

## GLOBAL HEALTH

# Urbanization — An Emerging Humanitarian Disaster

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In 2008, the proportion of the world's population living in urban areas crossed the 50% mark. The current rates of urbanization suggest that in China, 870 million people — more than half the population — will be living in cities within less than a decade, and the capital of Botswana, Gaborone, will grow from 186,000 to 500,000 inhabitants by 2020.<sup>1</sup> Most observers believe that essentially all population growth from now on will be in cities: the urban population is projected to grow to 4.9 billion by 2030, increasing by 1.6 billion while the rural population shrinks by 28 million.<sup>1</sup>

This transition is happening chaotically, resulting in a disorganized urban landscape. Although many expect urbanization to mean an improved quality of life, this rising tide does not lift all boats, and many poor people are rapidly being absorbed into urban slums. Urbanization, in fact, is a health hazard for certain vulnerable populations, and this demographic shift threatens to create a humanitarian disaster. The threat comes both in the form of rising rates of endemic disease and a greater potential for epidemics and even pandemics. To protect global health, governments and international agencies need to make commensurate shifts in planning and programs, basing all changes on solid epidemiologic and operational research.

Although natural disasters and armed conflicts cause migration into urban centers, most people relocate to cities in search

of employment. When they arrive, many find only one affordable housing option: illegal and unplanned dense settlements lacking basic public infrastructure, where they must live in lodgings made from tenuous materials, such as used plastic sheets, discarded scrap metal, and mud. The United Nations Human Settlements Program (UN-Habitat) reports that 43% of urban residents in developing countries such as Kenya, Brazil, and India and 78% of those in the least-developed countries such as Bangladesh, Haiti, and Ethiopia live in such slums.<sup>2</sup> These slums, which are making up an increasing proportion of growing cities, lack not only most basic government services but also political recognition; as a result, so do their inhabitants. These residents are usually tolerated and their presence tacitly accepted, but the local government generally ignores them, accepting no responsibility for accounting for them in planning or the provision of services.

The current public health paradigm delineates urban health hazards as comprising injuries, pollution, and chronic diseases, such as diabetes and hypertension. Although these hazards are indeed more specific to urban than to rural areas, urbanization also exacerbates long-standing hazards specific to populations that have not undergone the epidemiologic transition from a predominance of infectious diseases. Increasing the population density in cities without proper water supplies and sanitation increases the risk of transmission of communicable diseases. Mortality among children under 5 years of age and among infants is higher in urban slums than in rural settings (see table).<sup>3</sup>

Though in most countries health care is more limited in rural than in urban areas, the urban environment may lack health support often provided in rural settings while also posing new risks. For example, for women and children, the rural environ-

**Childhood Death Rates in Japan versus Rural and Urban Regions of Kenya.\***

Location	Infant Mortality	Mortality among Children <5 Yr of Age
		no. of deaths/1000
Japan	4	5
Kenya		
Nationwide	74	112
Rural	76	113
Urban (excluding Nairobi)	57	84
Nairobi (Kenyan capital)	39	62
High-income area	<10	<15
Informal settlements	91	151

\* Data are from the African Population and Health Research Center.<sup>3</sup>



A Doctor Examining a Child in a Slum in Chandigarh, India, 2008.

ment provides a community of kinship that often ensures physical safety, food security, and the availability of child care. Without these safeguards, many women's mobility is limited in urban areas. Mobility and child care assistance from more experienced women allow mothers to perform two of the three steps that are theoretically fundamental to health care utilization: identifying illness and seeking care (the third being delivering care). Differential rates of death reflect this effect of urbanization, but we require more data in order to assess the true extent of this problem and other urban health risks. Currently, collected data are rarely disaggregated down to the level of individual city neighborhoods, and slum populations are generally not included when health statistics are reported.

Improved systems for collecting data in slums are urgently needed for the planning of infrastructure construction, programs, and resource allocation. Precise data that distinguish among types of residence, locations, and socioeconomic strata would reveal the

varied effects of urbanization on health indicators, allowing for focused interventions.

We believe that the world's wealthier countries need to invest in capturing these data and improving public health systems. Doing so is not purely altruistic; it serves the self-interest of all countries, because poor urban areas can easily become a breeding ground for emerging infections and potential pandemics. The outbreak of severe acute respiratory syndrome (SARS) in Hong Kong in 2002 and 2003, which was believed to have originated in rural China, demonstrated how dense urban living could ignite a global health crisis. In a slum, the lack of surveillance and adequate health care might well result in more rapid spread of undetected diseases; without the necessary resources, it is difficult to implement any kind of preventive, containment, or treatment measures. Developed countries also have a financial stake in the requisite surveillance and health care systems: even conservative estimates of the cost of SARS to the economies of Europe

and North America run to billions of dollars.

Understanding health-related behavior and the logistics of the health care environment of urban areas can also aid in the design of appropriate interventions. All three factors necessary to the effective utilization of health care — illness identification, care seeking, and care delivery — vary within urban settings. Although slum residents often live close to many health care providers, they generally have little access to high-quality care. Care-seeking patterns show that although less expensive, higher-quality government clinics are often available, slum residents who do seek care tend to choose more expensive private providers — for a multitude of reasons, from perceived quality to ease of access.<sup>4</sup> Studies show that the care received by the urban poor is often of low quality. One study examining the care provided by 100 private practitioners in an urban slum in Mumbai, India, found 80 different treatment regimens being used for tuberculosis, only 4 of which met the guidelines of the World Health Organization.<sup>5</sup>

In some cases, new interventions are required for this population, but in others, interventions that are known to be effective simply need to be translated into effective programs. Fundamental public health services, such as vaccination, a safe water supply and sanitation, and oral rehydration therapy, remain important, and operational research is required in order to implement them effectively. Adapting interventions for implementation by community health workers or trained midwives has shown benefit, and we believe that a cadre of health care workers practicing

in slums must be trained in order to reach this population.

Our knowledge base also needs to be supplemented through dedicated research. Epidemiologists must develop methods for collecting precise and accurate data and surveillance on the health of urban populations. Research must be conducted on the design of interventions and approaches to using proven public health tools that exploit the advantages conferred by urban settings, such as the concentration of target populations and better communication and transportation infrastructures for delivery of care and health education. And governments, nongovernmental organizations, and private providers must commit themselves to implementing new policies and programs. Many projects and field research efforts fall by the wayside when no governing or imple-

menting agency “scales up” initial results. Governments need to determine the structure of health care provision, administration, and regulation, and nongovernmental organizations should aid in promoting good governance,



Shantytown in Monrovia, Liberia, 2007.

increasing capacity, and ensuring access to care.

As the world becomes increasingly urban, the health of the urban poor may suffer. Decades of progress in public health could be erased, and the stage could be set for devastating pandemics of

infectious disease. Action is needed now to avert such a disaster.

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