Primary Health Care in Low-Income Countries
Building on Recent Achievements

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MALL INVESTMENTS IN IMPROVED HEALTH OF THE POOR have a remarkable return in reduced morbidity and mortality. While the developed economies grapple with health systems that cost several thousand dollars per person per year and often spend hundreds of thousands of dollars on a treatment to eke out an additional few months of life, outlays of just a few dozen dollars per person per year in impoverished countries can add several years to life expectancy. In the least developed countries, approximately 112 of every 1000 children die before their fifth birthday, as opposed to 8 per 1000 in the developed countries. With a concerted science-based effort, the under-5 mortality rate of the least developed countries could be reduced to less than 30 per 1000 by 2020. Such low under-5 mortality rates have already been achieved, for example, by the Dominican Republic (28 per 1000), Mexico (17 per 1000), and Thailand (13 per 1000). Rapid advances are already being achieved at remarkably low cost. During 1995-2000, the under-5 mortality rate of the least developed countries was estimated at 160 per 1000. After 2000, with the advent of the Millennium Development Goals and the financing recommendations of the Commission on Macroeconomics and Health, donor nations substantially increased their total development assistance for health, from around $10.5 billion in 2000 to around $26.9 billion in 2010.2,3 With approximately 1 billion low-income recipients for the preponderance of this aid, the current average is roughly $25 per recipient. The added funding came through a variety of channels, most notably bilateral aid programs (such as the US President’s Emergency Plan for AIDS Relief); the Global Fund to Fight AIDS, Tuberculosis and Malaria; the Global Alliance for Vaccines and Immunizations; the World Bank; the Gates Foundation; and several targeted initiatives against other specific diseases.

At the same time, remarkable breakthroughs in technology bolstered the delivery system for health services in low-income settings. As one key example, as of 2000, the first-line treatment for malaria was still chloroquine, despite the pervasive spread of parasites resistant to the drug. Protective mosquito bed nets were just being introduced into rural communities, yet the early versions required regular retreatments with pesticides. The diagnosis and treatment of malaria infections was clinic-based and required a trained microscopist and laboratory for diagnostic confirmation. The clinics often were many miles away from villages and were chronically short of staff and supplies. Countless numbers of children died unnecessarily.

Much has changed for the better. The first-line treatment for malaria is now an artemisinin-based combination therapy (ACT), with nearly complete efficacy in clearing the infection. Long-lasting insecticide-treated bed nets (LLINs) now last for 4 to 6 years without the need for retreatment. The diagnosis can be made by a rapid diagnostic test (RDT) deployed in the household of the febrile child by a community health worker (CHW) trained quickly in the use of the test. With cutting-edge information and communications technology (ICT), such as a smartphone that communicates with a computer at the clinic, the CHW can report the RDT results and receive a return message describing the appropriate treatment regimen. In short, the alphabet soup of ACTs, LLINs, RDTs, CHWs, and ICTs have radically transformed malaria prevention and treatment from an ineffective, high-cost, understaffed system to one that can be routinely administered in a poor rural village for a few dollars per villager per year. Malaria deaths in Africa have declined an estimated 30% from their peak around 2004 with the partial deployment of this new and evolving system. More progress is possible if African governments, supported by the world community, focus on the mass deployment of this system throughout the continent.

The malaria example depicts the components of systematic disease prevention and control in low-income settings. These depend on good epidemiology (identifying the high

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disease-burden conditions); appropriate preventive and curative interventions; and deployment of local systems built around CHWs, ICTs, and links of the community to local health facilities as needed, with ambulance service and community outreach to support the facilities-based activities. Counterparts to the malaria example are readily found in delivery systems for human immunodeficiency virus/AIDS, tuberculosis, nutritional deficiencies, antenatal care, safe child delivery, neonatal survival, parasitic infections (such as soil-transmitted helminthes), vaccine-preventable diseases, and other health problems.

The predominant source of excess mortality and disease burden in the least developed countries lies in a tightly defined set of conditions grouped together as Group I diseases in the burden-of-disease literature. Group I diseases include communicable, maternal, perinatal, and nutritional diseases. The United Nations Population Division has recently estimated that Group I diseases, almost nonexistent in the high-income countries, contribute to a reduction of more than 15 years of life expectancy in Africa. If Africa were to reduce the Group I disease burden to the low levels of the developed countries, life expectancy at birth would increase from around 55 years to around 72 years. This is excellent news, because most Group I diseases are largely controllable through remarkably low-cost systems, as in the case of malaria.

There are 3 current barriers to the successful scale-up of the needed low-cost public health systems in the low-income countries. The first is awareness. Many governments and international agencies have little sense of what is now possible. Many are still resigned to the “inevitability” of high disease burdens and deaths in low-income settings. There is far too little appreciation by governments, international agencies, and nongovernmental organizations of what can be accomplished, especially through the deployment of trained community health workers supported by new information and communications technologies, which continue to improve rapidly.

Second, there is still a financing gap, although the gap is so small that it can be readily closed. Total donor aid from all sources should probably increase above today’s levels by an added $10 billion to $15 billion per year (that is, to a total of roughly $40 to $45 billion per year), directed at the poorest countries. These are estimates. Data derived from the actual implementation of programs will provide more detailed information. Yet these estimates are close, as confirmed by a number of studies and demonstration projects such as the Millennium Villages Project. Because donor-world annual income is approximately $40 trillion, the incremental financing is roughly just 2¢ to 4¢ per $100. It is, by another metric, roughly 5 to 8 days of Pentagon spending. The donor support is also temporary, because economic growth enables more and more countries to stand on their own.

Third, there is the need for a systems approach rather than a piecemeal approach. Public health succeeds by deploying proven technologies at scale. Yet operating at a national scale to ensure safe delivery, nutritional programs, and infectious-disease control requires systematic training, deployment of personnel, information gathering, vital registries, logistics, and more. A haphazard collection of government-run clinics, for-profit hospitals and practitioners, United Nations agencies, and services provided by nongovernmental organizations does not constitute a public health system.

Effective systems of care are created when these disparate actors are managed through a consistent national program committed to publicly provided, universally accessible, primary health care. National governments must lead, setting goals, timetables, milestones, standards, training, protocols, and deployment, backed up by domestic and donor financing. Unlike for-profit entities, governments need to emphasize universal access, ensuring that the poor as well as the middle class and the rich are availed of life-saving services. This means in practice that primary care must be provided free at the point of service, with the modest financing that is needed to be supported through financial mechanisms (such as taxes and social insurance fees) other than out-of-pocket outlays.

The decade of the adoption of the Millennium Development Goals have been a period of great achievement and advances in public health in the poorest countries. The cynics and naysayers were proven wrong. Ancient scourges such as malaria and newer ones such as AIDS can be controlled, even in the poorest places. Now is the time to redouble efforts to ensure that the gains of the past decade are pushed forward to become lasting triumphs.

Conflict of Interest Disclosures: The author has completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

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REFERENCES