CHAPTER ONE

URBAN HEALTH IN A GLOBAL PERSPECTIVE

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LEARNING OBJECTIVES

- Identify the megatrends that influence twenty-first century global health
- Describe a conceptual framework for understanding urban health
- Define health inequality and health inequity
- Discuss the role of healthy urban governance

MEGATRENDS IN TWENTY-FIRST CENTURY HEALTH

The twenty-first century is a time of unprecedented opportunity to improve global health. In recent years, scientific and medical advancements have transformed the field of public health. Health professionals now have considerable knowledge, tools, and resources to promote health, prevent illness, and fight disease. Recent reports, such as the WHO Commission on Social Determinants of Health's "Closing the Gap in a Generation," have promoted recognition of the broader determinants of health, beyond personal medical care and risk behaviors, in the communities where people live that may or may not permit them to exercise healthy choices even if they have the necessary information (WHO 2008). There is increased political visibility and support for action to promote health due to its clear links to economic development, and health is playing a greater role in the global political agenda. The past decade has witnessed a proliferation of global health actors, new partnerships, and financial resources for health problems. The UN Millennium Development Goals are agreed targets for international cooperation to reduce poverty, disease, and death.

Yet, despite these enormous advances, we still face a serious implementation gap between what we know and what we do. Increasingly, the role of governance—the government's ability both to assume its responsibilities as steward of public goods and to work collaboratively with other sectors in society—has emerged as a critical factor in guaranteeing that a country's conditions for policy and program implementation can assure that its people are as healthy as they can be. In addition to country-specific opportunities and challenges for implementation, it is becoming increasingly clear that there are powerful global factors at work affecting health. These "megatrends" are often identified as globalization, demographic shifts, and climate change. What is frequently overlooked in developing global health policy is urbanization—the central role of cities in creating and being subjected to these megatrends—and this is the subject of this book.

Globalization

Globalization is what transpires across borders. Although the phenomenon is not new, the pace and extent is new. Globalization is driven by advances in and the spread of technology; the unprecedented flows of information; the ability to travel; the migration of people, goods, and services; and the creation or ruin of jobs and economic opportunity. All of these are most apparent earliest in cities and can result in conditions that are positive or negative for health. Cities are also fundamental drivers of national economies, and certain cities host the markets and national and multinational companies that dominate the global economy. If global

economic and trade regimes address issues of fairness and equity, and national and urban governance are strong, the effects of globalization can be positive for the social, physical, and economic development of cities, taking advantage of the concentrations of population to provide efficient and accessible educational as well as health and social services. Globalization can also create unique conditions in cities for individuals and families to take advantage of economic development opportunities to increase their income, meet other entrepreneurs, or gain competitive advantage.

However, too often, the early warning signals of the negative effects of globalization can be seen in cities with large immigrant populations who are without employment, appropriate housing, education, or health services. The migrants might join the formal city if the rules were designed to include and benefit them, but where this is not the case, they build an informal economy that creates their own form of advantage. Urban poor immigrants develop or enter an informal economy of microenterprise that can account for up to 40 percent of a country's GDP, including remittances to relatives in depressed rural regions.

Globalization's considerable cultural impact is most profoundly seen in urban settings. As noted in the 2007 United Nations Population Fund Report:

> Since the 1950s, rapid globalization has also been a catalyst of cultural change most strongly felt in cities. Advanced telecommunications and the influx of media from other regions of the world are at the core of the urban transition and have enormous impact on ideas, values and beliefs. Such transformations have not been as uniform or seamless as social scientists predicted. Urbanites may lose contact with traditional norms and values. They may develop new aspirations, but not always the means to realize them. This, in turn, may lead to a sense of deracination and marginalization, accompanied by crises of identity, feelings of frustration and aggressive behavior. Many people in developing countries also associate the processes of modernization and globalization with the imposition of Western values on their own cultures and resent them accordingly. (UNFPA 2007)

How cities are organized and governed will shape how these challenges are managed.

Demographic Shifts

Demographic shifts involve three elements: migration, fertility, and mortality. Migration involves "push-pull" factors that can be economic, cultural, political, or environmentally based. Examples of "push" include few opportunities,

discrimination, political fears, natural disasters, and desertification. Examples of "pull" factors include job opportunities and better living conditions. These movements occur between and within countries, with the predominant pattern being short distances. Daily commuting is a type of migration which has implications for the environment and health. Throughout history, rural-to-urban migration has been a predominant pattern, which became especially salient in 2008, when, for the first time in human history, the majority of the world's population lived in cities. Virtually all population growth over the next thirty years will be in urban areas. By 2030, about 60 percent will be urban dwellers, rising to about 75 percent by 2050 (Montgomery 2008). Urban growth is expected to occur more slowly in mega-cities and faster in mid-sized cities (Satterthwaite 2000), and the growth rate of mega-cities in the developing world will be much higher than in developed world (for example, anticipated growth between 2000 and 2015 in Calcutta is 1.9 percent compared to 0.7 percent in New York City). In 1975, only five cities worldwide had 10 million or more inhabitants; three were in developing countries. The number will increase to twenty-three by 2015, all but four of them in developing countries. Also by 2015, an estimated 564 cities around the world will contain one million or more residents. Of these, 425 will be in developing countries. While large cities of developing countries will account for 20 percent of the increase in the world's population between 2000 and 2015, small cities (less than 5 million) will account for 45 percent of this increase (UN Population Division 2000). These projections highlight the importance of viewing urban health as an international and global issue.

To accommodate population growth, most of the new city growth is through horizontal expansion of small and mid-sized cities. At face value, this might seem to mitigate risks associated with overcrowding, but in fact comes with health challenges as well. For example, horizontal growth requires longer commutes that present sedentary lifestyle and traffic-related health risks. Horizontal growth threatens land needed for food and water supply and, therefore, has implications for sustainability. Creating healthy and sustainable cities represents a complex challenge.

Other demographic shifts include fertility and mortality, which have shown a global decline. Urbanization among the nonpoor is accompanied by lower birth rates and lower death rates. Urban settings provide female literacy and employment that changes valuation of women from sense of status for having and raising children to becoming productive contributors to the family. Contraception and family planning, more available in cities, also contribute to the transition. Declines in mortality have been observed with modernization and availability of preventive and curative care. One net effect of this is the aging of the population. By 2025, the global population of people over 60 will

be 1.2 billion, double the number in 2000; it will more than double again by 2050. More prominent now in developed countries, this will become increasingly noticeable in developing countries. This trend will be most pronounced in cities, where most will live. How cities are organized and governed will shape how these challenges are managed.

Climate Change

A third twenty-first century megatrend is climate change (McMichael, Woodruff, and Hales 2006). Emissions of carbon dioxide and other greenhouse gases are projected to increase temperatures globally in the coming century. Cities generate 80 percent of all carbon dioxide and significant amounts of other greenhouse gases. They contribute to climate change, mainly through energy generation, vehicles, industry, and biomass use. The densely built environment of cities creates a "heat island" effect where temperatures at any time can be 3–4° C higher than geographically adjacent rural areas. Increased temperatures mean less outdoor activity and greater emission of greenhouse gases with air conditioning. Climate change can include temperature-related, extreme weather-related, and air pollution-related health effects. These effects include water, foodborne, vector, and rodent diseases; food and water shortages; and population displacement. Cities are frequently sited on coasts and rivers where they are vulnerable to climate-related changes in the form of rising sea levels, storm surges, and flooding. More recent efforts to make cities "green" address root causes of climate change.

Urbanization

A fourth megatrend is urbanization. As discussed in the literature, urbanization involves a dynamic process of economic development, population movement and growth, and spatial expansion with issues of sustainability. Certain characteristics of urbanization can have their own impact on the health of the population and require special attention as a context for any change process that may be needed. *Size, density* (with proximity and association), *diversity*, and *complexity* provide an "urban lens" through which to view a variety of influences.

Size provides scalability—presumably the larger the population size, the more scalable a program, although quality is a separate dimension to consider. Density is frequently thought of as synonymous with overcrowding and its related health risks; in fact, density with adequate space per person provides proximity and association that create efficiencies of scale for opportunities and services. The trend toward urban areas with lower density may translate into less overcrowding

but comes with other risks, including greater expenditures on utilities, longer commutes, and social isolation.

Diversity refers to the mix of populations found in cities; it brings social and cultural richness, but it can also lead to cultural clashes (Massey 1996). Diversity necessitates tailoring interventions to meet the needs of different subpopulations. *Diversity* also refers to the rich variety of services within urban settings that can provide both specialization and multiple service options.

Finally, cities can be characterized by their complexity. Multiple systems interact; pluralistic political structures create competing stakeholders. Cities are inextricably linked to other sociopolitical levels, such as neighborhoods, metropolitan regions, and nation-states, each making demands and offering resources to the other levels, and local political and social forces create wide variations in the contexts of program delivery.

The implications of varying size, density, diversity, and complexity between cities and urban areas mean that simple interventions are rarely sufficient to solve problems, programs may have unintended as well as intended outcomes, and generalization from one setting to another can be problematic. This contextual complexity requires a similar level of intervention complexity—an intersectoral governance approach that integrates different sectors within government and with business and community participation. This complexity also requires special attention to the level of analysis and data gathering to understand the realities of the health of urban populations and their determinants.

Health Inequalities and Inequities in Cities

Health inequalities and inequities within the urban setting are by their nature concentrated and factors that require more refined levels of analysis than aggregate statistics for the geographic city. Urban health action not only improves the average level of health in a city but addresses the inequities that preserve inequalities in environment and health status. *Health inequalities* refers to differences or disparities between groups. A related term is *health inequities*, which refers to inequalities that can be corrected but are allowed to stand, due to distorted power and decision-making arrangements.

Although it is generally understood that city dwellers, on average, enjoy better health than their rural counterparts, this may reflect the practice of aggregating data that provide an average of all urban residents—rich and poor—rather than disaggregating population groups by income or other measures of socioeconomic status. For example, in developing countries, slums without legal status are often officially unrecognized and, therefore, their populations frequently uncounted, distorting the urban average. As a result, the different worlds of city

dwellers and the substantial health challenges of the urban poor are overlooked. These differences in health outcomes within urban areas, disaggregated by absolute or relative poverty, are seen around the world and for a wide variety of health outcomes.

Differences in health outcomes are also seen by geographic area-specific levels of infrastructure and services within cities. A child who lives in a slum in Kenya is far more likely to die before the age of five than his or her compatriot living in another part of the city (APHRC 2002). In 1990, life expectancy for black males in Harlem, an urban area of concentrated disadvantage in New York City, was lower than for men in Bangladesh (McCord and Freeman 1990). A frequently quoted study from Glasgow shows dramatic differences in life expectancy by neighborhoods, with the lower-income neighborhoods approaching rates in the cities of developing countries (Macintyre, McKay, and Ellaway 2005).

As these four megatrends—globalization, demographic shifts, climate change, and urbanization—play out in cities, they create complex environments both to understand and to govern. It is important to have a framework for approaching urban health action.

CONCEPTUAL FRAMEWORK FOR URBAN HEALTH

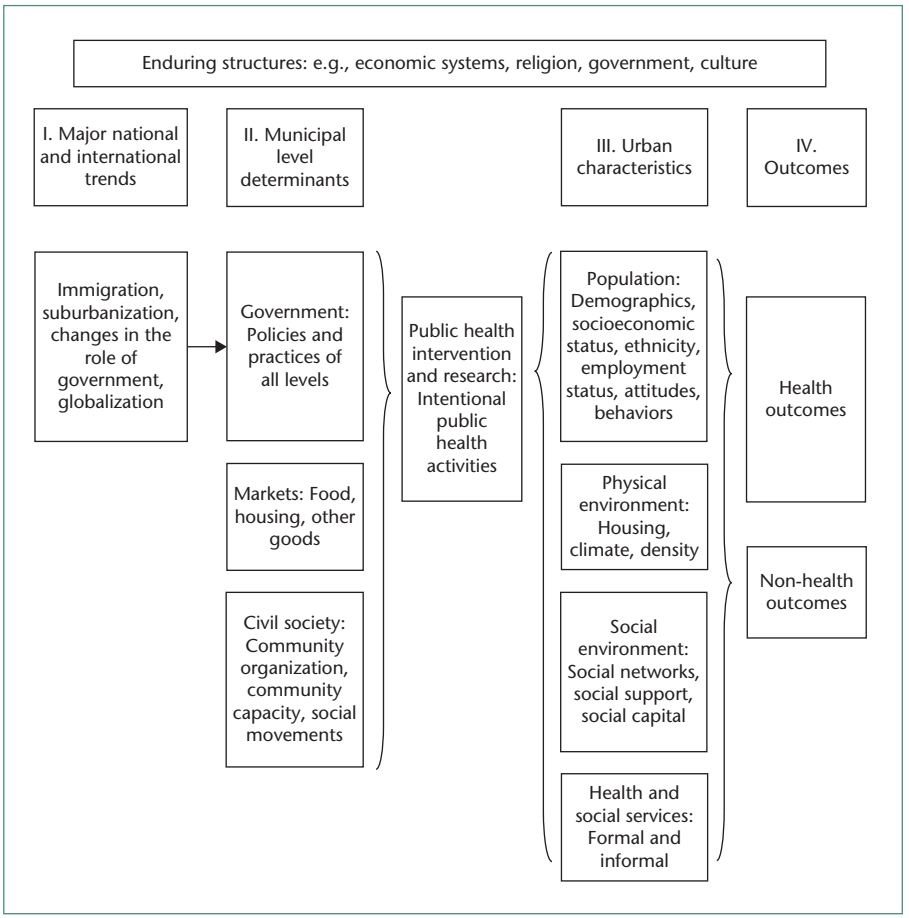
Several frameworks for organizing thinking on urban health have been published. These frameworks overlap in noting that urbanization is not inherently positive or negative. Underlying drivers—also referred to as *social determinants*—converge in urban settings, which strongly influence health status and other outcomes. For simplicity, we start with the model proposed by Galea, Freudenberg, and Vlahov (2006), shown in Figure 1.1.

The framework notes that health (and nonhealth) outcomes are influenced by "living conditions," which includes physical and social environments as well as health and social services. These, in turn, are influenced by municipal factors that include government, markets, and civil society. These, in turn, are influenced by national and international trends. Enduring structures refer to the fact that cities reside in different contextual settings that shape the dynamics of these other influences. Taken together, urban settings can be a determinant of health.

Urban Physical Environment

The urban physical environment includes geological and climate conditions of the site where the city is located, the air city dwellers breathe, the water they drink

FIGURE 1.1 Conceptual Framework for Urban Health



and bathe in, the indoor and outdoor noise they hear, the park land inside and surrounding the city, and the built environment. The human built environment includes housing, highways, and streets, and other transportation infrastructure as well as parks and other uses of open space. The urban sanitation infrastructure is also part of the physical environment and determines how a city provides water and disposes of garbage. Choices on energy sources have implications for the built and natural environment (Melosi 2000). Because most of the new city growth is through horizontal expansion of small and mid-sized cities, it may create health challenges by threatening land needed for food and water supply.

Social Environment

The social environment is the structure and characteristics of relationships among people within a community. Components of the social environment include social networks, social capital, segregation, and the social support that interpersonal interactions provide. A city's social environment can both support or damage health through a variety of pathways (Leviton, Snell, and McGinnis 2000; Freudenberg 2000; Geronimus 2000). For example, social norms in densely populated urban areas can support individual or group behaviors that affect health (for example, smoking, diet, exercise, sexual behavior) (King and others 2003). Social supports can buffer the impact of daily stressors and provide access to goods and services that influence health (for example, housing, food, informal health care; Berkman and others 2000).

Health and Social Services

Cities are characterized by a rich array of health and social services (Casey, Thiede Call, and Kingner 2001; Felt-Lisk, McHugh, and Howell 2002). Even the poorest urban neighborhood often has dozens of social agencies, each with a distinct mission and service package. Services vary by type, mix, quantity, and quality.

The conceptual framework (Figure 1.1) permits us to isolate and measure seemingly discrete factors that affect urban populations. In reality, the effects of the physical, social, and service environments are more difficult to separate. For example, decent shelter that comes with land security and tenure provides people a home, security for their belongings, safety for their families, a place to strengthen their social relations and networks, a place for local trading and service provision, and a means to access basic services (UNFPA 2007). The conceptual framework is not an analytic tool but can help to organize our thinking about urban health challenges.

MEETING THE CHALLENGES AND OPPORTUNITIES IN URBAN HEALTH

Each of the sections of this book was selected to provide a global perspective on the health risks and opportunities for urban dwellers. After delving into more detail about the megatrends of the twenty-first century, we move to the infectious and chronic disease threats, how they manifest themselves in urban settings, and the opportunities for positive action. Then we move on to explore issues of

crime, manmade and natural disasters, and terrorism that exert a toll on the physical and mental well-being of city dwellers. Next, we examine the challenges of creating systems in cities that can effectively provide health care and the information needed about the health of the population to plan services and provide the public with much needed health information. Because the determinants of health are much broader than those under the direct control of the health sector and go beyond health care and traditional public health services, it is important to look in depth at the critical elements of urban infrastructure that affect health: provision of water and sanitation, housing, transportation, urban planning, and air quality.

To meet these challenges and optimize health in cities, governance is a critical factor. The form of government in cities, especially mega-cities and national capitals, is often defined by national policy and practice; the degree of decentralization within a country from the center to more peripheral governmental bodies in regions and districts sometimes fails to consider the special needs of cities. The relationship between national or regional government and city government can be critical to the ability of cities to innovate and create systems to manage for health. Such innovation is needed, because although governments have the ultimate responsibility for assuring the conditions in which their people can be as healthy as they can be, government cannot do the job alone.

This requires new forms of "governance"—"the alignment of multiple interests to achieve a shared goal" or "joined up" governance (Harpham 2009)—models that allow governmental health leaders to work effectively with their relevant colleagues across governmental sectors that influence health and with nongovernmental sectors in civil society, including NGOs, advocacy groups, business, academia, and the media, among others. Good urban governance responds to local needs in a participatory, transparent, and accountable manner in treating current issues and planning horizons that extend beyond current needs. A number of cities have taken steps to create specific mechanisms for participatory governance, enabling communities and local governments to partner in building healthier and safer cities (Montgomery 2009; Caiaffa 2010). The World Health Organization has facilitated this process through the Healthy Cities programs, which has included the process of Health Impact Assessments and Health in All Policies.

Interspersed in each section of the book are case studies of cities that tell how they have taken on the challenges of the detection and management of direct health threats—traditional and new; how they have tackled the challenges of creating healthy urban infrastructure; and, for each, the governance arrangements that have made effective change possible. This volume concludes with a look to the future of urban health from a global perspective.

SUMMARY

Cities are traditionally the economic engines for a country and, increasingly, are shaping the world. Urbanization must be considered as a megatrend, affecting global health along with globalization, demographic shifts, and climate change. Cities offer advantages and opportunities as well as threats to health for their residents. Although individual behavior shapes health and illness, the urban environment shaped by upstream influences can impact both behavior and health. Inequities in decision making can preserve and maintain inequalities that impact all urban dwellers. The size, density, diversity, and especially the complexity of cities present tough challenges for addressing the health of urban populations. Good urban governance that brings together the health sector and other sectors with authentic community participation is essential to meet these challenges and achieve urban health.

REFERENCES

African Population and Health Research Center (APHRC). 2002. *Population and health dynamics in Nairobi's informal settlements: Report of the Nairobi Cross-Sectional Slums Survey (NCSS)*. Nairobi: APHRC.

Berkman, L. F., T. Glass, I. Brissette, and T. E Seeman. 2000. From social integration to health: Durkheim in the new millennium. *Social Science and Medicine* 51(6):843–857.

Caiaffa, W. T., A. L. Nabuco, A. A. de Lima Friche, and F. A. Proietti. 2010. Urban health and governance model in Belo Horizonte, Brazil: A case study. In *Urban health: Global perspectives*, ed. D. Vlahov and J. I. Boufford. San Francisco: Jossey Bass.

Casey, M. M., K. Thiede Call, and J. M. Klingner. 2001. Are rural residents less likely to obtain recommended preventive healthcare services? *American Journal of Preventive Medicine* 21(3):182–188.

Felt-Lisk, S., M. McHugh, and E. Howell. 2002. Monitoring local safety-net providers: Do they have adequate capacity? *Health Affairs* (Millwood) 21(5):277–283.

Freudenberg, N. 2000. Health promotion in the city: A structured review of the literature on interventions to prevent heart disease, substance abuse, violence and HIV infection in U.S. metropolitan areas 1980–1995. *Journal of Urban Health* 77(3):443–457.

Galea, S., N. Freudenberg, and D. Vlahov. 2005. Cities and population health. *Social Science and Medicine* 60(5):1017–1033.

Geronimus, A. T. 2000. To mitigate, resist, or undo: Addressing structural influences on the health of urban populations. *American Journal of Public Health* 90(6):867–872.

Harpham, T. 2009. Urban health in developing countries: What do we know and where do we go? *Health and Place* 15:107–116.

King, G., A. J. Flisher, R. Mallett, J. Graham, C. Lombard, T. Rawson and others. 2003. Smoking in Cape Town: Community influences on adolescent tobacco use. *Preventive Medicine* 36(1):114–123.

Leviton, L. C., E. Snell, and M. McGinnis. 2000. Urban issues in health promotion strategies. *American Journal of Public Health* 90:863–866.

Massey, D. S. 1996. The age of extremes: Concentrated affluence and poverty in the twenty-first century. *Demography* 33(4):395–412.

Macintyre, S., L. McKay, and A. Ellaway. 2005. Are rich people or poor people more likely to be ill? Lay perceptions, by social class and neighbourhood, of inequalities in health. *Social Science and Medicine* 60(2):313–317.

McCord, C., and H. P. Freeman. 1990. Excess mortality in Harlem. *New England Journal of Medicine* 322(3):173–177.

McMichael, A. J., R. E. Woodruff, and S. Hales. 2006. Climate change and human health. *Lancet* 367(9513):859–869.

Melosi, M. 2000. The sanitary city: Urban infrastructure in America from colonial times to the present. Baltimore: Johns Hopkins Press.

Montgomery, M. R. 2008. The urban transformation of the developing world. *Science* 319(5864):761–764.

Montgomery, M. R. 2009. Urban poverty and health in developing countries. Population Reference Bureau 64(2):1–15.

Montgomery, M. R., et al., Panel on Urban Dynamics, National Research Council, eds. 2003. *Cities transformed: Demographic change and its implications in the developing world.* Washington, DC: National Academies Press.

Satterthwaite, D. 2000. Will most people live in cities? *British Medical Journal* 321(7269):1143–1145.

United Nations Population Division. 2000. *World urbanization prospects: The 1999 revision.* New York: United Nations Population Division.

United Nations Population Fund (UNFPA). 2007. *State of the world population: Unleashing the potential for urban growth.* Washington, DC: UNFPA.

WHO, Commission on Social Determinants of Health (CSDH). 2008. *Closing the gap in a generation: Health equity through action on the social determinants of health: Final report of the Commission on Social Determinants of Health.* Geneva: World Health Organization.

Yen, I. H., and S. L. Syme. 1999. The social environment and health: A discussion of the epidemiologic literature. *Annual Review of Public Health* 20:287–308.