Diseases (TDR), "Report of the Second External Review Committee, 27–29 June 1988," TDR/JCB(11)/88.6 Rev.1 (Geneva: WHO, 1988), 70.

25. *Twenty-Ninth World Health Assembly, Geneva, 3–21 May 1976, Part II*, ORWHO no. 234, (Geneva: WHO, 1976), 364.

26. Kelly Lee and Jennifer Fang, *Historical Dictionary of the World Health Organization*, 2nd ed. (Lanham, Md.: Scarecrow Press, 2013), 138.

27. Maurice and Pearce, *Tropical Disease Research* (note 21).

WHO-TDR had wider appeal across ideological lines because it carefully balanced product development mainly in industrialized countries with a continued commitment to longer-term investments in both research and capacity building in low-income countries. The latter, mainly involving training activities, was steadily funded at 20 to 25 percent of its overall budget.[28] Although a subsidiary objective, this still represented an exceptional investment during this period. It conformed to WHO's commitment to the self-sufficiency of developing countries in matters of health care and research,[29] and exemplified its focus on "appropriate technology," the argument being that training researchers from areas of application would ensure the suitability, "acceptability," and effective implementation of WHO-TDR products. From its second decade, WHO-TDR also sought to develop ways to effectively mobilize simple technologies (standard drug regimens, bed nets) through "community participation," a staple of WHO policy. Thus, WHO-TDR was acclaimed for supporting both Western researchers and communities in developing countries, somewhat exempting it from the vigorous debates discussed in the following section. Moreover, even the staunchest supporters of improved living standards as the route toward better health acknowledged a "tropical disease exception" requiring biomedical research and innovation (e.g., McKeown; see below). Thus, the WHO-TDR fostered a distinctive culture within the WHO, one that was partial to technical solutions developed through cutting-edge research and collaboration with industry and simultaneously committed to developing research self-sufficiency in low-income nations.

This set of shared values extended more broadly across a fledgling global policy network for health research, which developed through close links among the individuals and institutions involved in the various TDR initiatives. Key figures—notably Adetokunbo Lucas and Tore Godal, the second and third directors of WHO-TDR, Warren at the RF, Joseph Cook at the Clark Foundation, and John Evans at the RF and WB—sat on each other's boards and attended the same meetings (many organized by Warren in the plush surroundings of the RF villa in Bellagio, Italy).[30] Interactions around a shared concern with securing future funding for TDR, and

28. TDR, "Report of the Second External Review Committee" (n. 24), 50.

29. Nitsan Chorev, *The World Health Organization between North and South* (Ithaca, N.Y.: Cornell University Press, 2012), 143.

30. E.g., Kenneth S. Warren and John Z. Bowers, eds., *Parasitology: A Global Perspective (Proceedings of a Meeting, Apr. 1982, Bellagio (Italy))* (New York: Springer Verlag, 1983).

the promotion and coordination of international research more broadly, gave rise to a new style of advocacy.

This advocacy intersected with efforts to increase American involvement in international health. Calls to expand the American international health effort date back to at least the 1950s and resulted, notably, in the creation in 1968 of the Fogarty International Centre at the National Institutes of Health to support research and training, especially through its signature foreign fellowship program.[31] From the late 1970s politicians, various federal agencies, and leading American experts in international health, particularly through the American Society of Tropical Medicine and Hygiene (ASTMH), requested or sponsored a series of studies and meetings, coordinated by the Academy of Science's Institute of Medicine.[32] In the early 1980s the Office of Technology Assessment, by request of the Senate Appropriation Committee, also examined the status of biomedical research and technology for tropical diseases.[33] Research, especially TDR, was repeatedly identified in these reports as a priority area for strengthening American involvement in international health. These efforts created further opportunities for TDR figures like Lucas and Warren to interact with some of the leading advocates of American tropical medicine and international health, including David E. Bell of the Harvard School of Public Health (following fourteen years as executive vice president of the Ford Foundation), Donald Henderson, and Barry Bloom (see Table 1, p. 391). Cook, head of the Clark Foundation TDR, also served a term as president of the ASTMH in 1987. Thus American activism further fostered the interpersonal connections and shared discussions through which the tropical medicine network expanded both in size and then in the scope

31. Cruickshank, "Teleology of Care" (n. 12), 146–94.

32. Institute of Medicine, *Strengthening U.S. Programs to Improve Health in Developing Countries: Study Report, April 1978* (Washington, D.C.: National Academies Press, 1978); Institute of Medicine, *Review of the AID Health Strategy: Committee Report* (Washington, D.C.: National Academies Press, 1978); Institute of Medicine, *U.S. Participation in Clinical Research in Developing Countries: Study Report, April 1980* (Washington, D.C.: National Academy Press, 1980); Institute of Medicine, *Report of the Committee on Issues and Priorities for New Vaccine Development* (Washington, D.C.: National Academies Press, 1985); Institute of Medicine, *New Vaccine Development: Establishing Priorities* (Washington, D.C.: National Academies Press, 1986); Board on Science and Technology for International Development, Office of International Affairs, National Research Council, Institute of Medicine, *US Capacity to Address Tropical Infectious Disease Problems: Conclusions and Recommendations* (Washington, D.C.: National Academies Press, 1987).

33. U.S. Congress, Office of Technology Assessment, *Status of Biomedical Research and Related Technology for Tropical Diseases*, OTA-H-258 (Washington, D.C.: Government Printing Office, 1985).

of its concerns. By no means was the research network unique. At about this time other transnational networks were also forming around tobacco, vaccines, and health promotion advocacy and research.[34]

Primary Health Care, Prioritization, and Research

Before examining the expansion of the research advocacy network, a word about the wider context is in order. The activity described above took place at a time of intense debate surrounding the fundamental orientation of international health. In 1978 the Alma Ata Declaration, calling for national, regional, and global strategies for health for all, based on primary health care (PHC), was adopted at an international conference sponsored by WHO and UNICEF. In May 1979 WHO's WHA endorsed these goals and in 1981 adopted the Global Strategy for Health for All (HFA) to implement them. The declaration articulated an ambitious vision for bringing the essential conditions for good health to even the poorest of nations. Rejecting the transfer to the Global South of expensive technology and hospital-based care, which mainly benefitted urban elites, PHC aimed for universal provision of a wide range of basic services, particularly through community decision making and the use of nonprofessional health workers. Aligning itself with calls by developing countries for a New International Economic Order, the declaration called for expansion and more equitable distribution of resources for health between and within countries. It has achieved near mythical status as a statement of international/GH ambition and equity.

Soon after, a more restricted vision of PHC was formulated under the label of Selective Primary Health Care (SPHC). In 1978 the RF organized a meeting in Bellagio attended by heads of the WB, the Ford Foundation, the U.S. Agency for International Development, and the Canadian International Development Research Centre (IDRC). Among the ten papers presented, one by Kenneth Warren and Julia Walsh, a visiting research fellow at the RF, was soon published in the *New England Journal of Medicine* in 1979, and a year later in a special issue collecting the Bellagio meeting papers.[35] The authors argued that PHC, as formulated in Alma Ata,

34. E.g., David Reubi and Virginia Berridge, "The Internationalisation of Tobacco Control, 1950–2010," *Med. Hist.* 60, no. 4 (2016): 453–72; William Muraskin, "Origins of the Children's Vaccine Initiative: The Intellectual Foundations," *Soc. Sci. Med.* 42, no. 12 (1996): 1703–19; "Ottawa Charter for Health Promotion," *Health Promot. Internat.* 1, no. 4 (1986): 405–6.

35. Julia A. Walsh and Kenneth S. Warren, "Selective Primary Health Care: An Interim Strategy for Disease Control in Developing Countries," *N. Engl. J. Med.* 301, no. 18 (1979):

was not feasible "in an age of diminishing resources." They proposed an "interim" strategy for identifying a few priority measures on the basis of their low cost and high impact. Utilizing prevalence, mortality, morbidity, and feasibility of solutions as criteria, the article offered four "cost-effective" suggestions for prioritization, mainly directed at child health. The actual suggestions were less important than the attempt to prioritize on the basis of epidemiologic and economic metrics. A final section identified research to develop vaccines and drugs as the most cost-effective measure available,[36] thus establishing major overlap between SPHC and the research advocacy network. Neither the paper nor SPHC were formally approved at the meeting, nor were they mentioned in David Bell's introduction to the special issue.[37] SPHC was widely criticized, denounced, for example, by a WHO architect of PHC as the "antithesis" to the principles of comprehensiveness and self-reliance formulated in Alma Ata, and as a return to the vertical, disease-control approach of eradication programs.[38] It was criticized for the measures it dismissed like proper nutrition for children and clean water.[39] Health economists criticized its metrics on methodological grounds.[40]

On the face of it SPHC emerged as the dominant orientation in international health during this decade and was quickly taken up by several influential international donors, notably UNICEF. The most ambitious version of PHC, in contrast, never quite got off the ground for many reasons:[41] lack of adequate planning; the economic and debt crises that characterized this decade; and the "structural adjustment" policies of the WB and International Monetary Fund as a conditionality on loans, leading to major cuts in public health care services in developing countries.[42] There were, moreover, serious sources of opposition. Some were worried

967–74; Julia A. Walsh and Kenneth S. Warren, "Selective Primary Health Care: An Interim Strategy for Disease Control in Developing Countries," *Soc. Sci. Econ.* 14C, no. 2 (1980): 145–63.

36. Walsh and Warren, "Selective Primary Health Care" (n. 35), 152.

37. David E. Bell, "Introduction," *Soc. Sci. Med.* 14C, no. 2 (1980): 63–65.

38. Kenneth W. Newell, "Selective Primary Health Care: The Counter Revolution," *Soc. Sci. Med.* 26, no. 9 (1988): 903–6.

39. E.g., John Briscoe, "Water Supply and Health in Developing Countries: Selective Primary Health Care Revisited," *Amer. J. Pub. Health* 74, no. 9 (1984): 1009–13.

40. E.g., Peter A. Berman, "Selective Primary Health Care: Is Efficient Sufficient?," *Soc. Sci. Med.* 16, no. 10 (1982): 1054–59.

41. Randall Packard, *A History of Global Health: Interventions into the Lives of Other Peoples* (Baltimore: Johns Hopkins University Press, 2016), 231–66.

42. E.g., Rene Loewenson, "Structural Adjustment and Health Policy in Africa," *Internat. J. Health Policy Manag.* 23, no. 4 (1993): 717–30.

about the lack of expertise of proposed primary health care workers (modeled to some degree on China's barefoot doctors).[43] Others were uneasy about the vagueness of PHC—especially regarding sources of funding—and the "politicization" of its more radical versions.[44] The ideal of PHC however never quite faded.

Despite an argument that PHC and SPHC were fundamentally "incommensurable,"[45] the two positions coexisted for a decade. While UNICEF and other agencies adopted SPHC, planning for PHC remained a priority at WHO.[46] Moreover, the two sides sought to bridge the rift, rhetorically at least, through negotiation and compromise. By 1988 Warren could claim that reconciliation was possible because both sides had evolved, with SPHC having broadened its focus "drastically . . . from individual diseases to the role of other sectors such as education and agriculture," while remaining committed to "its central concepts of establishing priorities on the basis of effectiveness of cost in a resource constrained world and of equity."[47] Asserting from the outset that SPHC could, in time, lead to comprehensive PHC, advocates of prioritization gradually expanded the range of conditions and measures that fell within its sphere. A series of articles published over several years under the label of SPHC in *Reviews of Infectious Disease* discussed the most efficient ways of tackling twenty-three major infectious diseases as well as malnutrition. Thus countries could choose which diseases and solutions to prioritize. At a 1983 Bellagio meeting, SPHC advocates and the WHO leadership adopted a compromise position: "Primary health care should respond to all of the health needs of the community, but priority should be given to those interventions that will rapidly reduce mortality and morbidity at the least possible cost," while building up infrastructure "for bringing us closer to the goal of health for all."[48] After discussions with the WHO,

43. Peter A. Berman, Davidson R. Gwatkin, and Susan E. Burger, "Community-Based Health Workers: Head Start or False Start towards Health for All?" *Soc. Sci. Med.* 25, no. 5 (1987): 443–59.

44. Marcos Cueto, "The Origins of Primary Health Care and Selective Primary Health Care," *Amer. J Pub. Health* 94, no. 11 (2004): 1864–74.

45. Susan B. Rifkin and Gill Walt, "Why Health Improves: Defining the Issues Concerning 'Comprehensive Primary Health Care' and 'Selective Primary Health Care,'" *Soc. Sci. Med.* 23, no. 6 (1986): 559–66.

46. E.g., WHO, *From Alma Ata to the Year 2000: Reflections at the Midpoint* (Geneva: WHO, 1988); E. Tarimo, E. G. Webster, et al., *Primary Health Care Concepts and Challenges in a Changing World: Alma-Ata Revisited* (Geneva: WHO, 1994).

47. Kenneth S. Warren, "The Evolution of Selective Primary Health Care," *Soc. Sci. Med.* 26, no. 9 (1988): 891–989, quotation on 896.

48. Ibid., 892.

the term "selective" was omitted from the title of the 1986 volume (*Strategies for Primary Health Care*) that reprinted the *Reviews of Infectious Diseases* series, and, in a symbolic gesture, it was prefaced by WHO director-general (and chief architect of HFA) Halfdan Mahler.[49] A chapter on health care management presented primary care centers as an element that all health systems should consider, conceding a major point to PHC supporters.[50] Two years later W. Henry Mosley, director of Population Dynamics at Johns Hopkins University, pleaded for a "middle way." Initially a critic of SPHC, on the basis of its inadequacy in addressing underlying frailty in children, Mosley rejected the polarized opposition of vertical and horizontal, instead proposing "categorical" programs that were problem oriented (whether toward specific diseases, such as smallpox, or more general conditions such as malnutrition or high infant mortality) rather than technology or disease oriented.[51]

These compromises were built around significant points of agreement. One was the value of highly cost-effective—and therefore mass-distributable—disease-control technologies, notably vaccination, albeit with much debate about whether these should be stand-alone activities or part of a broader infrastructure of basic health services. This underpinned the creation, in the mid-1970s, of the WHO's Expanded Programme on Immunization as well as its TDR program. This view was bolstered by the success of smallpox eradication activities.[52] A second point of consensus was a shared concern to expand the accessibility of (at least some) health services, rather than invest in expensive biomedical expertise and technologies. Third, compromise reflected widespread desire in a relatively small and underfunded domain for unity and coordinated action. We emphasize this point because this aspiration would inspire later efforts to create the alliances, meta-organizations, and partnerships that came to define GH. Fourth, there was general agreement that some form of prioritization of action, allied with local flexibility of choice, was imperative. Finally, there was consensus that research was central to any successful strategy.

49. Julia A. Walsh and Kenneth S. Warren, *Strategies for Primary Health Care: Technologies Appropriate for the Control of Disease in the Developing World* (Chicago: University of Chicago Press, 1986).

50. William H. Foege and Donald A. Henderson, "Selective Primary Health Care. XXV. Management Priorities," *Rev. Infect. Dis.* 8, no. 3 (1986): 467–75.

51. W. Henry Mosley, "Is There a Middle Way? Categorical Programs for PHC," *Soc. Sci. Med.* 26, no. 9 (1988): 907–8, quotation on 907.

52. Muraskin, "Origins of the Children's Vaccine Initiative" (n. 34); Bob H. Reinhardt, *The End of a Global Pox: America and the Eradication of Smallpox in the Cold War Era* (Chapel Hill: UNC Press Books, 2015).

Prioritization and research were closely linked in these debates about rational distribution of health care resources. Priority setting demanded quantitative epidemiological and economic research to determine the weight of specific health problems and the impact of existing and potential interventions. Effective interventions required investment in biomedical research to develop high-impact technologies. Over the 1980s a consensus emerged around this relationship between research and prioritization. By the beginning of the decade the Ghana Health Assessment Project had developed an economic metric to measure the impact of disease on the communities it was analyzing ("days of healthy life lost") in order to determine priority interventions.[53] The Institute of Medicine produced a quantitative model to aid decision makers in establishing priorities for accelerated development of vaccines.[54] In 1986 the WHO and the RF held a joint meeting to discuss ways to help countries develop priority planning across different socioeconomic sectors.[55] Walsh was commissioned by the UNDP to write a book, published in 1988 as *Establishing Health Priorities in the Developing World*.[56] Research was among its core concerns, both as a tool for prioritization and as a priority in itself. The first step was data collection and statistical analysis to identify the major causes of morbidity and mortality. Where available measures existed, economic analysis could calculate and maximize, through improved implementation, their cost-efficacy. Where solutions to priority problems were unavailable or insufficiently cost-effective, new ones should be pursued through biomedical and epidemiological research. There was also broad agreement (though it attracted far less money) that HSR was needed to guide prioritization. Soon after creating its "GND" program in 1977, the RF formalized the International Clinical Epidemiology Network (INCLEN), to create and strengthen training programs in medical schools providing physicians with expertise—initially in epidemiology, and later adding health economics and social sciences—to manage scarce health resources in developing countries.[57] Many asserted the importance of HSR, but there was little agreement about its content. The broad concept could refer to research

53. Ghana Health Assessment Project Team, "A Quantitative Method of Assessing the Health Impact of Different Diseases in Less Developed Countries," *Internat. J. Epidemiol.* 10, no. 1 (1981): 73–80.

54. Institute of Medicine, *New Vaccine Development: Establishing Priorities*, vol. 2 (Washington, D.C.: National Academies Press, 1986).

55. Warren, "Evolution of Selective Primary Health Care" (n. 47).

56. Julia A. Walsh, *Establishing Health Priorities in the Developing World* (New York: United Nations Development Programme, 1988).

57. Cruickshank, "Teleology of Care" (n. 12).

on management strategies, mathematized systems analysis, cost-efficiency analysis, cultural factors that prevented local acceptance of healthful practices, or the socioeconomic determinants of health. Aside from conceptual confusion, there did not as yet exist a strong professional group to advocate for the field. Finally, research geared toward administrative rationality could not compete for resources against research seeking to directly save lives or prevent disability.

HSR and Health for All at the WHO

Meanwhile, the WHO was also seeking ways to prioritize its actions in order to operationalize its HFA program. The ACMR, newly renamed Advisory Committee on Health Research (ACHR), established in the early 1980s several planning subcommittees, including one on a Global Research Strategy for HFA, chaired by Thomas McKeown, a British professor of social medicine well known for his thesis that rising living standards, especially better nutrition (with a secondary role for sanitation and public health), rather than medicine, were the primary causes of the historical decline in mortality.[58] These views were consistent with PHC's rejection of expensive biomedical technologies and specialized expertise. Echoing the famous "McKeown thesis," a 1984 draft report and its revised versions presented historical "evidence for regarding disease, with some well-defined exceptions, as in principle preventable by modification of ways of life."[59] In line with this conclusion, the research needed to reach HFA was mainly "of the health systems type." The most common category of illnesses, which McKeown labeled "diseases of poverty," had solutions that were "well-known" (i.e., adequate food, clean water, sanitary facilities, population regulation, immunization, and treatment of common infections). These could, however, be more effectively implemented through research on service delivery. A second major category, "noncommunicable diseases," a growing problem in developing countries, required both epidemiological and applied research to identify and control their mainly behavioral determinants. The report acknowledged a limited but irreplaceable role for biomedical research, notably on "diseases of the

58. Thomas McKeown, *The Role of Medicine: Dream, Mirage or Nemesis?* (London: Nuffield Provincial Hospitals Trust, 1976).

59. Thomas McKeown, "The Road to Health," *World Health Forum* 10, nos. 3–4 (1988): 408–16; WHO Advisory Committee on Health Research, *Health Research Strategy for Health for All by the Year 2000: Report of a Subcommittee of the ACHR* (Geneva: WHO, 1986), 8.

tropics" that did not respond to improved living standards and that lacked adequate measures of control.

McKeown's emphasis on HSR dovetailed with several WHO initiatives. An expert study group was convened in 1982 to consider "research for the reorientation of national health systems" and clarify the scope and purpose of HSR. It proposed an expansive view of HSR, identifying, among nine key issues, "the relationships between health systems and society as a whole . . . assessment of a population's health needs . . . and study of health systems management."[60] Soon after the WHO published a booklet by Carl Taylor, a pioneer of international health and PHC, on "the uses of" HSR in guiding health authorities in developing countries.[61] A Health Systems Research Advisory Group was established in 1986 to counsel the WHO, support HSR at the country level, and promote awareness. By 1988, when it met for the second time in Botswana, thirteen methodology workshops had been held, an interregional training program established, and support given to several country-level projects.[62] Finally, it coordinated links with other groups and networks, mainly funded by philanthropic foundations such as the RF, the Pew Memorial Trust, and the Carnegie Corporation, that sought to support HSR as an essential guide for health planning.

Still, the nature and scope of HSR remained ambiguous. As late as 1987 there was, Mahler asserted, lots of talk about HSR, but little impact on how decisions about health were made: "At least now there has been a change, everybody speaks about health systems research and the regional commissions, advisory committees speak about it and its blah-blahing all over the place. I think it is very sad that Member States are making use of WHO's resources to do all kind of fanciful stupidities like buying a little bit of DDT or cars, or sending a fellow here and there, rather than making use of them in order to get down to understand their own predicament."[63] By now, however, advocacy for TDR and HSR had expanded to incorporate the entire domain of health research for the Global South.

60. WHO, *Research for the Reorientation of National Health Systems: Report of a WHO Study Group* (Geneva: WHO, 1983).

61. Carl E. Taylor, *The Uses of Health Systems Research* (Geneva: WHO, 1984).

62. WHO, "Health Systems Research and Advisory Group; First Meeting, Geneva, 7–10 April 1986," WHO/HSR/86.1 (Geneva: WHO, 1986); WHO, "Health Systems Research and Advisory Group; Second Meeting, Gaborone, Botswana, 19–25 June 1988," WHO/HSR/88.2 (Geneva: WHO, 1988).

63. WHO, *Research and the World Health Organization* (n. 9), 22.

The Commission on Health Research for Development

Over the course of the 1980s a growing international network had formed around initiatives to promote specific kinds of health research, notably HSR and TDR, and the rational management of scarce resources for health. These actors and arguments were drawn together around the work of the Commission on Health Research for Development (CHRD), whose 1990 report was the first programmatic statement on behalf of GH research. The commission grew out of a meeting of scientists and donor representatives convened in 1985 by Cook, of the Clark Foundation, to discuss the question "A 'Green Revolution' in Health catalyzed by research—is it possible?" Inspired (like WHO-TDR) by the success of initiatives to channel resources for agricultural research, participants were invited to consider whether this model might produce "cheap, effective and simple health technologies needed by countries of the South much as the . . . CGIAR had contributed to the world's supply of food."[64] Attendees chose, instead, to enlarge the focus, deciding on the creation of an independent commission to consider how research, defined broadly, could improve health in the Global South.

The CHRD, which began its work in 1987, was part of a wider reassessment of development that led to the Brandt Report on International Development Issues (1980) and the Brundtland Report on Sustainable Development (1987). It was also viewed as an opportunity to advance the professional interests of scientists. In his presidential address to the ASTMH in 1987, Cook suggested that the CHRD offered "an umbrella organization for rallying additional support . . . a way of assuring that the excellent research conducted by members of this Society has relevance and is applied in control of tropical infectious diseases."[65] Support for the commission reflected the broader alliances that were coalescing around research. Its sources of financial support included most major philanthropic, multilateral, and bilateral institutions involved in international health, including the Clark, Carnegie, Ford, Rockefeller, Pew, and Nobel foundations, the Swiss, Swedish, German, and Canadian development agencies, as well as the WB, WHO-TDR, and UNDP. It was announced in the *Lancet* by a large group that reads as a who's who of GH research, including David E. Bell, Joseph Cook, John Evans, Richard Feacham, Tore

64. Council on Health Research for Development (CHRD), "International Conference on Health Research for Development, Palais des Nations, Geneva, Switzerland 8 and 9 March, 1993: Report" (Geneva: CHRD, 1993), 4.

65. Joseph A. Cook, "Tropical Medicine and Health in the Developing World," *Amer. J. Trop. Med. Hygiene* 38, no. 3 (1988): 459–65, quotation on 464.

Godal, Dean Jamison, Ade Lucas, Vulimiri Ramalingaswami, Julia Walsh, and Kenneth Warren (Table 1).

CHRD membership further cemented links among prominent members of the policy networks that had emerged around TDR and SPHC. It was chaired by Evans, former director of the WB's Population, Nutrition and Health Division, who had close, long-standing ties to the RF. Evans, like at least four of the other twelve members, had connections to the WHO-TDR. However, the WHO was not officially represented on the commission, nor was UNICEF, which aroused some speculation. Many probably agreed that "at least by implication, the formation of the commission seems a criticism of existing international assistance agencies."[66] The official explanation for this absence, offered in the final report, was that the commission required absolute independence, notably to investigate, as objectively as possible, the research activities and investments of these very agencies. There was also a strong, often reiterated emphasis on the fact that eight of the commission's twelve members represented developing countries, and a range of professions in biomedical and social sciences, law, and economics. The commission's secretariat was located at Harvard's Center for Population Studies and led by David Bell and especially Lincoln Chen (see Table 1), who coordinated its activities—eight commission meetings, five regional workshops, commissioned case studies in ten developing countries, and testimony from hundreds of experts and politicians over the space of three years.[67]

The commission's final report in 1990 argued strongly that research was fundamental for improving health, which was in turn essential for economic development. Though arising in part from TDR-SPHC linkages, it broadened the focus beyond the potential products of research, to also encompass the fair distribution of resources, capacity, and agenda-setting power. Just as the UNDP's first Human Development Report, published the same year, emphasized "growing inequities between the rich and poor," the commission found "a gross mismatch between the burden of illness, which is overwhelmingly in the Third World, and investment in health research, which is overwhelmingly focused on the health problems of industrialized countries."[68] The cornerstone of a proposed strategy was a model called essential national health research (ENHR). This involved

66. John Walsh, "New Look at Health in Developing Nations: An Independent Commission Plans to Call Attention to Opportunities in Health Research in Third World," *Science* 238, no. 4828 (1987): 746–47.

67. Commission on Health Research for Development, *Health Research: Essential Link to Equity in Development* (New York: Oxford University Press, 1990).

68. Ibid., xvii.

setting up a minimum research base that would allow each country, no matter how poor, to "understand its own problems and to enhance the impact of limited resources." Research would thus maximize both self-sufficiency and efficiency in health matters. National ENHR strategies should be developed through an inclusive process, involving scientists, decision makers, and representatives of the people as equal partners, with equity as the ultimate goal. These strategies would also serve as the starting point for setting research priorities at the global level. The report also recommended earmarking a minimum portion of national and development agency health budgets for research—at least 2 and 5 percent, respectively—and intensifying advocacy for further financial and technical support. To increase funding, the CHRD saw potential in private sources, including philanthropic foundations, which had a known preference for funding research over interventions, and in the mobilization of "industry's profit motivations and social obligations" to encourage it to play a larger role in international health research despite reluctance to develop products for weak markets.[69]

UNICEF was the only international agency to immediately pledge to spend 5 percent of its considerable budget on research.[70] But the CHRD produced a powerful advocacy statement for health research and represented a substantial expansion and consolidation of the TDR/SPHC policy network. Its central tenets and some of its language were repeated at the WHA, which, in 1990, held its technical discussions on the topic of "the role of health research in the strategy for Health for All by the year 2000." The theme, selected two years earlier with no apparent connection to the CHRD,[71] generated intense interest following the publication of the latter's report. Despite initial objections from WHO officials, the CHRD report was distributed at the WHA.[72] The meeting opened with keynote addresses by two commission members. Echoing the CHRD report, the account of the technical discussions reaffirmed that health research was central to health policy and rational resource management.[73] It also, however, reiterated the research priorities and disease classification of

69. Ibid., 87.

70. Muraskin, "Origins of the Children's Vaccine Initiative" (n. 34).

71. Executive Board, Eighty-Second Session, "Provisional Summary Record of the Second Meeting, May 16, 1988," EB82/SR/2 (Geneva: WHO, 1988).

72. Victor R. Neufeld and Nancy Johnson, *Forging Links for Health Research: Perspectives from the Council on Health Research for Development* (Ottawa: International Development Research Centre, 2001).

73. World Health Assembly, Forty-Third Session, "Report of the Technical Discussions, 16 May 1990," A43/Technical Discussions/8 (Geneva: WHO, 1990).

the McKeown report, giving top place to research aimed at improving the application of already well-known measures for controlling "diseases of poverty." Accordingly, it placed particular emphasis on HSR, topic of a panel attended by 200 experts, who "endorsed strongly and without dissent [the WHO's] central role . . . in enabling the most effective use of scarce resources to achieve health for all." Other panels also spelled out the need for cutting-edge biomedical investigation, research on nutrition, and local capacity strengthening, all coordinated with HSR planning.[74]

The advocacy rhetoric of the CHRD report was repeated in the final WHA resolution on "the role of health research." Pointing to a "worldwide mismatch between the burden of illness . . . and investment in health research," it called on member states to undertake essential health research appropriate to national needs, to build and strengthen national research capabilities that could be translated into policy, and to collaborate with other countries through international partnerships. It also urged donors and the research community to support this research, and the WHO to produce a clear health research strategy in support of HFA.[75]

A direct consequence of the CHRD was the creation of an Interim Task Force that began the work of supporting the implementation of ENHR (initiated in eighteen countries by 1993). To define and promote the strategy, it organized two major meetings of "interested countries" (in Thailand 1990 and Uganda 1992).[76] A proposal to anchor a new ENHR coordinating entity within the WHO was discussed with the WHO leadership, which eventually turned it down. A summary of a 1992 confidential consultancy report suggests that WHO leaders saw such an entity as implied criticism of WHO as well as competition for resources.[77] By 1993 the stated preference of the taskforce was for a nongovernmental organization under the UN umbrella, which would be flexible, autonomous, and efficient. By the end of that year a new organization, the Council on Health Research for Development (COHRED), was registered as an NGO in Geneva. It quickly signed a two-year agreement with UNDP and held several meetings of a board composed primarily of representatives of countries applying the ENHR strategy and of the sponsoring agen-

74. A. Michael Davies and Boutros P. Mansourian, *Research Strategies for Health: Based on the Technical Discussions at the 43rd World Health Assembly* (Cambridge, Mass.: Hogrefe & Huber, 1992), esp. 207.

75. Ibid., 208–9.

76. CHRD, "International Conference" (n. 64).

77. Yvo Nuyens, "Health Systems Research & World Health Organization: Facts, Events, Issues, Perspectives and Documents" (2003): 1–22, quotation on 12, www.who.int/rpc/meetings/REVIEW.pdf.

cies. COHRED was admitted into official relations with the WHO in 1998, after two previous applications, in 1994 and 1995, were rejected as "premature."[78]

The World Bank and Prioritization

By 1990 there was widespread consensus within the growing research advocacy network that (1) more research was necessary, (2) wide collaboration among many stakeholders was required, and (3) both research and action (emerging from research) should be grounded on rational priorities based on evidence, particularly quantitative evidence and, for many, cost-effective thinking. This was probably the weakest part of the program since there existed no rigorous methodology for determining priorities. The WHO experimented with a method called risk assessment, which sought quantitative indicators of risk for various conditions that would point to those communities and individuals most at risk for these conditions.[79] Cost analysis was more popular, but economists were only beginning to apply cost-benefit and cost-effectiveness (evaluating different strategies to deal with the same problem) approaches to international health issues. One of the most savvy specialists in this domain was, in 1983, not impressed by results: "Those studies that have estimated costs have done so on the basis of limited information, heroic extrapolations from data up to ten or twenty years old, and even from different continents."[80] Seven years later a young Harvard economist, who had been a researcher for the CHRD, Christopher Murray, was equally critical: "Attempts to set health priorities in a rigorous quantitative fashion have so far been unsophisticated and may have oversold the potential of these methods to contribute to tough resource allocation decisions. Efforts at applying the principle of cost-effectiveness to priority setting have ignored many difficult issues."[81] Murray would go on to attempt to resolve some of these issues, using the resources of the WB.

78. Executive Board, One Hundred First Session, "Collaboration with Nongovernmental Organizations. Report of the Standing Committee on Nongovernmental Organization, 27 January 1998," EB 101/32 (Geneva: WHO, 1998).

79. Michael V. Hayes, "The Risk Approach: Unassailable Logic?," *Soc. Sci. Med.* 33, no. 1 (1991): 55–61.

80. Anne Mills, "Vertical vs Horizontal Health Programmes in Africa: Idealism, Pragmatism, Resources and Efficiency," *Soc. Sci. Med.* 17, no. 24 (1983): 1971–81, quotation on 1979.

81. C. J. L. Murray, "Rational Approaches to Priority Setting in International Health," *J. Trop. Med. Hygiene* 93 (1990): 303–11, quotation on 304.

During the previous decade the bank had, through direct lending for health and through indirect structural adjustment measures, gained increasing influence over reforms in the health sector in the Global South. By the late 1980s it was becoming concerned with overall strategy for financing health systems.[82] At the risk of some oversimplification, it is fair to say that in both its lending practices and its programmatic reports, it stood for less state financing for health and greater reliance on private funding and market mechanisms. Private initiatives and the market were considered more efficient for many social tasks, while providing competition that might improve the quality of state services. Unsurprisingly for an institution of bankers and economists, rational spending was viewed through the lens of costs and benefits. Understood in this way, the WB perspective was not on the whole shared by the research advocacy network, which regularly lobbied for greater public funding. In these latter circles, attracting private funding was not about market choice but was rather a financial necessity, supported by figures considered progressive like Mahler. But the two sides agreed about the need to determine priorities for scarce resources.

In the early 1990s the influence of the WB expanded significantly. During a period of deepening financial crisis and weak leadership under the WHO's director-general Hiroshi Nakajima, WB lending for health rose dramatically, to surpass the entire WHO budget.[83] It initiated in 1988 an ambitious "Health Sector Priorities Review," which aimed to define the impact of diseases in the developing world and estimate the cost-effectiveness of available interventions. Responding to the apparent increase in chronic noncommunicable diseases (NCDs) in low-income countries, several studies (re)defined goals in the context of epidemiologic change.[84] This review culminated in the publication of *Disease Control Priorities in Developing Countries* (*DCP-1*), a massive multiauthored collection that dealt with a wide range of traditional and emerging health problems

82. John S. Akin, Nancy Birdsall, and David De Ferranti, *Financing Health Services in Developing Countries: An Agenda for Reform* (Washington, D.C.: World Bank, 1987); Charles C. Griffin, *Strengthening Health Services in Developing Countries through the Private Sector* (Washington, D.C.: World Bank, 1989); Ruger, "Changing Role of the World Bank (n. 1).

83. Chorev, *World Health Organization* (n. 29), 124–59.

84. Dean T. Jamison and W. Henry Mosley, eds., *Evolving Health Sector Priorities in Developing Countries* (Washington, D.C.: World Bank, 1991); Richard G. Feachem, Dean T. Jamison, Malegapuru Makgoba, and E. R. Bos, et al., *Changing Patterns of Disease and Mortality in Sub-Saharan Africa* (New York: Oxford University Press for World Bank, 1991); W. Henry Mosley, Jose Luis Bobadilla, and Dean T. Jamison, *The Health Transition: Implications for Health Policy in Developing Countries* (New York: Oxford University Press, 1993).

and appropriate ways to deal with them.[85] Addressing a professional audience, the volume provided data that would be used in the slimmer, more readable, and widely influential *World Development Report 1993: Investing in Health* (*WDR93*).[86]

Among the main authors of the early publications were several prominent figures in international health: W. Henry Mosley and Donald Henderson of Johns Hopkins and Richard Feacham of the London School of Hygiene and Tropical Medicine. Authors of the *DCP-1* included Warren, Walsh, Ramalingaswami, Chen, and Scott Halstead, head of the RF's INCLEN network. Both books drew heavily on data from the Global Burden of Disease Project (GBD), surveying health problems throughout the world and led by Christopher Murray and Allan Lopez, a statistician at the WHO. The lead editor of the *DCP-1*, and the primary author of *WDR93*, was Dean T. Jamison, a former senior economist at the WB who now taught at the School of Public Health at UCLA.[87] Jamison's immediate superior was Laurence Summers, chief economist of the WB and responsible for the *WDR93*: both had doctorates in economics from Harvard and Jamison's thesis supervisor had been Nobel Prize laureate Kenneth Arrow, Summers's maternal uncle.

Described as "unmistakably a World Bank product" in the *Lancet*,[88] *WDR93* nevertheless received extensive input from the WHO secretariat, while WHO programs organized several of its consultations. (One on "Investing in Health Research" was funded by WHO-TDR.) Other consultations were hosted and/or funded by some of the major players in international health who had supported the CHRD, including the RF, Harvard Center for Population and Development Studies, and Clark Foundation. *WDR93* presented a general strategy for international health spending. It recommended that governments spend far less on interventions that were not cost-effective or benefitted only the rich (tertiary facilities, specialist training) and double or triple spending on basic public health programs such as immunizations and AIDS prevention, as well as on a minimal package of "essential clinical services." Less cost-effective services could be provided by insurance or direct payment, with special provisions for the poor who could afford neither. However, once they reached

85. Dean T. Jamison, W. Henry Mosley, Anthony R. Measham, and Jose Luis Bobadilla, *Disease Control Priorities in Developing Countries* (Washington, D.C.: World Bank, 1993).

86. World Bank, *World Development Report 1993: Investing in Health* (New York: Oxford University Press for the World Bank, 1993).

87. Richard Lane, "Dean Jamison: Putting Economics at the Heart of Global Health," *Lancet* 382, no. 9908 (2013): 1871.

88. Cited in Chorev, *World Health Organization* (n. 29), 150.

middle-income status, countries could follow the examples of Korea and Costa Rica by attempting "the difficult but achievable goal" of universal public coverage.[89] Governments had other key roles to play as well: regulating private insurance and services; promoting economic growth, thus allowing "the poor," at the household level, to spend more on better living conditions (food, water, sanitation, and housing) that affected health; expanding access to education, especially for girls; and promoting gender equity, presented as a "cost-effective way of improving health." *WDR93* was and continues to be considered a "neoliberal" document by its critics. It was in line with the WB's traditional priorities and commitments, somewhat attenuated by the compromise of the late 1980s between advocates of PHC and SPHC, a new generation of economists at the bank, and the need to collaborate with colleagues at the WHO. Jamison later wrote, "We struggled with the politics of WDR 1993 within the World Bank. The compromise was that we produced a center left report from a center right institution."[90] This neoliberal tilt undoubtedly accounts for much of the support and opposition that the document generated. But it also had a more direct relationship to the long-standing issue of health research.

At the simplest level *WDR93* added another voice advocating for health research, building on the previous decade of discussions and reports. It addressed research as one of its key "health inputs." Reiterating many aspects of the CHRD report, *WDR93* supported the public and international funding of research in priority areas promising a high impact on health but lacking commercial incentives. At a deeper level it was itself an example of policy-relevant research informed by economics. The data produced by the GBD project provided the evidentiary core of its analysis and recommendations. But its chief importance for the research network was the provision of a methodology for determining priorities. This was built around improved epidemiological data collection, sophisticated mathematical projections, and one key innovation: the disability-adjusted life year (DALY), a new metric for calculating the impact of diseases and of interventions.[91] The DALY was fundamentally a cumulative epidemiological measure combining mortality, morbidity, and disability but complicated by age weightings that were meant to represent levels of economic productivity. Age weighting was very controversial and was abandoned in

89. World Bank, *World Development Report 1993* (n. 86), 161.

90. Lane, "Dean Jamison" (n. 87).

91. Vincanne Adams, "Metrics of the Global Sovereign: Numbers and Stories in Global Health," in *Metrics: What Counts in Global Health*, ed. Vincanne Adams (Durham, N.C.: Duke University Press, 2016), 27–29.

later iterations of this metric, thus losing its direct economic edge. But the main work of DALYs was to supply a standardized epidemiologic measure that could be correlated with costs and thus allow for comparisons of cost-effectiveness throughout the world. While the DALY was excoriated in certain circles, it was attractive in others because it provided the missing link for the prioritization imperative: a standardized, statistically sophisticated, but simple to understand metric to inform judgment, and whose rationale—helping the most people at the least cost—seemed entirely self-evident.

WDR93 was widely criticized, on both political and methodological grounds. But it was highly influential, informing national health policy in a number of countries. The prestige of the WB and the perceived competence of Harvard economists partly explain the wide support. But internal politics in Europe and the United States also played a role. Here issues of competition and cost-efficacy in national health care systems were also being discussed and implemented. Indeed, the DALY built on an earlier measure, the quality-adjusted life year, which was popularized in the United States and United Kingdom in a context of increasing costs, scarce public resources, and demands for accountability.[92] The search for quantitative evidence of effectiveness was simultaneously taking place in clinical medicine with the rise of evidence-based medicine (EBM), which had recently been introduced in the pages of *JAMA*. Both the DALY and the procedures behind EBM can be viewed in the context of growing mistrust of subjective judgment and what Theodore Porter has termed our "Trust in Numbers."[93]

The arguments of *WDR93* with their cost-effectiveness focus were systematically discussed and spread in a variety of meetings and publications.[94] Simultaneously but independently efforts were being made to develop large new coalitions and partnerships to tackle problems; these included the Children's Vaccine Initiative (1990) and UNAIDS (1994). A meeting in 1993 brought together key national, international, and philanthropic agencies seeking to "agree upon practical steps to increase

92. Ibid., 26.

93. Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, N.J.: Princeton University Press, 1996).

94. E.g., Philip Musgrove, "Investing in Health: The 1993 World Development Report of the World Bank," *Bull. Pan Amer. Health Organ.* 27, no. 3 (1993): 284–86; Dean Jamison, "Investing in Health," *Finance Dev.* 30, no. 3 (1993): 2; Patricia Langan, "Health Sector Reform in Developing Countries: Issues for the 1990's" (Data for Decision Making Project Department of Population and International Health Conference Report, September 10–13, 1993), http://pdf.usaid.gov/pdf_docs/Pnacj352.pdf.

the scope and effectiveness of partnerships and investments for health."[95] Among the meeting's recommendations was that the analytical framework of *WDR93* be used to review international health priorities for research. This review was launched in 1994 as the Ad Hoc Committee on Health Research Relating to Future Intervention Options, which presented its final report in 1996.[96] Funded by the Rockefeller, Clark, and MacArthur foundations, the Wellcome Trust, WB, IDRC, the International Health Policy Program, and several bilateral aid agencies, it was chaired by none other than Dean Jamison. It was codirected by major WHO figures, Godal, director of WHO-TDR, and James Tulloch, director of the Division of Child Health and Development; the WHO provided the committee secretariat. Tellingly, no sitting members of its ACHR were officially involved. Among the numerous study participants were other familiar names associated with the CHRD and *WDR93* including Sune Bergström, Richard Feachem, Julio Frenk, and Christopher Murray (Table 1). Civil servants and senior representatives of research-oriented pharmaceutical companies also participated.

Reiterating arguments popularized by the CHRD about investing in research to improve health, the committee report focused on rationalizing the allocation of limited resources for research. Using GBD-based evaluations of the impact of specific health problems and of the potential cost-effectiveness of research, it proposed a set of "R&D best buys" in each locale. Four priority problem areas for research were identified: the continuing burden of infectious disease among the poor, the changing nature of microbial threats that were becoming global, the growing problem of NCDs, and the effectiveness of health systems. Like the CHRD, the committee emphasized the value of both technical research to produce new, more effective, or less expensive products, and social science research to rationalize choice of products and implementation programs.

The report also called for a "mechanism . . . for exchanging ideas about progress and priorities in R&D, for tracking flows of funding and identifying important gaps, and for creating an environment where investors and research institutions can agree on approaches to close those gaps." To meet this need, the committee initially proposed the creation of a "Forum for Investors in International Health R&D." Following a final

95. International Development Research Centre Canada (IDRC), World Bank, and WHO, *Conference on a Future Partnership for the Acceleration of Health Development 18–20 October 1993* (Ottawa: IDRC, 1993), 1.

96. Ad Hoc Committee on Health Research Relating to Future Intervention Options, *Investing in Health Research and Development: Report of the Ad Hoc Committee on Health Research Relating to Future Intervention Options* (Geneva: WHO, 1996).

Table 1. Key Members of Research Policy Network

	TDR programs	SPHC publications	1984-86 IOM Report – US TDR Capacity	CHRD / Task Force COHRED 1987-1993	*DCP-1/ WDR93*	1994-1996 Ad Hoc Comm Research	1997 IOM America's vital interest	Other	Other
Bell, David	X		X	**X**				Ford Foundation/	Harvard Pop Center
Bergstrom, Sune	X			X		X		1977-82 Chair WHO/ACMR	
Bloom, Barry	X	X				X	**X**	Advisory Council NIAID (NIH)	1998-2008 Dir. Harvard SPH
Castillo, Gelia				**X**		X			1979-1990, IDRC Board
Chen, Lincoln				**X**	X			1987-96 Harvard Pop Center	1997-2001 Rockefeller F
Cook, Joseph	**X**			**X**				1987 Pres Am Soc Trop Med	1968-77 Rockefeller F
Evans, John				**X**				World Bank	1982-95 Rockefeller F
Feachem, Richard				**X**	X	X	**X**	World Bank, director HNPc 1995-99	/ 2002-2007 Dir. Global Fund
Frenk, Julio					X	X	X	1998 WHO	2009-15 Dir. Harvard SPH
Godal, Tore	**X**	X				**X**		1998- advisor to DG WHO	1999 Dir GAVI
Henderson, Donald	**X**	X	**X**		X			WHO smallpox eradication	1977-90 Dean Johns Hopkins PH
Jamison, Dean			X	X	**X**	**X**	X	1980s World Bank	1998- WHO
Law, Maureen				X		X		1986-89 Dep Minister Health, Canada	1990-1996 Dir. Gen HSc IDRC 1998 -2002 World Bank
Lucas, Adetokunbo	**X**			**X**				1986-90 Chair Carnegie Foundation	1990- Harvard SPH/ Chair Global Forum/ board
Martinez-Palomo, Adolfo	X	X		**X**				Global Forum 1999	

Table 1. cont.

	TDR programs	SPHC publications	1984-86 IOM Report – US TDR Capacity	CHRD / Task Force COHRED 1987-1993	*DCP-1/ WDR93*	1994-1996 Ad Hoc Comm Research	1997 IOM America's vital interest	Other	Other
Morel, Carlos	X			X		X			1998-2004 Dir. TDR/WHO
Murray, Christopher				X	X			1994-97 Global Burden of Disease	1998- 2003 WHO
Ramalingaswami, Vulimi	**X**			**X**	X			1983-86 Chair WHO/ACHR	
Rosenfield, Patricia	**X**			X			X	1987 -2011 Carnegie Corp	
Warren, Kenneth	**X**	**X**	X		X			1977- Rockefeller director HSc	1979-1988 SPHC

X underlined and bold indicates a leadership position

meeting in Geneva, this was amended to a recommendation for a Forum on International Health R&D "that brings together investors in R&D with other stakeholders for discussions on priorities."[97] Thus, in addition to an "economically rational approach" to R&D and efforts to more fully access the resources of the private sector, the thrust of the committee's recommendation was for a collective mechanism to set research priorities.

Reactions from the WHO

Following the technical discussions of 1990, the WHO's ACHR worked independently to define a global agenda for research. A first report, in 1993, was presented as an extension of the McKeown committee report.[98] While the Ad Hoc Committee did its work, the ACHR continued to prepare a substantial "research policy agenda" that was delivered in 1996, the same year as the Ad Hoc Report.[99] ACHR members from the beginning expressed discomfort about this "parallel" committee. Partly, this stemmed from concern about their authority within the WHO—which was simultaneously supporting two expert groups on research policy. It also reflected unease that the "consortium" being proposed by the Ad Hoc Committee would weaken the WHO by appropriating some of its tasks. The ACHR insisted on reviewing the Ad Hoc Committee's draft reports and made recommendations for revision.[100]

But the central focus of the ACHR's public critique of the Ad Hoc Committee's approach centered on the latter's reliance on the DALY for determining priorities. The ACHR created a "DALY review group," which concluded that such a "unidimensional indicator . . . was fundamentally inappropriate."[101] The ACHR came out unequivocally against using the DALY for setting research priorities since it "diverted attention from the original determinants of disease."[102] This position was published as a notice in the *Bulletin of the WHO*, prompting a lively debate in the pages of

97. Ibid., 7.

98. WHO Advisory Committee on Health Research, *Research for Health: Principles, Perspectives and Strategies* (Geneva: WHO, 1993).

99. WHO, *A Research Policy Agenda for Science and Technology to Support Global Health Development: A Synopsis* (Geneva: WHO, 1998)

100. "Report by the Director-General, EB95/35, Ninety-Fifth Session, 29 November 1994" (Geneva: WHO, 1994); "Report by the Director-General, 4 December 1995, EB97/17" (Geneva: WHO, 1995).

101. "Report by the Director-General, 4 December 1995, EB97/17" (n. 100), 1.

102. Ibid., 2.

the journal.[103] In the most visible versions of the GBD—four highly cited articles published in the *Lancet* in 1997—it was stated, alongside acknowledgment of financial support from WHO, that the organization believed that DALYs were problematic and should not be the basis of GH policy.[104]

The ACHR's Research Policy Agenda differed fundamentally from the report of the Ad Hoc Committee. In line with the McKeown report and recent focus on health systems research, it took a broader and more overtly sociopolitical approach to identifying health problems and research priorities, with particular emphasis on population, environmental, and food issues. Rather than "solving problems piecemeal," the agenda called for a "new kind of 'global rationality'" to ensure "a fair distribution of resources, wealth and social security," to be based on "a contract" between societies to accept globally the principles of equity and solidarity and to implement a sustainable way of living for the future.[105] Yet this potentially radical message was overshadowed by lengthy and highly technical discussions of the possible uses of new information and communication technologies (ICT) to guide research planning, coordination and collaboration.

While the Ad Hoc Committee had laid out clear policy guidelines based on a comprehensible—if clearly imperfect (some would say simplistic)—health metric, the ACHR, a committee of scientists, produced a complex, nearly two-hundred-page technical program. One of its core elements was a data visualization tool, the Visual Health Information Profile, developed by a German academic institute as a first step toward identifying the co-occurrence, interconnectedness, and multifactorial determinants of health problems in a given setting (Figure 1). A second was Planet HERES, a Planning Network for Health Research, which was an "intelligent" entity using telematics and informatics to circulate and process information in order to identify areas of research priority and to help form networks to address these major GH problems. These research

103. Boutros G. Mansourian, "ACHR News," *Bull. World Health Organ.* 74, no. 3 (1996): 333–37; Christopher J. Murray and Alan D. Lopez, "The Utility of DALYs for Public Health Policy and Research: A Reply," *Bull. World Health Organ.* 75, no. 4 (1997): 377–81; B. M. Sayers and T. M. Fliedner, "The Critique of DALYs: A Counter-Reply," *Bull. World Health Organ.* 75, no. 4 (1997): 383–84.

104. E.g., Christopher J. Murray and Alan D. Lopez, "Mortality by Cause for Eight Regions of the World: Global Burden of Disease Study," *Lancet* 349, no. 9061 (1997): 1269–76, quotation on 1276.

105. WHO, *A Research Policy Agenda for Science and Technology to Support Global Health Development: A Synopsis* (Geneva: WHO, 1998), 5.

networks, called IRENEs, were also "intelligent," using ICT to "maximize . . . the creativity" of the group.

The Research Policy Agenda explicitly dismissed the need for any "large, new institution" to oversee the global research network that would be generated by the various problem-based IRENEs, each of which could be coordinated and monitored by consortia and "hubs" composed of key institutions. As the "custodian" of Planet HERES and the main node of the resulting network, the WHO would continue to play a pivotal role in orchestrating GH research. Despite or perhaps because of its visionary character, the report garnered little attention and was unable to compete with the simple message of the Ad Hoc Committee and *WDR93*. While the ACHR retained some influence and affirmed its continuing significance by publishing an account of its history in 1997,[106] it was not a major player in the institutional reconfiguration of GH research that occurred in the late 1990s.

The Global Forum for Health Research

The Global Forum for Health Research (GFHR), created in 1997, was recognized by its leadership to be a product of the discussions and alliances that had coalesced around the CHRD, COHRED, *WDR93,* and the Ad Hoc Committee. Former TDR director Ade Lucas was appointed as first chair of its Foundation Council, linking it with an even more distant past. GFHR's third meeting in 1999 established the term "10/90" as code for the imbalance in research funding between high- and low-income countries that had long been recognized.[107] If the original idea behind it reflected ambitions to organize and coordinate an expanding field—ambitions also operative in other GH domains—by setting up a broad public-private alliance, its mandate turned out to be modest. It brought together researchers and donors in an annual conference where there was much talking. It advocated for expanded research funding and sought to monitor funding for GH research, a task that turned out to be more difficult than anyone had imagined. Finally, it sponsored or supported seven research networks. The DALY and its use for cost-effectiveness analysis was a regular feature of its publications and reports.

Overall the GFHR was an active but not very successful organization. Its budget remained small (around three million dollars annually) and

106. WHO, *The Advisory Committee on Health Research: An Overview* (Geneva: WHO, 1997).

107. Global Forum for Health Research, *The 10/90 Report on Health Research 1999* (Geneva: WHO, 1999).

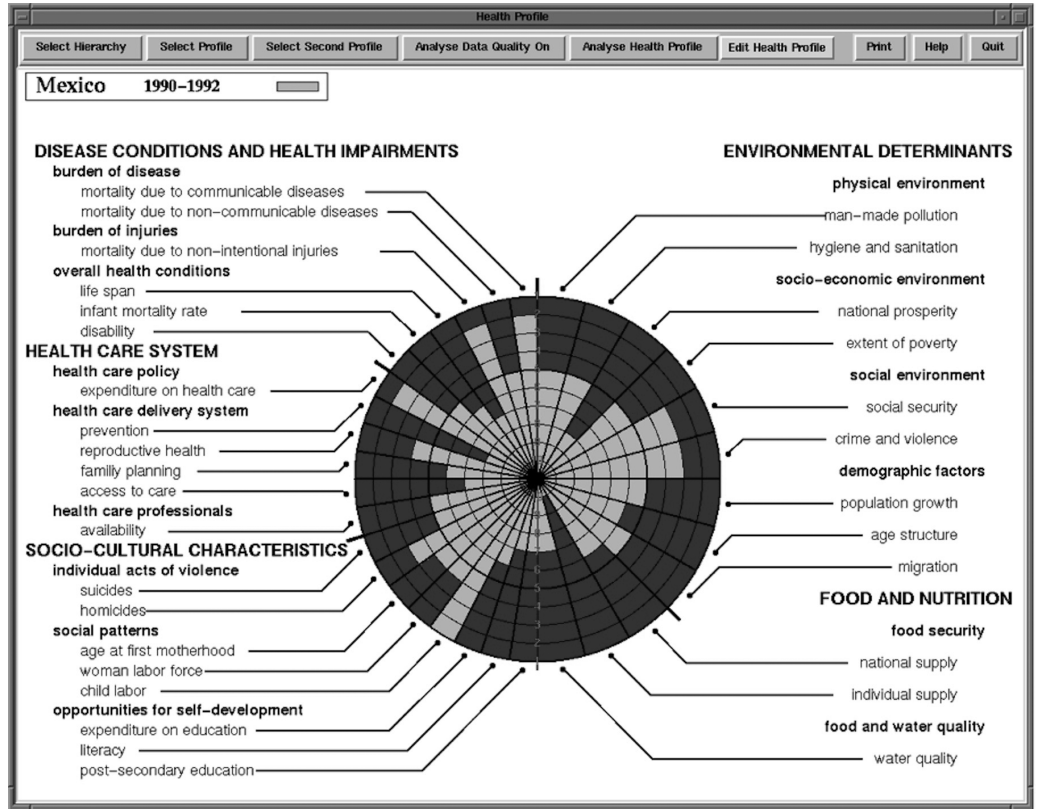

Figure 1. Visual Health Information Profile.

financially reliant on the WB because it failed to gain expected support from the major philanthropies that were becoming central to GH.[108] In 2010 it was, almost unnoticed, absorbed by COHRED. Ironically, perhaps, the WHO has in recent years regained a leadership role in GH research, which remains a complex, problematic, and likely ungovernable domain.[109] But it is a domain that has grown dramatically. This is perhaps the most substantial result of more than three decades of advocacy on behalf of GH research: ensuring that research was a central focus of attention once funding for GH exploded in the late 1990s. In 1999 the Alliance for Health Policy and Systems Research was established under GFHR sponsorship, finally providing HSR with the institutional foundations necessary for its development. That same year the Medicines for Malaria venture was launched, and in 2003 the Drugs for Neglected Diseases came into existence. Even more consequentially the Bill and Melinda Gates Foundation entered this arena (with Gates famously inspired by *WDR93*), increasing its annual GH research spending from $333,000 in 1995 to $189 million in 2001.[110] By 2007 the foundation had devoted about 50 percent of its substantial funding to research of various kinds.[111] The handful of university departments that had participated in GH research for much of the twentieth century have been joined in this century by a large numbers of other universities, associated since 2008 in the Consortium of Universities for Global Health, which now claims over 170 academic institutions as members.

The research advocacy network produced an early if not terribly effective example of a broad public-private coalition. It was more successful in providing personnel for larger, more important, and longer lasting initiatives. Jamison, Feachem, and Julio Frenk served on the Institute of Medicine's Board of International Health when it produced in 1997 the major American statement of the new GH, *America's Vital Interest in Global*

108. Independent Evaluation Group, *The Global Forum for Health Research: Global Program Review*, vol. 3 (Geneva: Independent Evaluation Group, 2009).

109. WHO, "Research and Development to Meet Health Needs in Developing Countries: Strengthening Global Financing and Coordination," Report of the Consultative Expert Working Group on Research and Development: Financing and Coordination (Geneva: WHO, 2012).

110. Global Forum for Health Research, *Monitoring Financial Flows for Health Research* (Geneva: Global Forum for Health Research, 2001), 26.

111. David McCoy, Gayatri Kembhavi, Jinesh Patel, and Akish Luintel, "The Bill & Melinda Gates Foundation's Grant-Making Programme for Global Health," *Lancet* 373, no. 9675 (2009): 1645–53.

Health.[112] In 2000 Tore Godal became the first head of the Global Alliance for Vaccines and Immunisation. Two years later Feachem became founding executive director of the Global Fund to Fight AIDS, Tuberculosis and Malaria.

The economic reasoning promoted by *WDR93* spread quickly because it spoke in a language that a new generation of businessmen/philanthropists and administrators could relate to and because it offered a practical solution to the long-standing demand for a methodology to determine priorities. The fact that it was promoted as a key part of an expanded health research domain provided added intellectual authority. This was compounded when, in 1998, the new director-general of WHO, Gro Harlem Brundtland, brought into the WHO the key players of *WDR93*, notably Murray, Jamison, Feachem, and Julio Frenk, as well as the entire Global Burden of Disease project. In 1998 the organization established WHO-CHOICE (Choosing Interventions That Are Cost-Effective) to help countries select their health care priorities using economic criteria. The organization's Commission on Macroeconomics and Health, headed by the Harvard economist Jeffrey Sachs, published its report in 2001 and further advanced the role of economics at the WHO.[113]

Conclusion

Small overlapping coalitions to promote tropical medicine and to operationalize both PHC and SPHC emerged in the 1970s. From the late 1980s these expanded to become a more substantial network promoting health research generally in low-income countries. The entry of the WB in the early 1990s and its collaboration with a WHO in crisis, as well as various other institutions, produced a formidable alliance that led to the creation of the GFHR.

The GFHR no longer exists, but the desire for inclusiveness and coordination that led to its creation persists throughout GH. Other consequences of the transnational research network have been more lasting. The DALY is now widely used. The Global Burden of Disease project has published many of the most cited publications in the GH field;[114] cost anal-

112. Institute of Medicine and Board on International Health, *America's Vital Interest in Global Health: Protecting Our People, Enhancing Our Economy, and Advancing Our International Interests* (Washington, D.C.: National Academies Press, 1997).

113. Commission on Macroeconomics and Health, *Macroeconomics and Health: Investing in Health for Economic Development* (Geneva: WHO, 2001).

114. George Weisz, Alberto Cambrosio, and Jean-Philippe Cointet, "Mapping Global Health: A Network Analysis of a Heterogeneous Publication Domain," *BioSocieties* 1, no. 4 (2017): 520–42.

ysis is now everywhere. As of 2016 more than 230 cost-effectiveness studies on projects in LMICs were being published annually. Quality of studies is uneven, and it has been suggested that "most countries have a very long way to go before economic evaluations are produced and used effectively to inform priority setting."[115] Worldwide GH funding allocation does not come near approximating the burden of disease as defined by the GBD. This is not surprising. Economists acknowledge that cost-effectiveness is one of many criteria that affect allocation of resources.[116] Policy analysts have illuminated the complex influences that go into policy formulation and resource distribution.[117] HSR, now called Health Policy and Systems Research, provides alternative forms of expertise, whose long-term influence remain to be determined.

Research remains central to GH. Since the 1970s identifying research as a key driver for improving health in the Global South has helped advance scientists' own aspirations and careers. It resonated with planners and administrators seeking pragmatic, targeted solutions that did not require the radical social transformations that they did not consider feasible. Finally, "research" bridged the gap among differing strategies and ideologies. Calls for global expansion and coordination of health research were elastic enough to encompass diverse disciplines and orientations and were presented as a purportedly neutral basis for action that in practice left much room for disagreement. And disagreements there were: about how much emphasis should be placed on biomedical technologies versus underlying social and environmental conditions; about the role of cost-effectiveness analysis versus other criteria; about which diseases should be prioritized; about the balance between local capacity building in low-income countries and research in the developed world to produce immediate biomedical solutions; and about reinvigorating old institutions as opposed to creating new ones. Yet what is striking is how, for the most part, potential conflicts were often muted, buried in committee discussions, technical reports, or debates about appropriate metrics. Faith

115. Catherine Pitt et al., "Foreword: Health Economic Evaluations in Low- and Middle-Income Countries: Methodological Issues and Challenges for Priority Setting," *Health Econ.* 25, Suppl. 1 (2016): 1–5, quotation on 5.

116. E.g., Virginia Wiseman et al., "Using Economic Evidence to Set Healthcare Priorities in Low-Income and Lower-Middle-Income Countries: A Systematic Review of Methodological Frameworks," *Health Econ.* 25, Suppl. 1 (2016): 140–61.

117. E.g., Jeremy Shiffman, Tanya Beer, and Yonghong Wu, "The Emergence of Global Disease Control Priorities," *Health Policy Plan.* 17, no. 3 (2002): 225–34; Lucy Gilson and Nika Raphaely, "The Terrain of Health Policy Analysis in Low and Middle Income Countries: A Review of Published Literature 1994–2007," *Health Policy Plan.* 23, no. 5 (2008): 294–307.

in "science" and the drive to provide rational, seemingly apolitical foundations for action in the expanding, heterogeneous, often chaotic world of GH did not so much blur these points of disagreement as suspend them from time to time in pursuit of a single overarching goal that everyone could rally behind: producing more and better research.

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