

Bridging the Coverage Gap in Global Health

Robert B. Eiss, MA

Roger I. Glass, MD

IN THIS ISSUE OF *JAMA*, THE EDITORS HAVE JOINED A remarkable international collaboration organized by the Council of Science Editors. More than 200 scientific and medical journals have agreed to publish simultaneously on a topic of key global importance—the relationship between poverty and human development. By joining together and publishing articles on this common theme, these journals highlight the problems of health disparities in the developing world and demonstrate how the tools and concerned commitment of scientists can help reduce the existing inequities.

The gaps are unacceptably wide and in some areas worsening. While one-fifth of the world's population enjoys an average life expectancy approaching 80 years and a life comparatively free of disability, two-thirds of the world's population living in the lower- and middle-income countries of Africa, Asia, and Latin America suffer overwhelmingly from the global burden of illness and premature death.¹ Children are the most vulnerable as evidenced by the difference in infant mortality, with rates exceeding 100 per 1000 in many countries of the developing world compared with a rate of 6 per 1000 in high-income countries.² More than 99% of mortality in children younger than 5 years occurs in impoverished settings.³

Addressing the toll of illness and lifelong disability has become a global urgency. No longer is attention to this problem merely a humanitarian imperative. Economists have documented that investing in human health can yield huge economic dividends: advancing development, improving the workforce, and enhancing business and infrastructure.⁴ Governments have recognized that inequities in health can lead to social and political instability. In sum, investing in health is good business and good policy.

The instrumental linkage of health and development is underscored in the United Nations Millennium Development Goals (MDGs) agreed to by the heads of government at the Millennium Summit in 2000.⁵ The MDGs explicitly link poverty reduction stratagems with health achievement and establish a series of numerical targets to be reached by 2015.

See also pp 1867, 1876, 1888, and 1900.

However, at current rates of progress, targets for health will not be reached for a large share of the world's population.⁶ Deficiencies in the financing of health care systems and trained personnel are key impediments to progress, as are substantial gaps in knowledge regarding the management and delivery of health care in resource-poor settings.⁷

In 2003, Lee⁸ coined this challenge the “know-do” gap: the growing body of knowledge that is not being translated into practice. Bridging the gap will require the development of delivery strategies that achieve effective and sustained coverage in diverse cultural and economic settings. The studies in this issue of *JAMA* by Pandey et al,⁹ Gakidou et al,¹⁰ Bolton-Moore et al,¹¹ and Lagarde et al¹² bring together new analyses and perspectives on interventions to improve health outcomes in impoverished settings and address the know-do gap with novel applications of known interventions.

More than any single disease, human immunodeficiency virus (HIV) infection has drawn the causal link between health and economic welfare. HIV has exacted a profound humanitarian toll, reversed gains in both longevity and child survival in many nations, and threatened economic stability by reducing the number of working-age men and women.¹³ Access to antiretroviral therapy in sub-Saharan Africa has now dramatically expanded with the potential to sustain lives of millions of HIV-infected individuals. In this issue, Bolton-Moore et al¹¹ report early evidence from the scale-up of pediatric antiretroviral services provided by local resources (nurses and clinical officers) in primary care facilities in Zambia. Notably, the project has achieved clinical and immunologic outcomes similar to treatment centers in high-income countries. The report demonstrates the feasibility of successful outcomes in African primary care facilities when certain prerequisites are met, including effective decentralized care and systems of adherence tracking.

A major challenge is to replicate these successes. Use of antiretroviral regimens in low-income countries brings new questions and complexities with regard to monitoring, selection, adherence, and other issues.¹⁴ As multiple organizations mobilize to respond to the HIV treatment emer-

Author Affiliations: Fogarty International Center, National Institutes of Health, Department of Health and Human Services, Bethesda, Maryland.

Corresponding Author: Robert B. Eiss, MA, Fogarty International Center, National Institutes of Health, 31 Center Dr, MSC 2220, Bethesda, MD 20892-2220 (eissr@mail.nih.gov).

gency in sub-Saharan Africa and other regions, evaluative studies are urgently needed to identify what types of infrastructure yield the most effective treatment, limit antiviral resistance, and ultimately are sustainable and cost-effective. There is a growing requirement to share and synthesize available evidence, and adapt and bring to scale effective local programs. Implementation science also is integral to the effective scaling up of HIV prevention and the testing of prevention algorithms to control HIV through combination interventions.

HIV prevention and control reflects a systemic challenge in both infectious disease and chronic disease management in resource-poor settings: how to combine interventions for the greatest effect as well as address comorbidities. An unintended structural consequence of the many disease-specific initiatives is a set of fragmented delivery systems, challenging clinicians, researchers, and policy makers to develop innovative methods to achieve a more integrated approach to deploying interventions. Gakidou et al¹⁰ explore the potential impact of an integrated approach by estimating the reduction in child mortality achieved as a result of combined nutritional and environmental interventions (reducing exposures to unsafe water and indoor air pollutants). They also assess how the distribution of effects varies based on economic status. In this analysis the largest aggregate reductions will be realized if interventions preferentially target poor households due to higher exposure to health risks and reduced access to health services. The generalized conclusion is clear: reaching poor communities is not merely an ethical imperative, but an operational necessity in the design and implementation of effective delivery strategies.

The effects of poverty on health can be reduced by thoughtfully designed programs that target the poor, taking into account community preferences, health system characteristics, and other relevant local data. Multiple approaches have been implemented to make health care more affordable and accessible, such as microfinancing and fee-waiver schemes.¹⁵ Lagarde et al¹² review the effectiveness of conditional money transfers in improving access to health services in low- and middle-income countries, a social assistance instrument that now is being applied to improve health outcomes. These programs offer funds to poor families conditioned on certain actions, such as child health maintenance. They represent a new generation of “pro-poor” health strategies based on market principles. There is clear evidence of program success in improving preventive care, especially among the groups least likely to use these services prior to introduction of the plan. The needed next step is to build on current knowledge to adapt designs to different settings as well as consider issues of sustainability. Important knowledge gaps remain to be addressed through rigorous evaluation of the impact of such programs on multiple parameters of health and behavior.

Bacon’s famous dictum “knowledge is power” has deep applications in global health.¹⁶ The deprivations of pov-

erty are multiple and extend to inadequate knowledge of entitled health services. Knowledge is enabling, and well-conceived information campaigns raising awareness of services to which individuals are entitled present a promising and low-cost means to secure greater health coverage in resource-poor settings. The historical evidence is compelling. For example, effective immunization coverage depends on parental understanding of the benefits of immunization and knowledge of vaccine services.¹⁷ Through a well-designed randomized controlled trial, Pandey et al⁹ test the hypothesis that if rural communities in the north Indian state of Uttar Pradesh are better informed about health and social services to which they are entitled, new knowledge may have the combined effect of improving existing services through better accountability and improving health outcomes through greater usage. As the authors note, the importance of empowering local communities through information increases as many countries, such as India, decentralize control of public services to local authorities.

Although divergent in scope, each of these studies presents interventions that, if brought to scale, would help bridge disparities in global health. Collectively, the reports highlight fundamental attributes of effective delivery. These include equitable targeting and greater integration of services, continuous evaluation to deliver proven interventions more effectively, and linking community interventions into existing health systems to build sustainability. Each study recognizes that an essential tenet in global health is that all lives are of equal value. Each study recognizes that having knowledge that can save lives has little value if that knowledge does not reach the population in need.

This issue of *JAMA*, along with simultaneous publications of numerous articles in the many other journals participating in the global theme issue, provides a unique forum to address the health and development issues facing billions of individuals burdened and disabled by poverty around the world. Breaking the cycle of disease and poverty and reducing health inequities will require a concerted commitment to create and apply knowledge to improve the capacity of individuals, communities, and health systems to meet global health needs. The international climate has never been more favorable nor the timing more urgent.

Financial Disclosures: None reported.

REFERENCES

1. Lopez AD, Ezzati M, Mathers CD, Jamison DT, Murray CJL, eds. *The Global Burden of Disease and Risk Factors*. New York, NY: Oxford University Press; 2006.
2. *The State of the World's Children 2007*. New York, NY: UNICEF; 2007.
3. Ahmad OB, Lopez AD, Inoue M. The decline in child mortality: a reappraisal. *Bull World Health Organ*. 2000;78(10):1175-1191.
4. Macroeconomics and Health. *Investing in Health for Economic Development*. Geneva, Switzerland: World Health Organization; 2001.
5. We the People. *The Role of the United Nations in the Twenty-First Century. The Millennium Report*. New York, NY: United Nations; 2000.
6. *The Millennium Development Goals Report*. New York, NY: United Nations; 2007.

7. Haines A, Kuruville S, Borchert M. Bridging the implementation gap between knowledge and action of health. *Bull World Health Organ*. 2004;82(10):724-729.
8. Lee JW. Science and the health of the poor. *Bull World Health Organ*. 2003;81(7):473.
9. Pandey P, Sehgal AR, Riboud M, Levine D, Goyal M. Informing resource-poor populations and the delivery of entitled health and social services in rural India: a cluster randomized controlled trial. *JAMA*. 2007;298(16):1867-1875.
10. Gakidou E, Oza S, Vidal F, et al. Improving child survival through environmental and nutritional interventions: the importance of targeting interventions toward the poor. *JAMA*. 2007;298(16):1876-1887.
11. Bolton-Moore C, Mubiana-Mbewe M, Cantrell RA, et al. Clinical outcomes and CD4 cell response in children receiving antiretroviral therapy at primary health care facilities in Zambia. *JAMA*. 2007;298(16):1888-1899.
12. Lagarde M, Haines A, Palmer N. Conditional cash transfers for improving uptake of health interventions in low- and middle-income countries: a systematic review. *JAMA*. 2007;298(16):1900-1910.
13. *The Impact of AIDS*. New York, NY: United Nations; 2004.
14. Institute of Medicine. *Scaling Up Treatment for the Global AIDS Pandemic*. Washington, DC: National Academy Press; 2005.
15. Wagstaff A, Bustreo F, Bryce J, Claeson M. Child health: reaching the poor. *Am J Public Health*. 2004;94(5):726-736.
16. Bacon F. *Religious Meditations, Of Heresies*. 1597.
17. Pande R, Yazbeck A. *Beyond National Averages for Immunization in India: Income, Gender, and Regional Inequalities*. Washington, DC: World Bank; 2002.

Global Theme Issue on Poverty and Human Development

Annette Flanagin, RN, MA

Margaret A. Winker, MD

WITH THIS THEME ISSUE ON POVERTY AND HUMAN development, *JAMA* joins more than 230 science and biomedical journals participating in a global theme issue on this critically important topic.^{1,2} The aim of this global theme issue, organized through the Council of Science Editors (CSE), is to raise awareness, stimulate interest, and disseminate research about the worldwide problem of poverty and human development. This international collaboration includes journals from 34 developing and developed countries. Participating journals with links to their Web sites and articles on the topic of poverty and human development are listed on the CSE Web site.² This is the third and largest of such global theme issues. In 1996, 36 journals from 21 countries published on the theme of emerging and reemerging global microbial threats,³ and in 1997, 97 journals in 31 countries published on the theme of aging.⁴

More than 100 manuscripts on the topic of poverty and human development were submitted for *JAMA*'s theme issue. The articles in this issue, all made freely available at www.jama.com, focus on a range of poverty- and development-related topics and include reports of new research addressing the need to target funding and programs for the poor, to make the best use of local health care resources in

developing countries, to improve research on poverty and inequities and health, and to improve how such research projects and programs are designed and evaluated. Only through such intensive and comprehensive research will the United Nations Millennium Development Goals⁵ be able to be achieved and the world's poor be able to benefit from the essential resources, knowledge, and techniques available to those in developed nations.

We hope the articles and new research published this week by the world's scientific journals will demonstrate the burgeoning success of efforts to conduct rigorous research on the health needs of the poor, to provide evidence-based solutions, and to target future funding and research on effective development programs that aim to reduce poverty and improve global health.

Financial Disclosures: None reported.

REFERENCES

1. Flanagin A, Winker MA. Theme issue on poverty and human development: call for papers on interventions to improve health among the poor. *JAMA*. 2006;296(24):2970-2971.
2. Council of Science Editors. Global theme issue. <http://www.councilscienceeditors.org/globalthemeissue.cfm>. Accessed September 23, 2007.
3. Winker MA, Flanagin A. Infectious diseases: a global approach to a global problem. *JAMA*. 1996;275(3):245-246.
4. Winker MA. Aging: a global issue. *JAMA*. 1997;278(16):1377.
5. United Nations. UN Millennium Development Goals. <http://www.un.org/millenniumgoals>. Accessed September 25, 2007.

Author Affiliations: Ms Flanagin (annette.flanagin@jama-archives.org) is Managing Deputy Editor and Dr Winker is Deputy Editor, *JAMA*.