

SDGS:

PVRTY
1

HNGR
2

HLTH
3

EDUC
4

GNDR
5

WATR
6

ENRG
7

ECON
8

INFRA
9

INEQ
10

CITY
11

CNSUM
12

CLIMT
13

OCNS
14

BIODV
15

PEACE
16

PARTN
17

SECTION 1

A VISION FOR HEALTHIER CITIES

KEY MESSAGES

Achieving meaningful progress in health in cities everywhere depends on reducing health inequity.

•

Greater attention to the health needs of the urban poor is essential to move towards universal health coverage.

•

Cities must play a leadership role in the fight to against communicable disease.

•

Noncommunicable diseases present not only a threat to human health, but also have significant economic implications for cities.

•

Cities increasingly face the unprecedented dual challenge of undernutrition and overnutrition.

COUNTRIES:

AFG

BEN

BFA

BGD

BRA

BTN

CAN

CHN

COD

COG

ECU

EGY

ETH

FRA

GBR

GHA

GIN

GTM

IDN

IND

IRQ

ITA

JOR

JPN

KEN

KHM

LBR

MEX

MLI

MNG

MOZ

MRT

MWI

NAM

NGA

NLD

NPL

PAK

PER

PHL

RUS

RWA

SDN

SEN

SLE

SOM

STP

SYR

TCD

TGO

THA

TJK

TLS

UGA

UKR

USA

VNM

YEM

ZAF

ZMB

ZWE

INTRODUCTION

PVRTY
1

HNGR
2

HLTH
3

EDUC
4

WATR
6

ECON
8

INFRA
9

INEQ
10

CITY
11

BIODV
15

PEACE
16

PARTN
17

Cities worldwide are taking on the challenge of the major health issues of our time, from preventing and controlling the spread of endemic and emerging infectious diseases to taking bold initiatives on the growing burden of NCDs. At the heart of it all is the challenge of health equity – ensuring that all people have the opportunity to achieve good health and affordable access to the health care they need throughout the life course. These are not only a daily concern for individual health, but also one of the most daunting economic, political and social challenges of the 21st century.

The five chapters of Section 1 examine these issues and provide examples of some of the many initiatives that cities across widely different contexts have taken individually, and which can serve as models for others elsewhere.

Urban areas enjoy many advantages compared to rural areas when it comes to availability of resources that support good health. Basic infrastructure that are essential to health, such as water, sanitation and housing, are generally more developed than in rural areas. Health-care services and facilities tend to be concentrated in cities, along with financial resources, personnel, supplies and equipment. The density of urban areas coupled with better transport and information and communications technology facilitate access to these resources. More opportunities for education and employment, which are important enablers of health, are also available. In short, urbanization is associated with economic and social development that provide better opportunities to achieve good health.

However, cities also have relative disadvantages for health. Finite resources need to be distributed among a very large, often expanding, and heterogeneous population. Crowded conditions of daily living and working as well as large pockets of informal settlements are conducive to the spread of communicable diseases. Sedentary lifestyles and the urban food environment lead to the rise of NCDs. Crime and violence are often concentrated in urban areas.

Affecting all of these conditions is poverty and exclusion that result in certain areas and groups of people in urban neighbourhoods suffering substantially worse conditions than the rest of the urban population, and sometimes even

worse than their rural counterparts. When such differences, or inequalities, are not random but are systematic, and not due to biologically determined factors but due to modifiable social factors, they are unjust *inequities*.

Inequity often manifests as a large and growing gap between the best-off and worst-off people in urban areas, but also as a socially graded pattern that affects the entire population. It is often worse in urban than in rural areas because of the tendency for both extreme wealth and poverty to concentrate in cities. Inequity is perhaps one of the biggest urban disadvantages for health as it hampers not only development in health, but also in social, economic and human development for the city as a whole, with implications for national and global development.

This section begins by examining the different manifestations of urban health inequity and what is needed to better address them. It then discusses the potential of UHC as a key approach to improving health outcomes and equity, focusing on specific implications for the urban context. The latter half of this section discusses the double burden of communicable and noncommunicable diseases, and food security and nutrition with an emphasis on the innovative actions and solutions undertaken by cities in all regions of the world.

CHAPTER 1 — REDUCE HEALTH INEQUITY FOR SUSTAINABLE DEVELOPMENT

KEY MESSAGE • Achieving meaningful progress in health in cities everywhere depends on reducing health inequity.

Equity is an ethical imperative and an essential principle of the SDGs and the new global health agenda to attain UHC. Progress in reducing inequity is a key milestone that can be measured. Cities everywhere can benefit from greater investment in achieving equity in health. In addition to ensuring that no one has to suffer from unfair disadvantages, cities are more likely to thrive and be stronger economically when equity creates greater solidarity and enables more people to contribute to society.

While evidence of the “urban advantage” suggests that city populations often enjoy better health than their rural counterparts, there are substantial differences in health opportunities and outcomes in urban areas. In 2010, the WHO/UN-Habitat global report on urban health, *Hidden cities: unmasking and overcoming health inequities in urban settings* (28), was the first report of its kind to shed light on the lesser known, hidden side of cities; that is, the fact that a considerable portion of the urban population is suffering unacceptable conditions of living and suffering serious consequences to their health. Five years later, the body of new evidence gathered for this report reveals that urban health equity remains a persistent, priority global health issue.

The most recent analysis by WHO of urban data in 79 countries, extracted from the DHS and the Multiple Indicator Cluster Survey (MICS) (21), showed that children in the poorest one fifth of urban households are twice as likely to die before their fifth birthday compared to children in the richest one fifth. In Cambodia, the Lao People’s Democratic Republic, Mongolia, and Sao Tome and Principe, this ratio is actually greater than five.

The good news is that in nearly all (94%) of the 50 countries for which longitudinal trends were analysed, comparing data from 1990–2004 to 2005–2013, urban under-5 mortality rates improved over the two time periods. Some countries, such as Ethiopia and Nepal, have made rapid progress, with the poorest urban populations witnessing faster gains than the richest groups, even though under-5 mortality rates remain high in urban areas in both countries (Nepal = 46, Ethiopia=69, per 1000 live births) (Box 1). In other countries, such as the Philippines and Rwanda, which have made much progress in reducing urban under-5 mortality among its poorest groups, the richer urban populations have reduced mortality at an even quicker pace, thereby resulting in an increase in absolute inequality. This shows that even in cases where significant progress is made, special attention to differential rates of progress within urban areas is still warranted.

A special MDG Scorecard follows this section that illustrates the likely impact that achievements among the urban poor had on attainability of the MDGs. The MDG Scorecard also creates a baseline for the SDGs accounting for these health inequity effects.

ETH

KHM

MNG

NPL

PHL

RWA

STP

HEALTH INEQUITY IN CITIES: A COMPLEX BUT SOLVABLE PROBLEM

The sheer size of the urban population can easily mask internal inequality. In most cities, and in all countries, there are urban subpopulations, defined demographically, socially, economically or geographically, that face disadvantages in their daily living conditions, or what are known as the broader social and environmental determinants of health. Many of the worst-off of these groups are in effect part of an “invisible population” that is systematically excluded from mainstream urban society.

Poor urban households, especially in informal settlements, are often invisible in population surveys or official statistics and unrecognized by researchers, analysts, city planners and others. This seriously challenges the equitable delivery of essential services, including primary health care. If certain people or areas are not recognized, then they are unlikely to receive health and social services.

Box 1.	Counting the hidden poor in Nepal's urban centres
<p>The hidden poor in Nepal’s urban centres are thought to be a large and growing population as a result of food insecurity in remote rural areas and civil unrest. To better identify the hidden poor, the Health Research and Social Development Forum (HERD), a Nepali NGO, is testing an innovative approach to household sampling.</p> <p>To ensure that people living in informal dwellings are fully represented, the WorldPop population dataset rather than census data is used as a first-stage sampling frame. WorldPop is a publicly available dataset that disaggregates census population data to 100 metre by 100 metre grid cells based on dozens of spatial datasets such as land cover type and road network. Not only does this give probability of selection to areas of informal settlement such as slums, it also overcomes a main hurdle to household sampling, which is that local-level census data are highly sensitive and difficult to obtain. GridSamp, a publicly available algorithm, is then used to randomly select and aggregate adjoining grid cells to create a set of primary sampling units (PSUs) of approximately equal populations. These PSUs are overlaid onto street maps using OpenStreetMap to create paper maps for survey teams to use in the field. To fully represent the “hidden poor” in shared housing, all households within PSUs are listed by asking residents during field visits about the number of households within each dwelling (a household is defined as a group of people who share a cook stove). Finally, a subset of these households is selected at random to create the final sample for which the detailed questionnaire is administered. The data resulting from the survey will be used to assess the health status of small areas across cities, and to identify appropriate locations for health clinics. It will also allow health services to identify areas where the population includes large numbers of migrants, for whom previous work has shown special provisions must be made to advertise services and make it clear that the services are intended for all.</p> <p style="text-align: right;"><i>Source: HERD Nepal 2015 (73).</i></p>	

In many developing countries, inadequate supply of urban public facilities and poor quality services have resulted in significant inequity in provision and access. Even when public services are available and accessible, people are reluctant to use them because of many quality-related drawbacks such as poor attitudes of health workers, shortages of drugs and supplies and long waiting times. This has led to the proliferation of private sector practice in urban areas, some of which is unregulated, offering fee-for-service health care.

For example, a study of the effect of health facility access and quality on family planning decisions of urban Senegalese women found that the quality of the facility or service may effectively be a barrier to access (29). An analysis of data from 4950 households and 205 facilities across six urban sites, including the capital Dakar, found no evidence that greater access to health facilities and pharmacies increased family planning use among urban women. Neither the number of public or private health facilities nor that of pharmacies had any significant effect on the likelihood that a woman would use family planning. Instead, the greatest impact on a woman's family planning decisions was the average quality of the facilities near her home.

In examining equity, there is also a need to understand the demand-side factors. City residents vary by their geographic, social, cultural and economic backgrounds, which, in turn, influence their health-related behaviour, including health-care utilization. Historically, population heterogeneity is in part a consequence of the migration of large numbers of people into urban areas, either from rural districts in their own country, or from other countries. Much of the diversity currently seen in cities is a result of that history as well as more recent urban population dynamics, including more temporary migration and daily commuters from outside the city. While this diversity adds to the richness of urban society, researchers are uncovering great variations in the health of urban populations, in both high- and low-income contexts, upsetting the perception that urban residents enjoy better health than their rural counterparts do.

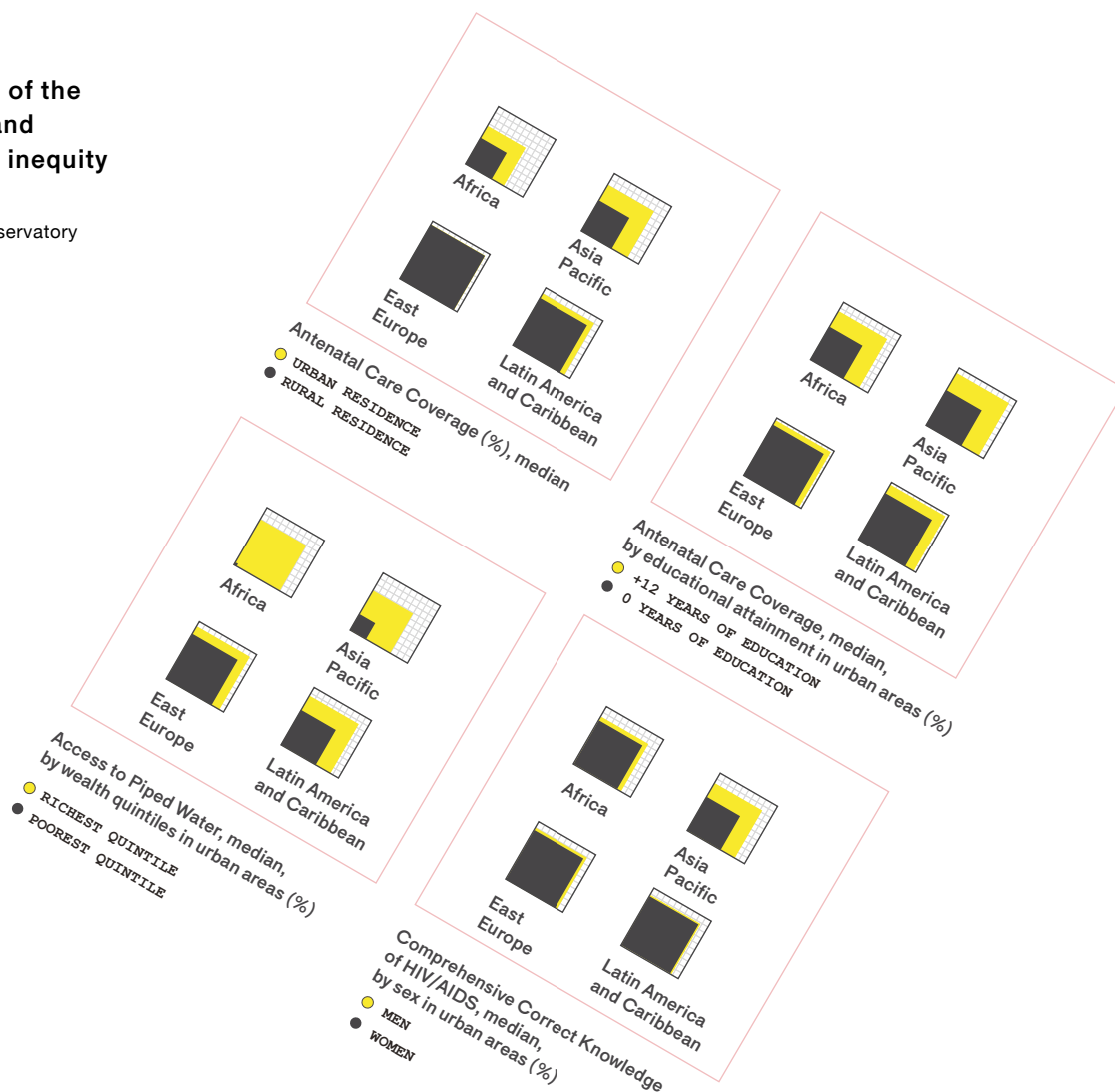
The graphs in Figure 3 illustrate some typical manifestations of urban health inequity, using urban data extracted from the latest DHS. In general, an urban advantage is observed when comparing the median values of health-care coverage or health outcomes in rural and urban areas, as shown with antenatal care coverage (upper left graph). Within urban areas, however, there is a disadvantage associated with demographic and socioeconomic factors, such as level of educational attainment (upper right), with wealth (lower left) and with gender (lower right), to varying degrees. The graphs are based on urban data from countries in four UN classified world regions to demonstrate global patterns, but these patterns emerge, often even more sharply, when urban data are disaggregated at the national or local levels.

While these are typical patterns, health inequity is actually very complex, and the patterns can vary depending on the health determinant or health outcome in question. For example, Figure 3 shows that urban women have a slight disadvantage in terms of having correct knowledge about HIV transmission. However, data from other studies show that men are often at higher risk of injury-related deaths in urban areas. Or, wealthier people often have a health advantage, but in several urban contexts, they are at higher risk for NCDs.

To illustrate, a survey covering more than 70 developing countries found that, while on average, child mortality is lower in urban areas for almost all countries, children living in city slums are substantially worse off than those in non-slum areas of

Figure 3.
**Common patterns of the
urban advantage and
intra-urban health inequity**

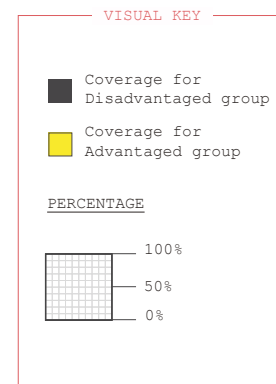
Source: Global Health Observatory
2015 (21).



cities (30). Furthermore, town settings, which are in transition from a village to becoming a city, seem to pose the highest health burden on children, more so than city slums. In contrast, among adults, average urban mortality rates exceeded rural mortality rates in many of the sub-Saharan African countries in the 2000s.

An added layer of complexity is that much of the data presented in the graphs, and other commonly used data sources, may not have included the invisible or informal populations living in a city. Therefore, inequities are likely to be generally underestimated. This systematic lack of data for certain populations is itself a fundamental form of inequity.

Experience shows, however, that such challenges can be overcome. The 2015 *State of the world's mothers: the urban disadvantage* report (20) featured six cities for having made good progress in addressing inequities in child health, despite significant population growth.



Addis Ababa, Ethiopia, for example, has made some of the greatest child survival gains of any city, and this progress has almost exclusively favoured the poorest children. Under-5 mortality in Addis Ababa dropped by half between 2000 and 2011, from 114 to 53 deaths per 1000 live births. In the same period, the child death rate among the poorest 20% of Ethiopian urban children (not only those in Addis Ababa) fell by over 40%, while there was little to no change among the top 20%. As a result, the urban survival gap in cities across Ethiopia has narrowed dramatically. The rapid socioeconomic progress in the city as well as increased availability and coverage of maternal and child health services partly explain the success seen in Addis Ababa. Their case reinforces the need for multiple health and non-health interventions to effect positive change.

ETH

In the case of Kampala, Uganda, the progress in reducing child deaths and closing the survival gap within the city is attributable to a variety of outreach efforts that take health-care information and services directly to the communities where poor people live. In Phnom Penh, Cambodia, rapid improvements in facility-based births and skilled birth attendance were achieved in part through investments in midwifery training and increasing the numbers of midwives within an expanded primary health care network. In addition, an expanded system of health equity funds made health care free of cost for poor people.

The six featured cities have achieved success through a variety of approaches, but the most consistently employed success strategies included: (i) better care for mothers and babies before, during and after childbirth; (ii) increased use of modern contraception to prevent or postpone pregnancy; and (iii) effective strategies to provide free or subsidized quality health services for the poor. Whereas these are often considered to be national-level strategies, these cities show that it is possible for local authorities to take these actions themselves with demonstrable success.

KHM

Box 2.	Uncovering urban children's needs
<p>UNICEF, in partnership with leading research organizations and universities, is developing disaggregated data methodologies to uncover urban children's needs and give them a voice to policy-makers. One example is enhancing the UNICEF MICS (31) to assess more accurately not just urban areas, but also urban slums. This greater precision allows urban MICS to identify pockets of poverty and children's needs that would otherwise go unseen in aggregated data models.</p>	<p>This promotes routine use of equity and performance assessments of localized areas, with innovations such as the use of improved spatial data analysis for risk-informed planning. When projections of urban growth are overlaid with analysis of multiple health and social deprivations, decision-makers have greater ability to estimate and respond to future needs. Such data are used to inform policy-makers, spur innovation and support local advocacy efforts.</p>

UGA

CITIES CHAMPIONING HEALTH AND SOCIOECONOMIC DEVELOPMENT STILL MARKED BY HEALTH INEQUITY

The challenge of health inequity is not limited to low-income countries; it is a challenge for cities everywhere. Japan, a country that sets the world’s standard for healthy life expectancy and provides its people with universal health insurance, also exhibits striking health inequities between and within cities. Figure 4 visualizes how health outcomes vary at the ward and municipal subdivision levels of the Greater Tokyo Area using the UHI based on age-adjusted, cause-specific mortality rates (32). Here, a higher UHI value represents worse outcomes (higher mortality), and mortality is highest in some older parts of the urban core (the far east/right end of the map), lowest in the newer downtown parts and adjacent areas (middle section) and then higher again in the peripheral areas furthest away from the urban core. Using longitudinal data, it can also show differences between areas with improving or worsening health outcomes, and where health gaps are narrowing or widening.



A separate comparative study of mortality in the 10 largest cities in Japan during 2003–2007 found that the average total mortality (as expressed by five-year cumulative standardized mortality ratios) among the cities was about the same as the national average. However, levels of mortality varied widely both between and within the cities (33). A comparison of the two largest cities, Tokyo and Osaka, revealed that over half of the 23 wards that form the urban core of Tokyo have lower levels of mortality than the national average; in contrast, only one of the 24 wards in Osaka had lower levels of mortality than the national average. The range in ward-level mortality was also much wider in Osaka than in Tokyo. These examples illustrate place-based inequalities.

Health inequities are also a major concern for public health in Europe. In the last two decades, the number of studies examining health differentials by geographical area has increased, but intra-urban inequalities in mortality have been less frequently analysed. In 2008, the former London Health Observatory showed that every two stops on the London Underground travelling east from central London represented more than one year of life expectancy lost. In 2012, a researcher at the University College London further expanded this work. The new map, Lives on the Line (10), shows

Figure 4. Visualization of ward-level UHI values, based on age-adjusted mortality rates in Tokyo

Source: Rothenberg et al. 2014 (32).

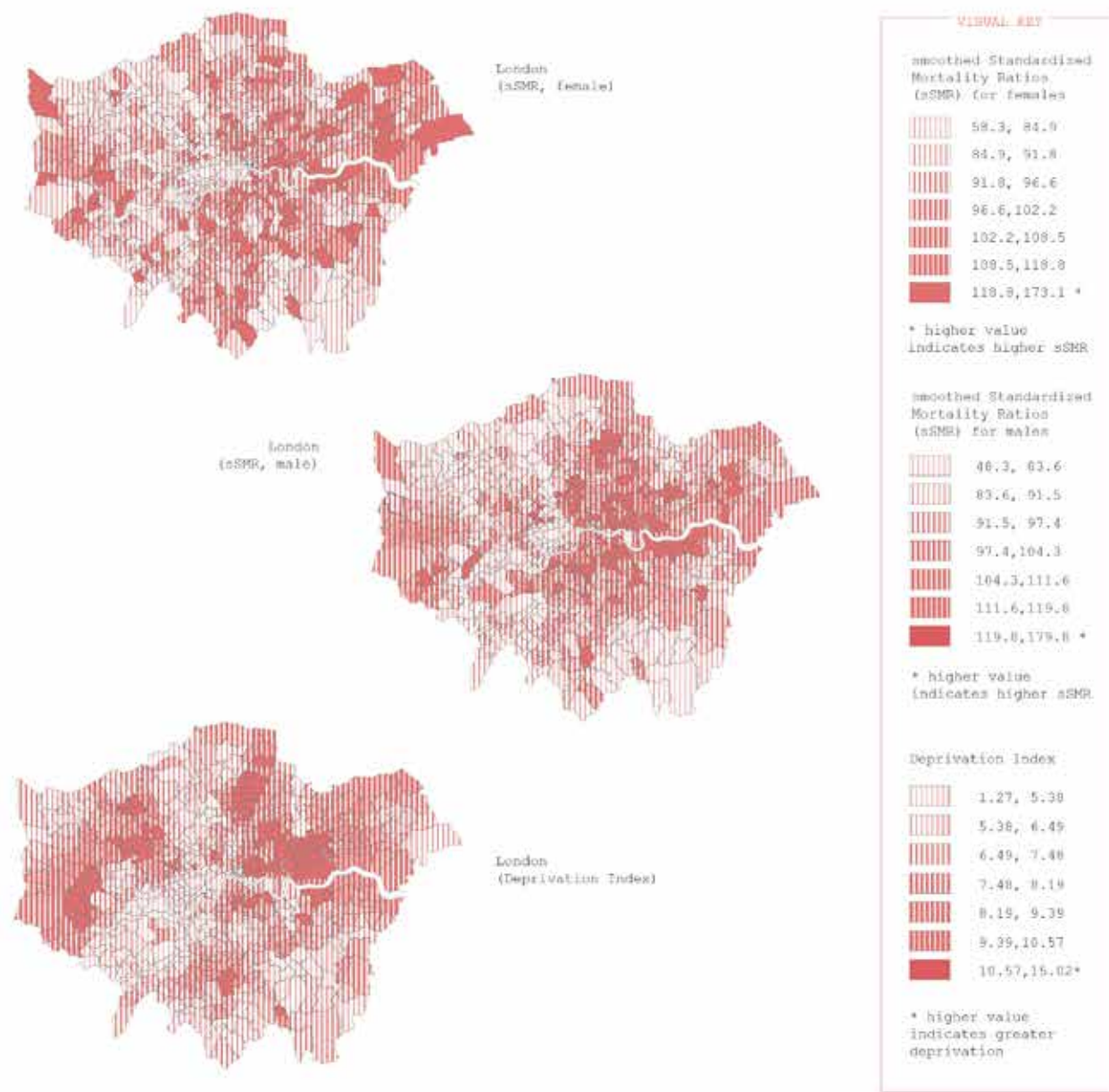


Figure 5.
Maps of socioeconomic deprivation and smoothed standardized mortality ratios (sSMR) for men and women at the census tract-level in London

Source: Reproduced with permission from Borrell et al. 2014 (34).

that the range of life expectancy in London is as wide as 20 years. For instance, there is a six-year difference in life expectancy at birth between two consecutive stations on the London Underground, just on opposite sides of the River Thames. The new analysis also showed the link between life expectancy and child poverty, providing further evidence for the well-established association between deprivation and life expectancy.

A more extensive study of European cities supports these findings. The INEQ-CITIES project examined socioeconomic inequalities in mortality by census tracts of 16 European cities. The results for London are shown as an example in Figure 5 (34). Areas with relatively higher rates of mortality for both men and women correspond to those areas that are more deprived, indicated by the clusters of brown areas. Similarly, areas with relatively lower rates of mortality correspond to those areas that are



GBR

JPN

PVRTY
1

less deprived, indicated by the clusters of blue areas.

There was a consistent pattern of inequality in total mortality in almost all cities, with mortality increasing in parallel with socioeconomic deprivation. Socio-economic inequalities in mortality were more pronounced for men than for women, and relative inequalities were greater in eastern and northern European cities.

What makes people vulnerable in cities? The health inequities seen in cities are linked to many factors – social, demographic, economic or geographic – and these factors can interact to create compound vulnerability.

HLTH
3

EDUC
4

POVERTY AS A PREVAILING VULNERABILITY

The urban poor are a central concern of this report, and the effect of poverty and deprivation on urban health inequity has already been shown from different perspectives. Many of the analyses presented in this report highlight the gap between the poorest and the wealthiest urban residents based on a measure of wealth that is broader than an income measure. Other analyses show an incremental, almost dose-response relationship, between wealth and health determinants and outcomes that affect the entire spectrum of the population. More sophisticated measures of social deprivation are also used to show how it relates to differential outcomes in health.

Poverty profoundly affects all aspects of the daily conditions where people live, work, learn and play – those essential determinants and enablers of health. Poverty and the social exclusion that often comes along with it are extremely detrimental to people’s health. They increase people’s exposure to health hazards, deprive them of the capacities, resources and opportunities to achieve good health, and often trap them in a cycle of poverty for generations. The effects of poverty in a community are not only restricted to the poor, they also have wide-ranging impacts on the social, physical and economic well-being of the entire community.

In the following discussion about other common social stratifiers linked to health inequity, it must be recognized that to be among the urban poor is an overriding vulnerability in itself that is often compounded by other factors, such as gender, age, migration status and place of habitation.

Source: WHO/Anna Kari

ECON
8

INFRA
9

INEQ
10

CITY
11

CLIMT
13

PEACE
16

SUBSECTION

Reduce health inequity for sustainable development

AG





Source: WHO/Anna Kari

GENDER-BASED HEALTH DISADVANTAGES

Women and girls are among the most vulnerable members of society, for both biological and social reasons. Some gender-based differences in health outcomes (e.g. breast cancer incidence) are strongly determined biologically. However, several kinds of gender-based health inequalities are strongly influenced by social factors.

A study of urban poor communities living in informal settlements in Nairobi, Kenya, found that almost three quarters of adult deaths in 2003–2012 were attributable to HIV/AIDS, TB, injuries and cardiovascular disease (CVD), but there were clear differences by gender. There were twice as many deaths due to HIV/AIDS among women than among men, and CVD deaths were also higher among women (35). Many of the known determinants of HIV/AIDS and CVD are modifiable, some more easily than others are. Unfair access to resources, such as education, formal employment, money, health care and preventive measures, as well as unfair distribution of power between genders, can contribute to the relative vulnerability of women.

By contrast, injury deaths were four times more likely among men than women in the Nairobi study. While women in slums are generally at greater risk of physical and sexual violence, men are more likely to be involved in armed conflicts and gang-related violence leading to death. The poor infrastructure and weak law enforcement in informal settlements contribute to higher levels of homicides and violence.

Given the effects of gender on health risks and outcomes, gender-based approaches to address health inequity can produce benefits in all contexts. An example is the Self Employed Women's Association (SEWA) in Ahmadabad, India, a women's organization with more than 1.8 million national and international members. Since the overwhelming majority of these women are poor and self-employed in the informal sector, the main objective of SEWA is to help them develop their social and economic empowerment.

SEWA members realized that their earning capacity depended on their health and the health of their family. Affordable health insurance, health awareness, immunization and training of midwives have been part of the strategy to improve their health status. Trained members provide all of these basic health-care services at families' doorsteps. These activities have contributed to substantial declines in incidence of illness and reductions in monthly health expenditures. SEWA illustrates how even some of the most disadvantaged women in society can be empowered to overcome their challenges and produce positive health outcomes for themselves and their families, and reduce health inequities.

IND

KEN

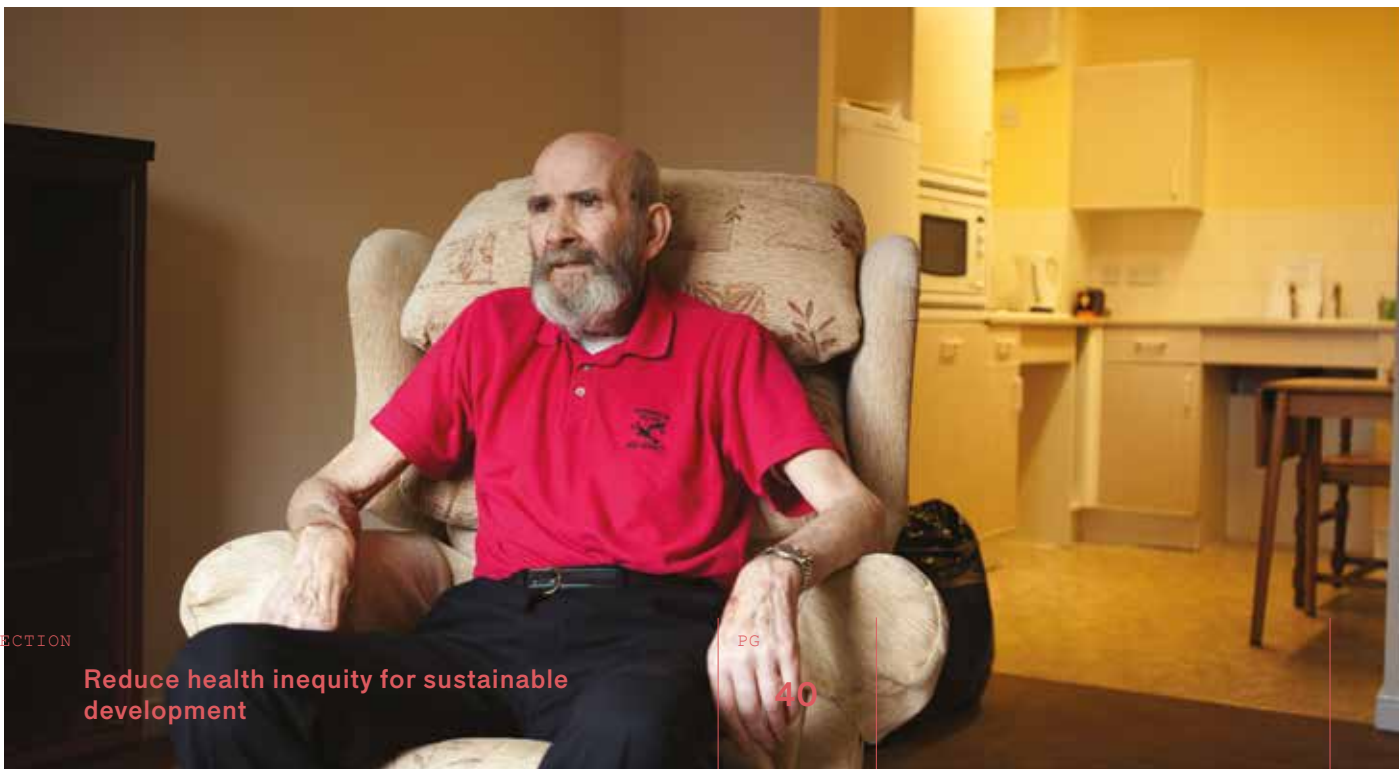
OLDER AGE: A VULNERABILITY IN CITIES THAT FAIL TO PLAN FOR DEMOGRAPHIC CHANGE

Attention to the vulnerabilities of different age groups is essential to ensure health for all people throughout the life course. Global health initiatives have historically had a strong focus on maternal and child health, while the needs of older adults have received relatively less attention. There is growing global concern about the welfare of older adults, especially in cities. Population ageing is considered one of the two global demographic transitions of the 21st century, alongside urbanization. It affects the more developed regions of the world first, where fertility is lower and life expectancy is longer, but a rapid increase in the older population is expected in less developed countries in coming years. In developed countries, population ageing typically begins in rural areas due to the drain of young people who leave for the city in pursuit of better opportunities though now it is affecting many urban areas in high-income countries and increasingly in LMICs.

Cities are generally designed with a relatively young, healthy and actively working population in mind. In these settings, older age can easily become a vulnerability factor. For example, Japan's "new towns" were projects of the 1960s and 1970s in suburban areas that accommodated a massive influx of people into metropolitan areas. The people who moved to these new town settlements during their working years are now 65 years or older, and constitute the majority of residents in many such places. The new towns were designed for the convenience of private automobiles, which makes it extremely difficult today to provide efficient access to public services for older people, especially once they are no longer able to drive (36).

Careful planning can prospectively address these vulnerabilities. Beyond improving physical accessibility to essential urban services and facilities, it is important to create urban communities that are inclusive of older people as well as people of other generations. Such an approach is embodied in the WHO Global Network of Age-friendly Cities and Communities, discussed later in this report. It is not only important to ensure that older people as a whole are included in society, but also to pay attention to any possible subgroups of older people that may be disadvantaged or even marginalized. A pioneering initiative in Japan called the Japan Gerontological Evalua-

Source: WHO/Anna Kari



tion Study (JAGES) has been collecting longitudinal data on over 100 000 older people residing in 30 municipalities across the country to examine health inequalities at the local government level and at a small area (e.g. ward, school district) level. This research, while not exclusively focused on urban areas, has generated valuable evidence of socially modifiable differences in health determinants, risks and outcomes among older people (37). It has also identified a number of effective and equitable community-based prevention interventions that local governments can implement to increase opportunities for older people to maintain their functions and enjoy a good quality of life (38).

PLACES WHERE PEOPLE LIVE WITHIN CITIES CLOSELY TIED TO OPPORTUNITIES FOR GOOD HEALTH

The places where people live within cities can create inequities when the social benefits of urbanization are not widely extended. The location of health-care facilities, for example, may favour areas where private or employee-funded insurance cover most people rather than those where people are uninsured or relying on public programmes. As cities grow outward, outlying neighbourhoods – the peripheries of urban expansion – are particularly vulnerable, especially in cases where there is unplanned growth of informal settlements.

People can be vulnerable even at the metropolitan core; for example, in the USA, the urban core has a higher poverty rate than in the suburbs. The heavy urban core population losses of the 1960s through the 1980s are generally no longer occurring. Yet, between 2000 and 2010, more than 80% of the population growth in the urban cores was below the poverty line (39).

Place-based inequalities arise from a combination of factors. Population redistribution – for example, rural–urban migration – can shift and sort the population with regard to advantage and disadvantage. Inequalities are also often linked to political, class or ethnic divisions, and cause some groups to be socially excluded and deprived. In many urban areas, those at most risk remain invisible, subject to heightened risk from diseases and with the least access to health care and healthy living conditions. Even when they do have access to the things they need, such as schools, health care and food, they may be of poor quality. Coupled with these challenges often comes a sense of distrust of government and experiences of discrimination and marginalization, that is, a breakdown of social capital. Policies can surely play a role. This may result from the absence of appropriate policy in the face of demographic and health trends as well as explicit policies that have unintended deleterious consequences, or policies that are perhaps invoked to favour one group or condition over another.

Policies to formalize residential areas, or not, can have grave impacts. Since 2008, researchers in Burkina Faso have been following the status of 80 000 individuals living in five neighbourhoods in the capital of Ouagadougou through the Urban Health and Demographic Surveillance System (HDSS) observatory (40). Longitudinal data are collected and compared between the residents of three informal areas devoid of formal planning zones located on the periphery of the city and the residents of two formal neighbourhoods located nearby.

People living in informal areas tend to be younger, poorer, less educated, further from public services and more often migrants. Despite their disadvantages, the residents of informal areas go to health centres when their children are sick as often

PVRTY
1

as those who live in formal areas. Still, infant mortality is almost twice as high in the informal settlements, compared to the formal ones, and the risk of child morbidity is also much higher due to deprived living conditions. In addition, older adult residents of informal settlements are less likely to seek health care when they are sick compared to their counterparts living in the formal neighbourhoods. However, they appear to have the advantage of being less affected by chronic conditions and road traffic injuries.

HLTH
3

These particular patterns may partly be due to selective in or out migration, but they also reflect the health impacts of the physical and social conditions of places where people live, and the broader impacts of unplanned urban growth.

EDUC
4

Understanding the potential impact of location on facilitating or interrupting the intergenerational transmission of health inequities is also important. For example, according to a study of more than 5 million families who moved across counties in the USA (41), every extra year a child spends in a better environment (as measured by the outcomes of children already living in that area) improves the outcomes with lasting effects into adulthood. Equal and opposite exposure effects have been found for children whose families moved to worse areas, with some gender differences. When a family with a boy and a girl moves to an area with a high crime rate, the boy's outcomes worsen in proportion to the number of years he grows up there, but the girl's outcomes change much less. Boys have especially poor outcomes in highly segregated areas.

GNDR
5

The high housing prices that families often must pay to achieve better outcomes for their children may partially explain the persistence of poverty in large cities in the USA. One approach to addressing this problem is to provide subsidized housing vouchers that enable families to move to better neighbourhoods. Related research (42) showed that the Moving to Opportunity experiment, which randomly assigns families to receive subsidized housing vouchers to move to low-poverty areas, significantly improved long-term outcomes for children who moved at young ages, providing direct support for such policies.

ECON
8

There is also increasing evidence that place-based interventions – multicomponent approaches that often combine environmental, social and policy changes – may be effective in ameliorating spatial or place-based inequities. See Section 2 for examples of cities planned for people.

INEQ
10

CITY
11

BARRIERS TO GOOD HEALTH LIMITING MIGRANTS' POTENTIAL CONTRIBUTION TO CITIES' PROGRESS

In some cities, former migrants have established themselves as long-time members of a multicultural society. In others, a steady flow of new migrants continue to flow in, either internally or internationally. In all cases, to varying extents, the migration of sizable numbers of people with diverse backgrounds challenges the equitable provision of health care and other services in cities that may already be stretched.

CLIMT
13

In general, most people moving from rural areas to cities do so for economic reasons in search of a better life for themselves and their families, to find employment, education and all the services and benefits that they perceive cities have to offer. Others migrate to escape poverty or intolerable hardships that include natural disasters, wars, civil strife or political oppression. For them, cities offer a place of safety, as well as economic opportunities.

PEACE
16

PARTN
17

SUBSECTION

Reduce health inequity for sustainable development

PG

42



Figure 6.
Dot map showing
the concentration of
immigrants in New York
City by place of origin

Source: Walker 2015 (46)

Migrants also differ by where they came from, what their lives were like before they migrated and the situations into which they move. These differences lead to different levels of advantage and disadvantage, exposures to health risks and access to health services that should respond to their needs. Migration and mobility are determinants of the health of migrants as well as of non-migrants, both at places of origin and destination (43).

In many situations, migrants are more likely to be exposed to poor living and working conditions because they have no other viable option, they are more willing to accept such conditions or are unaware of their rights or options. In the case of migrant girls, for example, their gender further compounds their vulnerability. In some countries, social barriers keep migrant girls from affordable, quality health services. They are more likely to be out of school and socially isolated, increasing their sexual and reproductive health risks, compared to their non-migrant peers (44). Researchers in China have iden-



PRTY
1

HLTH
3

GNDR
5

ECON
8

INEQ
10

CITY
11

PEACE
16

PARTN
17

SUBSECTION

Reduce health inequity for sustainable development

PG

44

Source: WHO/Anna Kar

tified insufficient antenatal care as contributing to the much higher rates of stillbirths among young migrant women than among non-migrants in urban areas (45). Survey data revealed a similar problem in India, where 15–19-year-old migrant girls in both rural and urban areas were less likely to deliver in a medical institution than non-migrants of the same age (44).

Elsewhere, there is evidence that migrant girls face considerable risks of abuse in exploitative work. Migrant adolescent girls may have difficulty responding to violence because of similar types of barriers that prevent them from accessing health services. For instance, harassment was a constant risk for Haitian girls working in domestic labour in a Dominican border town. The girls did not seek institutional protection when they experienced gender-based violence; instead, they went to members of their social networks. They explained that they were unaware of their rights and did not know where to go for safety (44).

Despite their struggles, migrants add to the richness of urban societies and contribute to their progress. Studies in the USA have shown that, in general, migrants have higher rates of upward economic mobility, independent of where they live. Thus, New York City, which has a very large share of immigrants (Figure 6), exhibits unusually high rates of upward mobility (41). Socioeconomic advancements can lead to better health opportunities for both the individual migrant and their families, and can also help create positive neighbourhood effects on health.

The IOM *World migration report 2015: migrants and cities, new partnerships to manage* mobility comprehensively addresses how migration and migrants are shaping cities and, in turn, how the life of migrants is shaped by cities (47). Understanding the drivers behind migration and ways to improve migrant health and welfare is critical to improving quality of life in cities.

The examples listed here by no means cover the full range of health inequities that occur in all urban societies. There are many other factors that may intertwine to cause certain people or places to suffer needlessly from poor opportunities for health. These include, for example, race and ethnicity, social class, and geography (48). The strength of these factors varies by context.

Targeted interventions towards well-defined groups that face unfair disadvantages in achieving good health have merit. They must, however, take into consideration the full range of possible sources of vulnerability rather than focusing on a single factor and be aware of the risk of creating or perpetuating stigmatization. Targeted interventions are often perceived as being more practical, but cities should strive towards comprehensive population approaches to redress health inequities. Approaches to improve urban health equity must fundamentally address the structural roots of poverty and the broader social and environmental determinants of health.

GROWING DEMAND FOR AN URBAN DATA REVOLUTION

The increasing global ambition to reach the most marginalized people and eradicate extreme poverty means that more information for the disadvantaged groups is needed. Now that equity clearly features on the new global agenda for both health and development, there will be a greater demand than ever for accountability. City and local governments are not exempt, as urban residents comprise the majority of global citizens and, as such,

IND

USA

PVRTY
1

equity in urban areas has strong implications for equity at the global and national levels. This emphasizes the need for better urban data – especially at the local level. While national and international initiatives often have the impulse to standardize, compare and scale up, local information is extremely important when trying to determine how to deal with local problems in local ways. The expected new indicators for SDG Targets, notably for SDG11 and 3, will require such data.

HNGR
2

HLTH
3

Despite the best efforts of international agencies, government officials and researchers using the latest technologies and tools, there are still enormous data gaps worldwide. Knowing how many people are born or have died, and from which causes, is vital information about a population, and yet many countries do not have a well-functioning health information system. Even when they do exist, data about entire groups of people, often those most deprived, are missing. This is the highest form of inequity, and one of the most profound forms of exclusion that is as true for cities as it is for countries.

GNDR
5

The absence or shortage of urban health data, and the lack of capacity to produce and use data, are a major handicap in advancing science, developing policies and monitoring and evaluating programmes to address urban health equity.

Many city, national and international organizations are calling for an urban data revolution that informs local action and draws on the knowledge and capacity of the urban poor as collectors and users of information.

In 2015, the United Nations Secretary-General Independent Expert Advisory Group on a Data Revolution for Sustainable Development produced the report *A world that counts: mobilising the data revolution for sustainable development* (49). It highlights the challenge of invisibility and inequality in the current state of data and urges governments and the United Nations to take advantage of an unprecedented opportunity to close key gaps in coverage, access and use of data in working towards sustainable development.

INFRA
9

Some political leaders may prefer to leave the masses nameless, however, counting everyone is a step in the acknowledgement of human worth. The many who have been toiling with this issue for years have laid the groundwork.

INEQ
10

Semi-structured interviews conducted with over 100 policy-makers, data producers and data consumers in Ethiopia, Ghana, Senegal and Uganda led to one conclusion, that the demand for data is indeed increasing (50). The drivers of this demand include international influences such as requirements for monitoring progress towards targets and results-based budgeting. At the same time, internal demand is viewed as essential to sustain better quality data, access and use. Such internal demands for data have been catalysed by moves towards decentralization and democratization. If central governments lack useful data at the subnational level, then they are prone to making decisions without taking into account the real needs at lower levels. Without access to good disaggregated data, the larger goals for health, as well as democratization and decentralization are unlikely to be met.

CITY
11

This report advocates strongly for greater investment by cities in comprehensive data gathering. Enhancing the availability and quality of data, including technological improvements for geocoding and analysis as well as developing the capacity to use the data *at the local level*, are key requirements for improving urban health outcomes and equity. Data can be a resource for innovation that will power sustainable development. It can also provide governments with the tools to provide better service for more people with less money, especially if they can demonstrate the health benefits resulting from action in different sectors or the co-benefits generated from coordinated action across multiple sectors.

CNSUM
12

BIODV
15

This report advocates strongly for greater investment by cities in comprehensive data gathering. Enhancing the availability and quality of data, including technological improvements for geocoding and analysis as well as developing the capacity to use the data *at the local level*, are key requirements for improving urban health outcomes and equity. Data can be a resource for innovation that will power sustainable development. It can also provide governments with the tools to provide better service for more people with less money, especially if they can demonstrate the health benefits resulting from action in different sectors or the co-benefits generated from coordinated action across multiple sectors.

PARTN
17

SUBSECTION

Reduce health inequity for sustainable development

PG

Box 3.	Observatories for urban health
<p>To help fill the void of urban health data, the WHO Centre for Health Development created a dedicated site on the WHO Global Health Observatory (21) to share comparable global data on urban health. It includes statistics by region and by country on specific health determinants, service coverage, risk factors and outcomes and disaggregated by sociodemographic variables such as wealth and gender.</p> <p>To further promote the collection and use of local data, WHO has also developed a tool to support the development of public health</p>	<p>observatories at the local level (51). Urban health observatories, as seen in Latin America, the United Kingdom and elsewhere, have been successful at generating relevant, accurate, timely and accessible data, free of political interferences, and used to inform urban health and development policies. The attention to socially determined health inequalities is a common feature of the observatories, which necessitates an intersectoral and community-inclusive approach in both generating and applying the data.</p>

ETH

GBR

GHA

IND

KEN

NGA

SEN

UGA

Several research initiatives and institutions have already set good examples of how to improve data production and analytical capacities to inform urban health and development policies, even in low-resource settings. As mentioned in the introduction to this report, the WHO Urban Health Equity Assessment and Response Tool (Urban HEART) has been used in over 100 cities in 53 countries, mostly LMICs, since its introduction in 2010. The tool has enabled national and local governments to gather evidence of urban health inequalities, or identify the absence of such data, and devise actions to address those problems. UN-Habitat’s Urban Data provide free and open access to urban data for countries and cities around the world. A few other examples of international initiatives or institutions in LMICs that generate urban-level data include the Urban Reproductive Health Initiative in India, Kenya, Nigeria and Senegal (52); the Urban Health and Demographic Surveillance Sites managed by the International Network for the Demographic Evaluation of Populations and Their Health (INDEPTH) (53), a global network spanning Africa, Asia and Oceania; the African Population and Health Research Centre (APHRC) (54); and the African Food Security Urban Network (55).

A number of new funding initiatives have been established in recognition of the critical need to address the data issue both nationally and locally. WHO and the World Bank, with input from several agencies and countries, have developed a Global Civil Registration and Vital Statistics Scaling Up Investment Plan (56) with the goal of universal civil registration by 2030. Bloomberg Philanthropies, in partnership with the Australian government, launched Data for Health (57), a US\$ 100 million initiative that will enable 20 LMICs to vastly improve public health data collection and its use. Bloomberg Philanthropies will spend an additional US\$ 42 million for a new What Works Cities Initiative (58), which is specifically aimed at 100 mid-size cities with be-



tween 100 000 and 1 million residents, to make better use of data and evidence in their policy-making.

Whether sampling or census is employed, most investigators would recognize the difficulty of counting everyone. A major group of researchers, policy-makers and public health workers, however, have noted the psychological and social importance of counting everyone (59, 60). A first step towards amelioration of social ills, poor health and health inequality is making it clear that everyone matters, everyone counts and nations should, therefore, count everyone.

In the meantime, a number of work-arounds exist to use the data that are available (61, 62). These include population censuses, sample registration systems and international surveys. Adjunct methods such as verbal autopsy, modelling based on available data and attempts to “triangulate” based on different data sources have been invoked as well in order to furnish estimates of vital events. Taken together, such methods provide a demographic and health picture that serves many of the needs of planners. However, none fulfils the fundamental mission of accounting for everyone. Cities will remain hidden until we learn who is there and how they live their lives.

A community health worker conducting a survey in the Korail slum, Bangladesh

Source: A community health worker conducting a survey in the Korail slum, Bangladesh by Lucy Milmo/DFID is licensed under CC BY 2.0, <https://creativecommons.org/licenses/by/2.0/legalcode>

WORKING ACROSS SECTORS AND ENGAGING THE COMMUNITY FOR HEALTH EQUITY

Equally important regarding urban health equity is the need to work across different sectors to address the broader determinants of health, and to have an inclusive approach that engages the local community (63). Urban health inequities arise as the result of decisions and policies across sectors that determine the distribution of power and resources.

Such decisions are influenced by national and global forces, but local governments are uniquely placed to take action on health inequities at the city level as they have policy control over many of the determinants of health (e.g. transport; land use policy).

Tackling health inequities requires governments to consider the influence on health outcomes of policies and decisions made beyond the health sector, and to work collaboratively across organizational siloes to address the inequitable distribution of the determinants of health. Relying on health sector responses and giving inadequate attention to the risks posed by the environment and wider cross-sectoral policies that affect them places heavy burdens on poor households in particular. The benefits of this collaboration are not just reaped by the health sector, but action across sectors can have multiple co-benefits for those involved. For example, improving nutrition outcomes positively influences not only health, but also educational attainment, employment and productivity.

It is also important for local governments to be reminded that people in cities are not merely passive consumers of information and services, they are also the creators of city life. Local governments need greater competence and willingness to work with the people in their communities, including those typically excluded or marginalized. By doing so, they can gain the granular information they need in order to make real improvements in health equity. Moreover, they can break down barriers of mistrust and empower the people to engage with governments in collective action towards common goals, thus building social capital. The active involvement of affected communities can add force to government sector interventions. It also engenders broad local ownership of key issues and initiatives, which help to ensure the social sustainability of relevant policies and programmes, even under changing political environments.

SUMMARY

Health inequities – the systematic, socially modifiable and unfair differences in health – still persist within urban areas, despite some progress since the first review of the situation in the 2010 global report on urban health. New evidence shows that health inequities affect both high- and low-income countries alike and, in some cases, health outcomes are even worse in urban areas than in rural areas.

Social, demographic, economic and geographic factors interact to create complex vulnerabilities in urban settings that affect health risk exposure, health behaviours, access to health care and health outcomes. It is essential to reduce such vulnerabilities and inequities in health as a matter of justice as well as to ensure the future sustainability of cities.

Actions to address urban health equity must fundamentally address the structural causes of poverty and the broader social and environmental determinants of health found in the daily conditions in which people live, work, learn and play. These actions need to be informed and guided by better urban-level data, which counts everyone and thus reveals detailed patterns of variance in health in cities. In addition, these must be a whole-of-society effort, where different sectors of government and society act in unison to tackle health inequity, with the engagement of the affected communities as a key principle. Concrete examples of how some of these actions are implemented at the local level illustrate the feasibility of action and its potential impact on creating fairer and more sustainable urban societies from a health perspective.

CHAPTER 2 — ADVANCE UNIVERSAL HEALTH COVERAGE IN CITIES

KEY MESSAGE • Greater attention to the health needs of the urban poor is essential to move towards universal health coverage.

Currently, at least 400 million women, men and children around the world are excluded from what is a basic human right: access to affordable health care (64). They either have little access or no access to health services and have inadequate health insurance or none at all. UHC is a major step towards reducing inequity in access to health care. Simply stated, the goal of UHC is to ensure that all people and communities obtain the quality health services they need without financial hardship.

Most of the excluded are living in low-income countries and large numbers are trapped in urban poverty. Greater attention to their health is essential to achieving real progress on UHC. The challenges for health systems are huge, faced as they are with the double burden among urban populations of infectious diseases and, increasingly, the spread of chronic NCDs in cities.

While the challenges are daunting, there are reasons for optimism going forward. The global movement towards UHC is a major opportunity. National and local governments, civil society, academia and international organizations have started working together to adapt solutions from successful countries. This has led to a global conviction on the prime importance of UHC in improving equity.

UHC is also a critical component of the SDGs, which include a specific health goal: Ensure healthy lives and promote well-being for all at all ages. Within this health goal, a specific target for UHC is proposed:

Achieve UHC, including financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all (1).

In this context, the opportunity exists to unite global health and the fight against poverty through action that focuses on clear goals. The questions this chapter attempts to answer are how UHC can be adapted to different contexts to improve equity and ensure affordable and accessible high-quality health care for all and what is the role of cities in doing so.

Cambodia: Improving hospitals and healthcare helps save lives

Source: Cambodia: Improving hospitals and healthcare helps save lives by Chhor Sokunthea / World Bank is licensed under CC BY 2.0, <https://creativecommons.org/licenses/by/2.0/legalcode>





Mother comforts baby

Source: Mother comforts baby by Dominic Chavez/World Bank is licensed under CC BY 2.0, <https://creativecommons.org/licenses/by/2.0/legalcode>

THE HALLMARK OF URBAN COMMITMENT

KHM

The focus on UHC as part of the SDG agenda has much to offer. First, it provides a platform for an integrated approach within the health sector. Second, the SDGs and UHC are intrinsically about improving equity. Using UHC as a common monitoring platform ensures a continuous focus on health equity. Third, the health goal is closely linked to many of the other social, economic and environmental SDGs.

UHC has a direct impact on a population's health, enabling people to be more productive and active contributors to their families and communities, which is also an economic bonus for the cities they live in. It also ensures that children can go to school and learn. At the same time, financial risk protection prevents people from being pushed into poverty when they have to pay for health services out of their own pockets. UHC is thus a critical component of sustainable development and poverty reduction, and a key element of any effort to reduce social inequities.

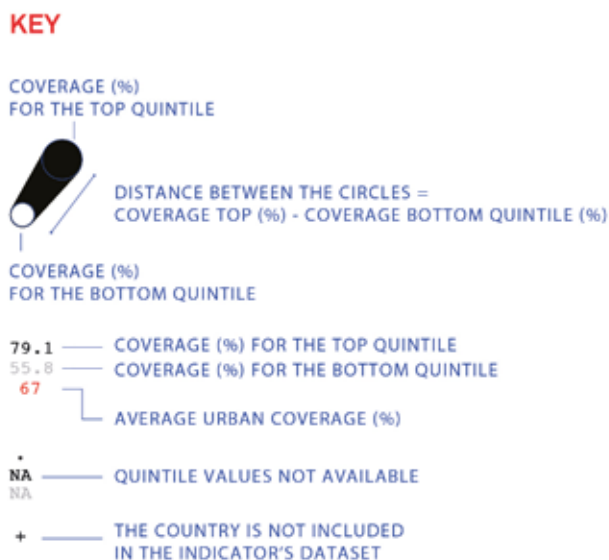
For UHC to be achievable it is important that a strong, efficient, well-run health system exists that meets priority health needs. In addition, the challenges in achieving UHC require recognition of the critical role played by all sectors in assuring human health, including transport, education and urban planning, among others (65).

One of the aims of this report is to show city leaders what they can do to make UHC a reality. Perhaps one of the biggest difficulties for cities in terms of progress on UHC is the growth and heterogeneity of urban populations, their different social, cultural and economic circumstances and backgrounds, and specific subpopulations that are disadvantaged. In some cities, many people are located in slums or informal settlements that city administrations often do not count. Many live in dire circumstances that exclude them from the urban development around them. They often represent the invisible or hard-to-reach populations within a city, who need to be reached most urgently.

UNIVERSAL HEALTH COVERAGE DASHBOARD FOR URBAN SETTINGS IN COUNTRIES

The Universal Health Coverage Dashboard illustrates urban inequalities in coverage for nine tracer indicators of UHC. Most of these are included in the WHO/World Bank list of illustrative measures of essential services.

The cone shadow model highlights the differences in coverage for the wealthiest and poorest population quintiles living in urban areas, by country. The values for these two sub populations are represented by a black circle and a white circle. Precise values are also given in the text beneath each cone. Inequality is represented by a shadow cast between the two, where the length of the shadow indicates the difference between the two values. Longer shadows indicate greater inequality.



Antenatal care

Skilled birth attendance

HIV Knowledge (men)

HIV Knowledge (women)

DPT3 coverage

Measles coverage

ITN bednets coverage

Improved water

Piped water

Figure 7. Universal Health Coverage Dashboard for Urban Settings in Countries



Note: ITN, insecticide treated mosquito net
Source: Global Health Observatory 2015 (21).

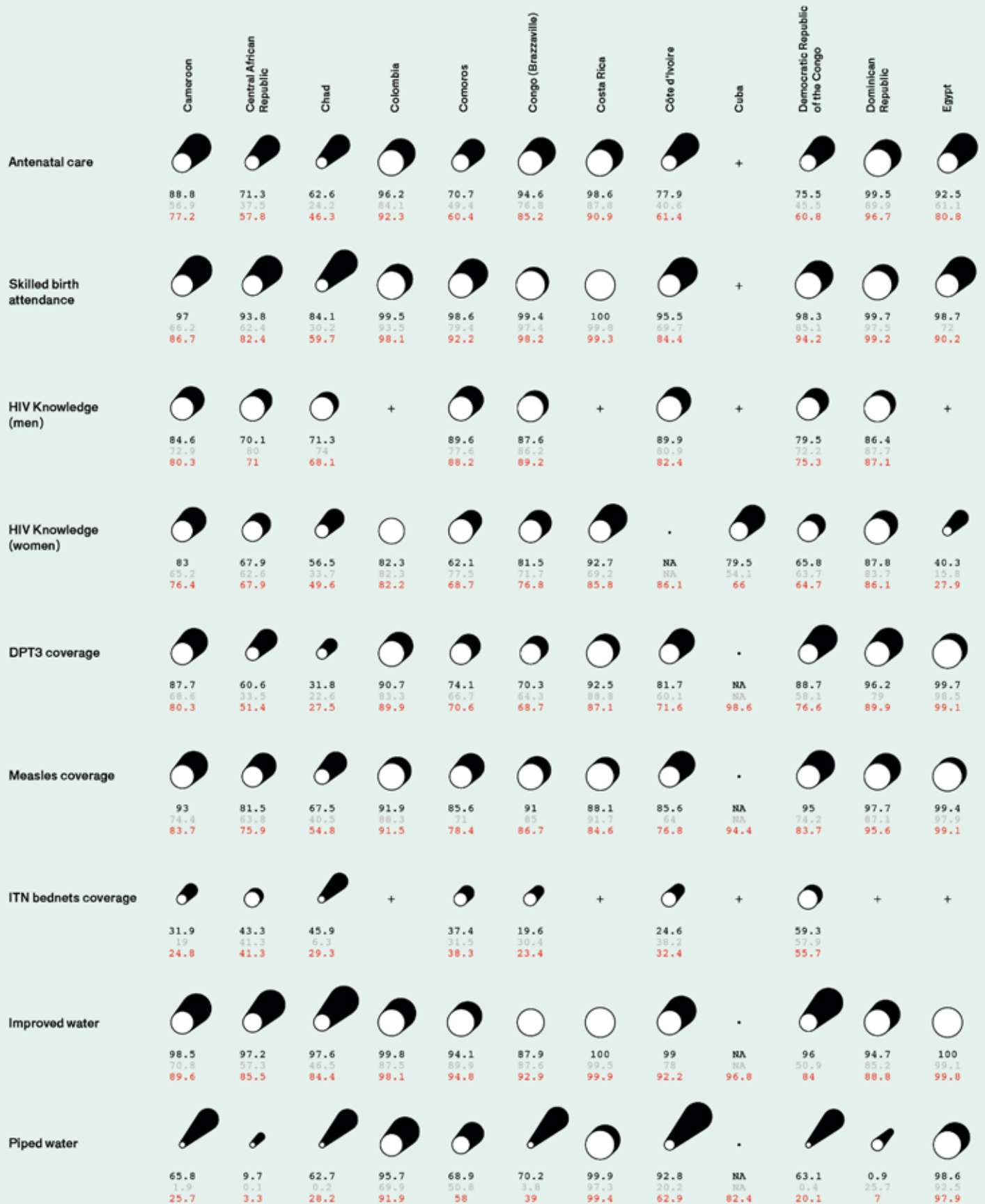
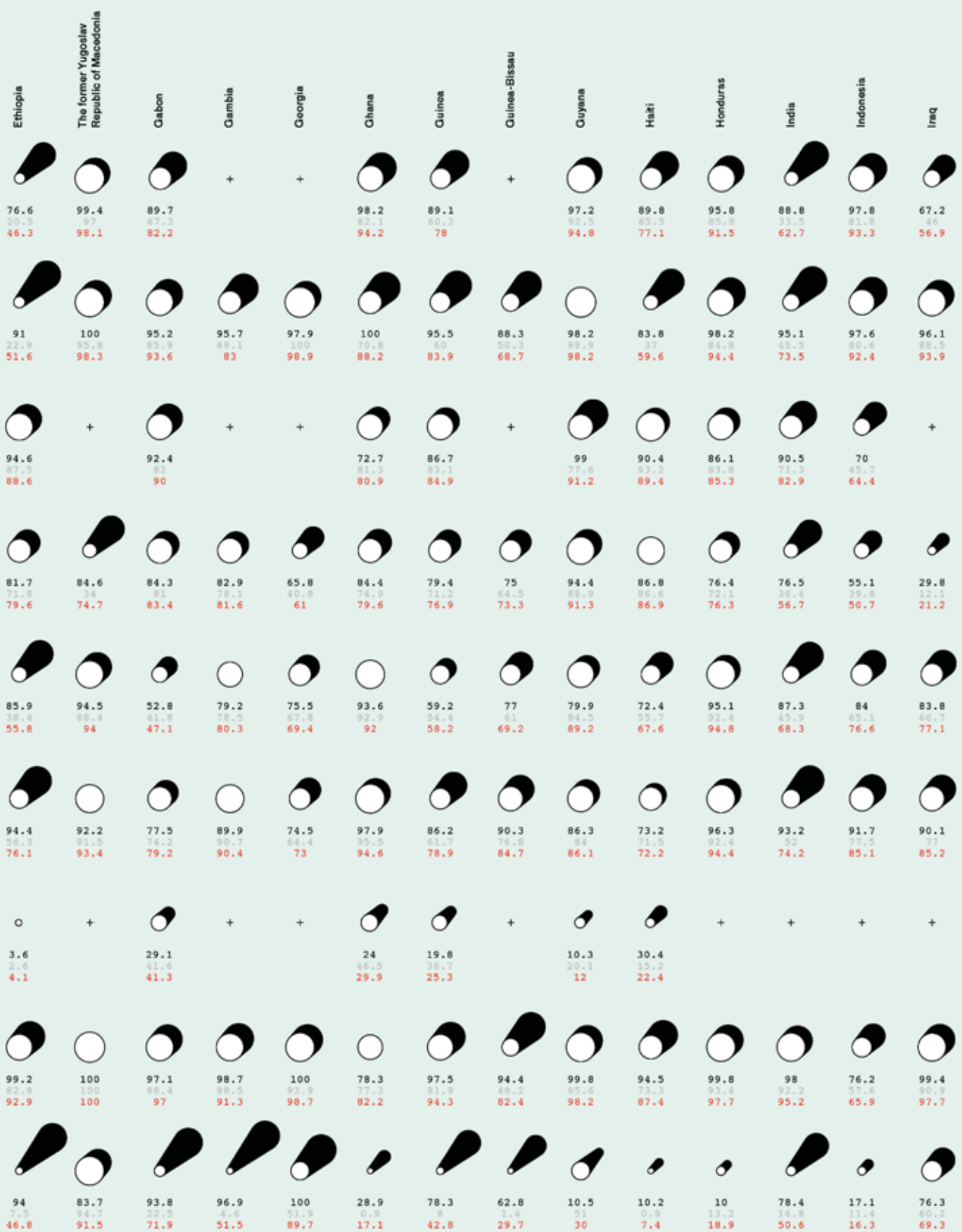


Figure 7. Universal Health Coverage Dashboard for Urban Settings in Countries



Note: ITN, insecticide treated mosquito net
 Source: Global Health Observatory 2015 (21).

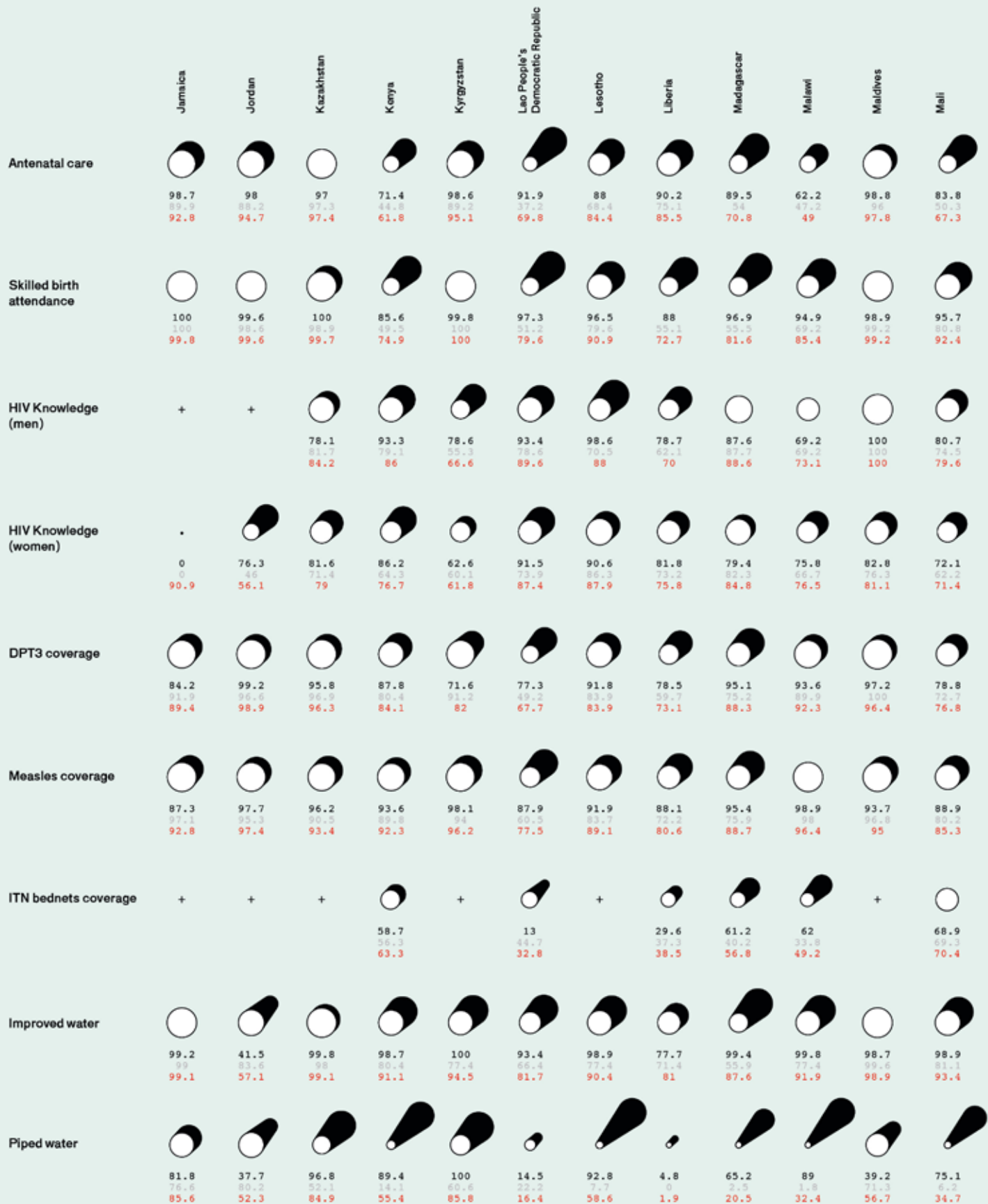
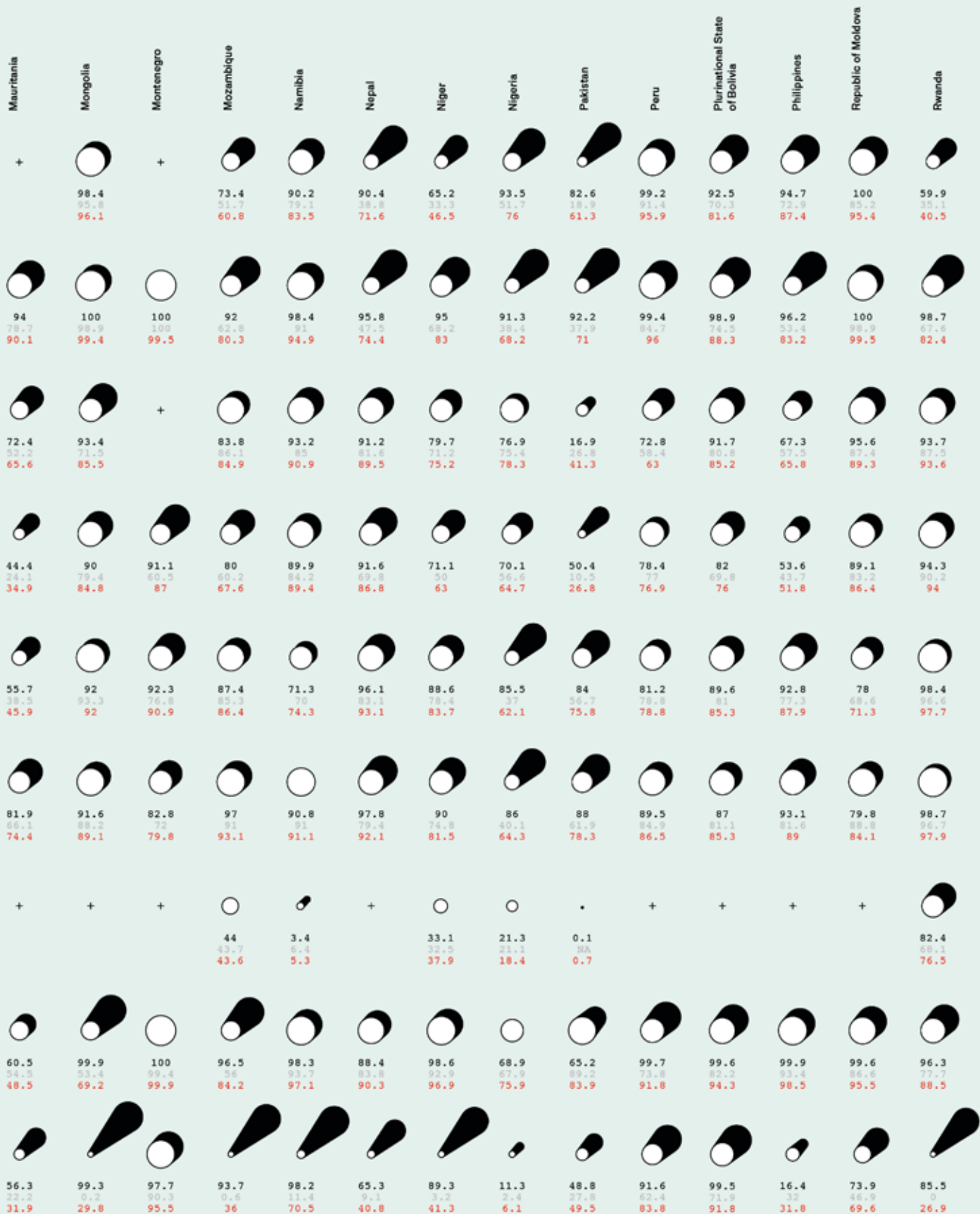


Figure 7. Universal Health Coverage Dashboard for Urban Settings in Countries



Note: ITN, insecticide treated mosquito net
Source: Global Health Observatory 2015 (21).

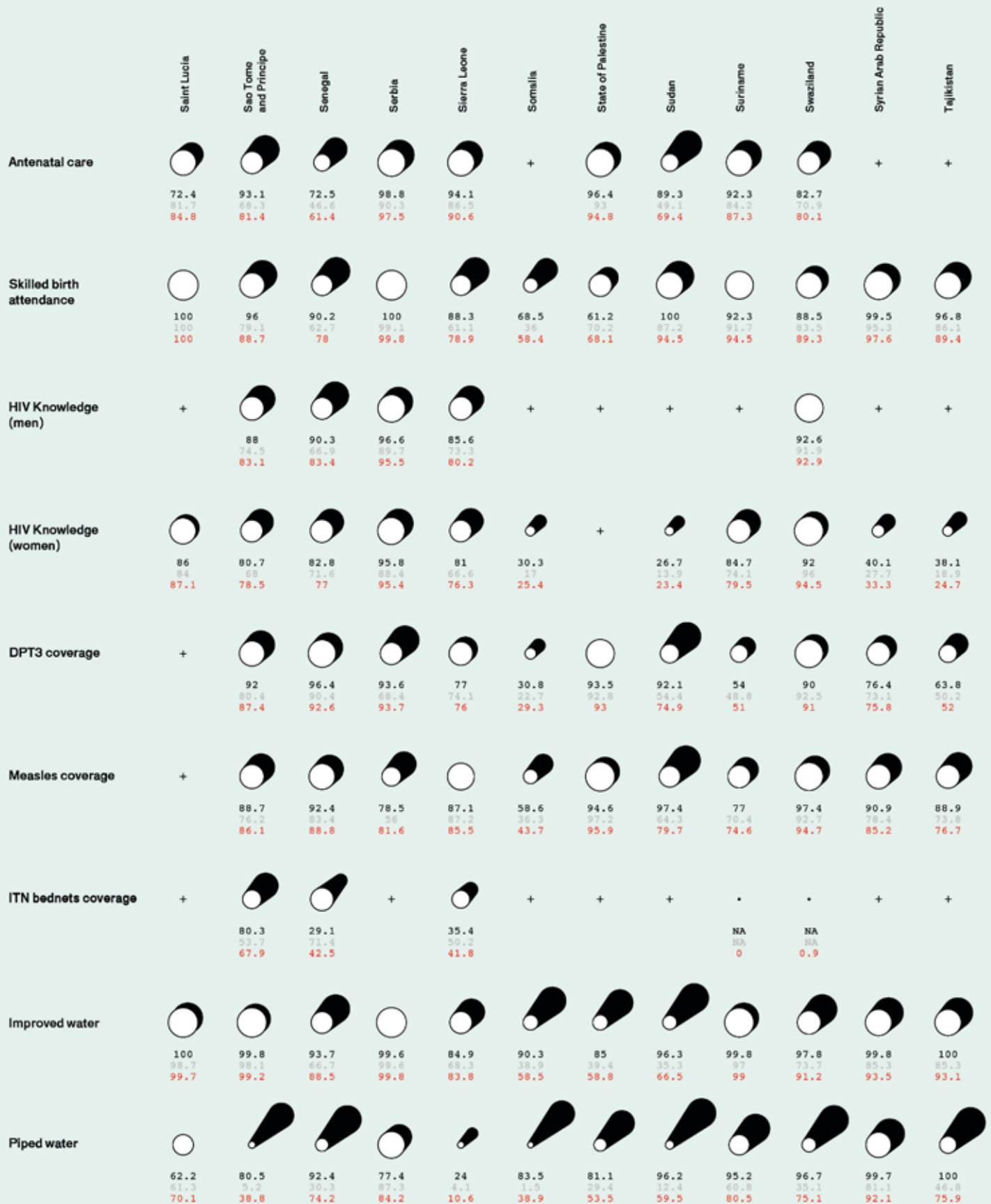


Figure 7. Universal Health Coverage Dashboard for Urban Settings in Countries



Note: ITN, insecticide treated mosquito net
Source: Global Health Observatory 2015 (21).

While the dashboard provides an opportunity to highlight a wide variety of messages, the following are some of the key findings that are most relevant to this chapter.

→ Median population coverage for some services such as access to an improved water source (93%) and skilled birth attendance (91%) are high in urban areas, globally. Using a threshold of 80% for defining UHC, most people in urban areas have access to these services. However, inequalities in skilled birth attendance are still high in some countries such as Bangladesh, Ethiopia and Timor-Leste, and services would need to be expanded, especially to meet the needs of the worse-off populations.

→ Globally, median access to piped water (51%) in households is still quite low. Relative inequalities in access to piped water are particularly high. Households in the richest quintile are 2.7 times more likely to have access to piped water compared to the poorest 20% households. In Africa, this rate ratio is closer to 17.

→ For seven of the 10 indicators, African countries have the lowest coverage. Asia-Pacific countries have the lowest coverage for having correct knowledge of HIV/AIDS, while LAC countries have the lowest bednet coverage. Coverage is particularly low for contraceptive prevalence (37%) and for access to piped water in households (42%) in Africa. For nine of the 10 indicators, LAC and eastern European countries have the highest coverage. The exception is bednet coverage where Asia-Pacific countries have the highest coverage, though data for this indicator were only collected in malaria-endemic countries.

→ Some countries have particularly low coverage rates (fewer than two in five people are covered) for certain indicators. For example, fewer than one in five women in Benin, Chad, Guinea and Togo reported contraceptive use. In nine countries – Afghanistan, Iraq, Mauritania, Pakistan, Somalia, Sudan, Syrian Arab Republic, Tajikistan and Yemen – fewer than two in five women had correct knowledge of HIV/AIDS. In Afghanistan, Chad and Somalia, fewer than two in five children received DPT 3 immunization.

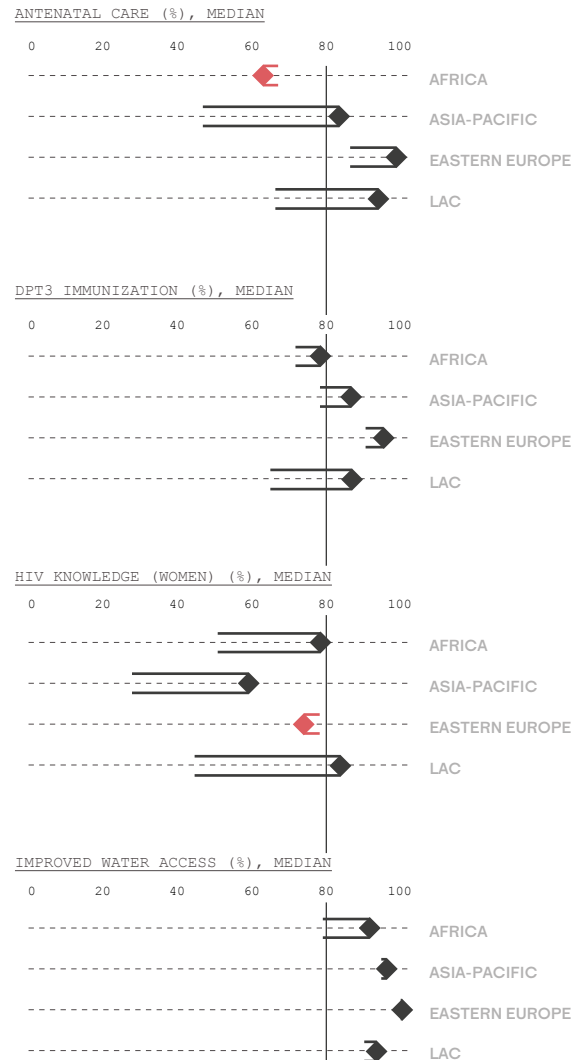
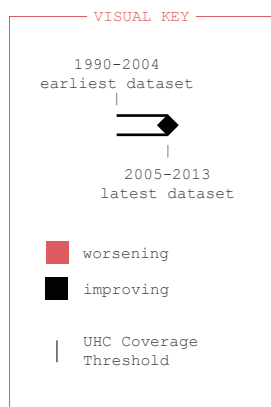


Figure 8.
Trends in service coverage, by region across two time periods

Source: Global Health Observatory 2015 (21).



Trends in coverage for five of the 10 indicators across four regions are shown in Figure 8. The earliest available dataset from 1990 to 2004 and the latest dataset from 2005 to 2013 are included for urban areas in each country. Only those countries with at least one dataset in each time period were included. This resulted in reducing the number of countries for which trend analysis could be done to 50. The 80% threshold identified by WHO/World Bank to determine universal coverage was used (66).

Figure 8 shows that the most rapid increase in coverage was for correct knowledge of HIV/AIDS among women, except in eastern Europe where there was a slight fall for the study countries. The largest increase (+45%) was in the Asia-Pacific; yet, median coverage of this indicator remained low at 59%. Access to antenatal care is another indicator for which there were substantial improvements across all regions, except in Africa. In fact, in Africa, there was a drop in median coverage of antenatal care from 65% to 60% between the two time periods.

In all regions, there was universal access to improved water sources for drinking. In three of the four regions, the exception being Africa, universal coverage had already been achieved in the earlier time period. For DPT 3 immunization, three of the four regions achieved universal coverage in urban areas. Each of the four regions witnessed an increase in coverage over the two time periods.

Caution is needed when interpreting the results. It is possible that in many countries, populations that are not officially registered or counted by the city administration have not been included during the data collection process. This often includes people who have recently migrated into cities. For example, in China, rural to urban migrants cannot easily take advantage of *Hukou*, a system of household registration, which entitles them to access essential public services in cities. Thus, it is likely that the urban coverage of services are overestimated.

OVERCOMING BARRIERS TO ACCESS

In order to progress towards UHC it is important to address the barriers to access and identify solutions that have worked in different contexts. Barriers to access take a variety of forms, as noted in the previous discussion on health inequities. One major barrier is the basic lack of quality health services, but there are other obstacles such as distance to the nearest health facility, restricted opening hours at facilities or overcrowded facilities that impose long waiting times. The cost of the health services may also deter use, especially where direct out-of-pocket payment is involved.

Even while facing such major obstacles, cities and communities have worked to develop solutions to improve access to health services. In Lima, Peru, people living in poverty have been excluded from high-quality health care due to health services that were concentrated around a very small number of central hospitals located far from people without insurance or those relying on Seguro Integral de Salud (SIS), the state insurance programme for the poor. Everyday stressors related to living in poverty made it more difficult for the poor to overcome an illness and stay healthy. Additional illnesses, such as HIV or TB, or managing a home as a single parent can make seeking services seem overwhelming. Even if a diagnosis is reached, these factors can make it difficult to follow through with treatment and long-term care.

Recognizing the problem, Socios En Salud (SES) (Partners in Health),

PVRTY
1

a non-profit organization, has developed strong community-based networks of care and health services for TB, HIV, mental health and child development in some of Lima's poorest neighbourhoods. Mutual support groups have led to particularly good outcomes in both multidrug-resistant tuberculosis (MDR-TB) and HIV patients (67). More than 10 500 people with MDR-TB have been treated in slums around Peru at a cost-per-case lower than that of countries such as the USA, and with the highest cure rate in the world of 75%, overturning assumptions that treatment of MDR-TB is too expensive and too complicated to succeed in poor communities (68).

HLTH
3

National governments, too, can play an important role in addressing the issue at the urban level. For example, India's recently launched National Urban Health Mission aims to improve availability and access to essential primary health care services and reduce out-of-pocket expenses for treatment. It will cover close to 800 cities with a population exceeding 50 000, which includes over 220 million people, including 77.5 million who are considered poor (69).

EDUC
4

GNDR
5

However, in a country the size of India, the role of civil society and NGOs will be equally important in alleviating critical health issues in slums and disadvantaged areas of cities. For example, the Asha Community Health and Development Society is an NGO that is working to transform the lives of half a million residents in 60 slums across New Delhi (70). Asha (meaning "hope") has worked to create networks of trained community volunteers who provide basic health care to their fellow slum residents. These volunteers educate them on how to keep healthy and on the importance of utilizing services when needed. Asha's multipronged approach includes emphasizing acting on the social determinants of health. Programmes on education, environment, empowerment and financial inclusion supplement and enhance the opportunities for people in slums to lead healthier lives (71).

WATR
6

In Lagos, Nigeria, recommendations from its first urban inequity study in 2011 by the Lagos State Investment Case for Health stressed the need of having integrated service delivery for hard-to-reach and marginalized populations (72). This led to the implementation of a government-led urban slum initiative, with a strong social protection and equity lens. One of the advantages of localized systems strengthening approaches is the potential to engage the community and local providers in solving coverage and access issues. This initiative also engaged traditional birth attendants as community health links to improve service utilization through systematic referrals. Preliminary results of these localized systems strengthening effort, though unpublished, indicated an increased access to maternal and child health, HIV and sanitation services for slum dwellers.

INEQ
10

CITY
11

Many low-income countries, which are the least urbanized, are experiencing rapid rates of urbanization. This is leading to high growth of population levels in cities that is putting pressure on local resources to deliver basic services, including health. Nepal is one of the fastest urbanizing countries in South-East Asia. Cities in Nepal are not able to keep up with increased demand for health, education, and environmental and housing needs, thus the urban poor face many adversities. With the changing pattern of diseases and population dynamics, the national government endorsed a new National Urban Health Policy that aims to ensure the delivery of quality essential health-care services to the urban population, particularly to the urban poor, women, children and marginalized groups (73). A related initiative involves a community health centre that provides basic health services and an outreach clinic for one of the biggest squatter slum

PARTN
17

settlements in the capital city region. Volunteers and tailoring other services for the slum community lowered access barriers and increased ownership of the clinic by the slum population, leading to increased use of services.

BFA

BTN

REFORMS AND ACCESS

In 2013, close to half of all countries in the world – across all income levels – were engaged in health reforms that aimed to extend, deepen or improve coverage by providing needed health services, financial protection, or both (74). These reforms have led to a sharp increase in the demand for expertise, evidence and measures of progress and have helped the push to make UHC one of the SDGs. UHC is also the motivation for many of the recent adjustments to health systems and health financing systems in LMICs.

ETH

However, those country-level reforms do not always translate into real improvements in access to health services for the people who need them the most. Moreover, a global study of child mortality trends between 1990 and 2009 showed that while many countries made good progress in reducing the mortality rates for children 5 years and under, that heartening momentum masks a troubling fact: those countries have also experienced worsening inequities between their wealthy and poor populations (75). Gender discrimination and low levels of education also remained powerful determinants of inequities. Local governments must take action in addition to or in the absence of efforts at the national level to ensure universal coverage. Policy interventions that have allowed health systems to improve equity include removing financial and social barriers to accessing welfare services, innovations to make supply of critical services more available to the poor and increasing local accountability of the health systems.

IND

KHM

ACHIEVING URBAN EQUITY IN DPT3 VACCINATION

Trends in DPT3 vaccination over the past two decades provide a peek into this reality. Importantly, the national and local governments can act together to achieve high levels of coverage, while maintaining a focus on serving the populations most in need of their services.

NGA

NPL

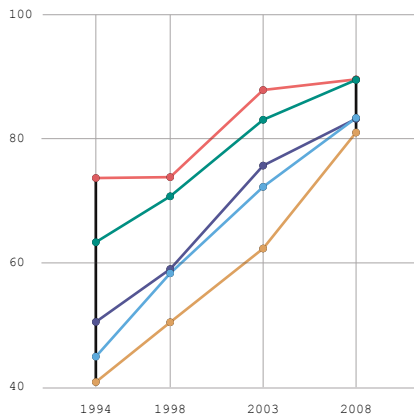
PER

Figure 9 shows that in Ethiopia DPT3 vaccination coverage in urban areas did not improve over the past decade, and wealth-related inequity remained unchanged. At the same time, there are several cases where both coverage and equity in coverage in urban areas have substantially improved over the same period, as exemplified by Burkina Faso, the Plurinational State of Bolivia and Cambodia.

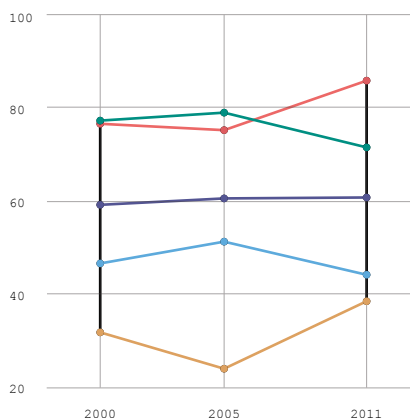
According to a 2014 UNICEF/WHO report on immunization, in the Plurinational State of Bolivia, DPT3 vaccination coverage was 41% in 1990 (76). In 2002, a collaborative project by the government, WHO and the World Bank launched a new phase with equity as its key priority (76). In a bid to increase coverage, since 1999, a collaborative project between the government, the Pan American Health Organization (PAHO) and the World Bank strengthened the National Expanded Programme on Immunization (EPI) and achieved an increase in coverage. In 2002, a second phase was launched with equity as its key priority. This phase focused on guaranteeing and ensuring universal access to immunization services for all children, with special emphasis

USA

PLURINATIONAL STATE OF BOLIVIA



ETHIOPIA

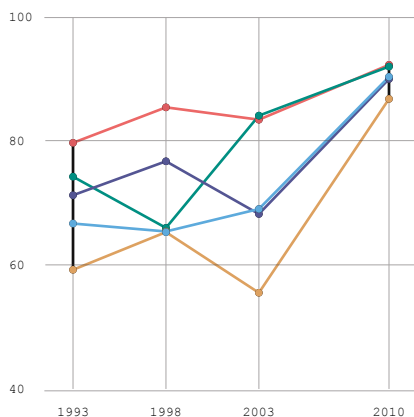


VISUAL KEY

Trends in DPT3 vaccination coverage in urban areas of selected countries (%)

- Wealthiest quintile
- Q4
- Middle quintile
- Q2
- Poorest quintile

BURKINA FASO



CAMBODIA

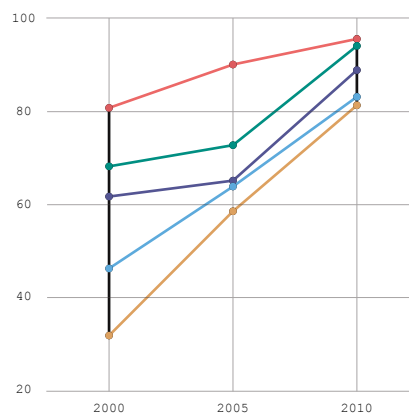


Figure 9.
Trends in DPT3 vaccination coverage in urban areas of selected countries

Note: DPT, diphtheria, pertussis and tetanus

Source: Global Health Observatory 2015 (21).

given to the population at increased risk of contracting vaccine-preventable diseases. Central elements of this initiative were data analysis by district, purposeful engagement of local community leaders, inclusion of vaccination requirements in conditional cash transfers and the use of mobile vaccination brigades to ensure access in hard-to-reach areas (77).

Despite results showing equitable coverage by sex and ethnicity, vaccination coverage was significantly lower in urban areas compared to rural ones. Taking these results into account, the city of La Paz-El Alto, an area with the lowest coverage, conducted operational studies to understand better the causes, which, in turn, informed new strategies aimed at reaching unvaccinated or undervaccinated children in crowded urban areas. By 2013, DPT3 vaccination coverage had increased nationally to 94% (76). If the trends in urban coverage rates in Figure 9 are any indication, it is probable that the equity gap in vaccination coverage at the national level was reduced as well.

HEALTH FINANCING: OUT OF WHOSE POCKET?

Many people, including those from different ethnic groups, those living in informal settlements and migrants, are also more likely to lack proper health coverage than those who are better off. Many informal settlements are not formally recognized by local authorities and as such do not receive health and other services.

Financing mechanisms exist to help cities advance UHC. Two important mechanisms are: (i) tax financing; and (ii) collecting insurance premiums from only those in salaried employment and pooling them with tax revenues to finance health coverage for the entire population. These financing approaches, compared with alternatives such as voluntary health insurance and social health insurance, prioritize equity and universality. Rather than collecting contributions from people who are too poor to pay, countries that are making the most progress towards UHC have prioritized spending on health from general taxation – either on its own or pooled from payroll taxes and international aid (78).

Cities are uniquely positioned to unmask the differences in health-care coverage and services among their residents and then ensure that those who are most vulnerable get those services. For example, Healthy San Francisco is a health-care access programme for uninsured adults ages 18–64. It offers enrolment in a subsidized system of health care rather than covering uninsured individuals through a health insurance product. A 2011 evaluation suggested that the programme has led to an increased use of primary care services in medical homes and decreases in emergency department visits and potentially avoidable hospitalizations (79).

China is another important example where social health insurance schemes cover most of the population (80). Urban populations benefit from the urban resident-based basic medical insurance scheme, launched in 2007, and the urban employee-based basic medical insurance scheme, launched in 1998. Following guidelines from the national government and implementation plans from provincial governments, funds for the two urban insurance schemes are pooled at the municipal (prefecture) level for local operation. As such, local governments play a key role in progress towards UHC. For example, the municipality of Guangzhou, a mega city in south China, with an urban population of over 15 million, launched programmes in 2009 through which grassroots medical and health service institutions offer free-of-charge basic public health services to both urban and rural residents. In 2015, it integrated urban and rural medical insurance schemes, unified financing and treatment standards across different subpopulations and raised the government funding ratio to 70%. The services are now available without any charge, including to those with household registration and migrants without household registration, but with permanent residency.

CHN

USA

Box 4.

Financing care in low-resource settings

In many countries in West Africa, community-based health insurance schemes have been initiated to try to close utilization gaps. Mutual health organizations, often called *mutuelles*, provide health insurance services to their members, and are typically financed and managed by the communities they serve (81). Member households pay for enrolment and regular premiums as well as a co-pay when health services are used. The rise in popularity of these organizations reflects the need to address the financial distress that can be caused by significant health expenses.

The urban scheme in Mali, implemented in urban areas where half of the population lived in poverty, revealed a positive effect on the utilization of many priority health services. Members were 1.7 times more likely to have a fever treated in a modern health facility, three times more likely to use oral rehydration salts or seek modern care for children with diarrhoea, and twice as likely to make the full complement

of prenatal visits during pregnancy. Members did not save money overall on health expenses, but the scheme helped to smooth health-care spending throughout the year so that shorter-term acute needs were not financially catastrophic.

Rwanda has rolled out a national-level policy establishing *mutuelles* to cover the uninsured. A 2012 evaluation found that the expansion of *mutuelles* brought coverage from 1% in 2000 to 85% in 2008, including the capital city of Kigali (82). During the same period, medical care utilization for children under 5 years with acute respiratory infections, diarrhoea or fever increased from 13% to 33%, and the utilization of skilled-birth attendants rose from 39% to 67%. Among children under 5 years who reported having acute respiratory infections, diarrhoea or fever, and women who had a delivery, *mutuelle* enrollees reported significantly higher rates of medical care utilization than the uninsured in the survey year.

SUMMARY

As a target in the SDG on health, attaining UHC is a priority objective for national governments, international organizations and NGOs to be achieved within each country’s context. Given the emphasis on equity and access to a wide range of quality health services from prevention to palliative care, local and national authorities, along with the international community, will be expending substantial human, financial and organizational resources to secure attainment of UHC around the world. . Cities will play a major role in demonstrating the feasibility and value of UHC. Innovative solutions such as those from Guangzhou, Lagos and Lima highlighted in this report are likely to be replicated and adapted in different contexts.

Success in increasing coverage of health services over the past decade in urban areas masks the exclusion of large numbers of people without the rights or the means to access them. As highlighted in the discussion on the need for a data revolution, many people in urban areas are not even accounted for in official statistics due to their official status as migrants or illegal residents. People living in informal settlements have limited access to health services, or the services provided to them are inappropriate or unacceptable. Cities will have to ensure that the economic and well-being aspirations of billions

of people who live in them will not be curbed by restricted opportunities to access quality health care and services. Data at urban level will be essential to monitoring the SDGs.

An imminent challenge for LMICs is the rising burden of NCDs, which has major implications for their ability to achieve UHC. Even in countries with early success in controlling infectious diseases and improving maternal and child health, integrating NCDs in health services effectively remains a challenge. In addition, many of these countries and their cities still suffer from infectious diseases. This double burden of infectious and chronic NCDs and its implications for cities worldwide are discussed at greater length in the next two chapters, with environmental health factors discussed in Section 2.

CHAPTER 3 — LEVERAGE THE URBAN ADVANTAGE TO TACKLE COMMUNICABLE DISEASES

KEY MESSAGE • Cities must play a leadership role in the fight against communicable disease.

Cities are positioned to exercise leadership on altering the course of some of the most devastating infectious diseases of our time. They can lead national efforts to curb infectious diseases. Cities may also lead at the front lines of outbreaks. In 2014, the Ebola outbreak entered Nigeria via Lagos, a city with the largest population and greatest population density on the African continent. Aggressive contact tracing efforts identified all 900 people who had been in contact with the disease; 19 were eventually diagnosed with the disease, 12 survived, and the virus was effectively halted.

Cities have demonstrable advantages for controlling communicable diseases, thereby enabling them to play a central role in reducing this global burden. They are comparatively well resourced with health workers, financial resources and facilities. They are more likely to have stable electricity and refrigeration facilities as well as stronger supply chain management for vaccines and other medicines and commodities. The relative human density of cities enables mobility and access at scale for reaching health-care providers, facilities, medicines, and more.

Cities deserve special attention for the control of communicable diseases because they also have features that make them uniquely vulnerable. High population density can cluster people around risk. For example, in cases where there is unsafe water or poor sanitation, even one individual can make entire communities sick in densely populated spaces. Furthermore, the high human density can expose residents to airborne diseases such as influenza or TB.

Unquestionably, too many cities have become highly unequal societies. Many urban populations in developing countries are still growing faster than can feasibly be managed by local governments, creating new vulnerable communities in their periphery. In many cases, these develop as informal settlements where the combination of poor living conditions, disconnection from public services and infrastructure, and inadequate

MLI

NGA

PER

RWA

health service coverage facilitate the transmission of disease. Children are particularly at risk of vaccine-preventable and diarrhoeal diseases under these conditions.

Inequity in cities can facilitate the transmission of disease, even in high-income cities that are hardly growing at all. Cities are heterogeneous places, and they are home to a great many vulnerable people. In some high-income cities, TB manages to hide and proliferate in disadvantaged subpopulations. HIV has become disproportionately prevalent in cities as stigma and high-risk behaviours in cities can expose vulnerable urban residents to transmission.

The tragedy is that the infectious diseases in cities are highly controllable and treatable, and cities are highly capable of taking action to reduce and ultimately eliminate them. This chapter addresses communicable diseases that are aggravated by the urban environment through the lens of HIV/AIDS and TB. It also explores the nature of these diseases in cities, including how they disproportionately impact certain people and communities within cities. Most importantly, it looks at the strategies cities can take or are already operationalizing to mitigate and ultimately eliminate these conditions.

HLTH
3

ENDING HIV/AIDS IN CITIES

Cities have become the focus of global ambitions to end the HIV/AIDS epidemic. While the global epidemic may have peaked in the early 2000s, HIV has been concentrating more in cities of late. Analysis conducted by UNAIDS of 200 high prevalence cities has shown that they account for as much as 25% of all people living with HIV (83). Moreover, these 200 cities represent only 10% of the world's total population. In sub-Saharan Africa, for example, HIV is highly concentrated in cities. Nearly half of all people living with HIV live in urban areas (83), but the subcontinent is only 40% urbanized (84). A similar pattern of urban concentration manifests in other high prevalence countries as well. In Brazil and the Russian Federation, more than half of all people living with HIV live in urban areas. In the USA, just 21 cities can account for 40% of all HIV cases. In Viet Nam, 31% of all people living with HIV live in just two cities (83). In countries where the DHS has observed urban prevalence, both urban men (2.2%) and women (4.7%) are more likely to be HIV-positive than their rural counterparts (1.6% and 2.0%, respectively) (Figure 10).

Cities where injecting drug use and paid sex are prevalent can concentrate risk for HIV infection. In Indonesian cities, for example, HIV prevalence among intravenous drug users has been estimated at up to 56% (83). UNAIDS has also observed that infection rates among men who have sex with men (MSM) can be considerably higher in cities. In Bangkok, for example, infection rates among MSM are more than three times the national average.

For these reasons and more, UNAIDS and the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) view cities as critical venues and partners in achieving a world without AIDS. The concentration of risk and prevalence in cities presents an opportunity to be harnessed, both for access to treatment and prevention. Cities are endowed with better resources and infrastructure, and their density puts people in closer proximity to services. Cities are better equipped to manage health commodities and supply chains than rural areas. Facilities in cities are more likely to have electric-

INFRA
9

INEQ
10

CITY
11

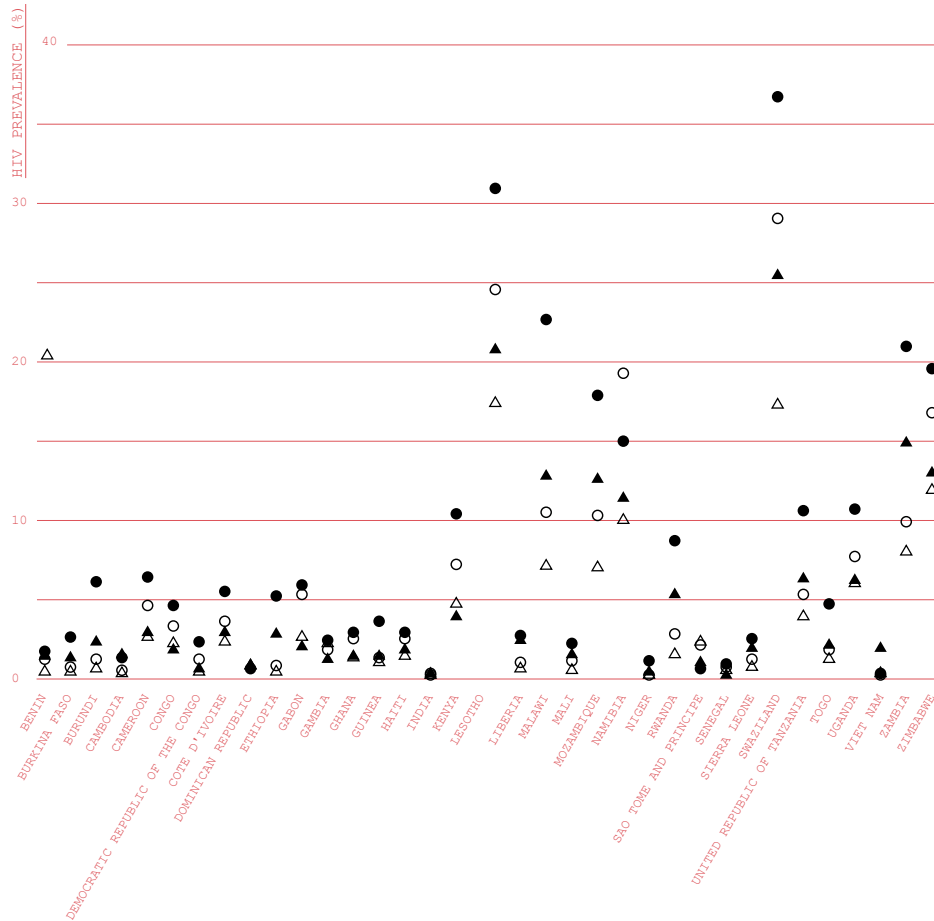
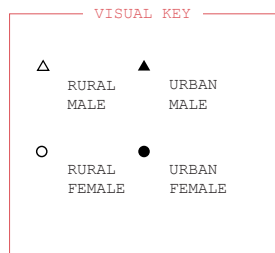


Figure 10.
HIV prevalence among
general population, by sex
and place of residence

Source: Global Health Observatory 2015 (21).



ity for cold storage of antiretroviral medicines. In some sub-Saharan African countries, more than 90% of HIV/AIDS-related health services are located in urban areas (85).

Accounting for these factors, UNAIDS has encouraged cities to capitalize on the opportunity presented by the urbanization of the disease and the inherent strengths that cities offer to end the global epidemic. UNAIDS asked mayors from around the world to sign the Paris Declaration and to commit to doing their part in the AIDS response. Each of these mayors has pledged to reach three concrete goals: by 2020, they have pledged that 90% of their constituents living with HIV will know their HIV status, 90% of those who know their status will be receiving HIV treatment, and 90% of people on HIV treatment will have a suppressed viral load (the 90–90–90 Target) (Figure 11). The commitment also entails the provision of prevention services and the end of stigma and discrimination.

This strategy focuses on achieving these targets in the 35 highest prevalence nations, which account for over 90% of all new infections and more than 90% of people who die from AIDS-related causes (86). These “fast-track countries” are home

to more than three quarters of the highest prevalence cities in the world. If the targets can be achieved in the fast-track countries, beginning with cities, UNAIDS projects that AIDS-related deaths will drop by 80% by 2030, and 95% of people living with AIDS will have a suppressed viral load (87). In accomplishing these goals, UNAIDS estimates that the world would be on track to end the AIDS epidemic as a public health threat.

Achieving these ambitious goals in 15 years will depend on cities successfully identifying and ultimately reaching at-risk populations and residents living with HIV. This will require cities to grapple with not just the risk factors for contracting HIV, but also the underlying social determinants that place certain people at greater risk than others. Importantly, it will also require cities to make the most of their vast potential to treat and care for people living with HIV.

In many countries, there is a strong gender dimension to HIV risk in cities. Urban women are particularly vulnerable. Figure 12 depicts the trends for both urban women and men, showing that prevalence is declining for both sexes virtually everywhere. However, it is also clear that despite this progress, women still disproportionately bear the burden of the disease. In countries where the DHS has observed urban prevalence, WHO finds that urban women are at least 1.5 times more likely to have contracted HIV than either urban men or rural women (21). Urban men may be at lower risk than urban women, but MSM are at significantly greater risk than other men. MSM are 19 times more likely than other men to be living with HIV, and only 14% of MSM living with HIV have access to treatment in low-income countries (87).

As seen in so many cases, the places where people live can be similarly influential in their risk exposure for contracting HIV. People living in informal settlements are particularly vulnerable, notably in urban South Africa and Nairobi where prevalence is at least twice as high as the formalized areas of the city (83). In 2003, the leading cause of death in the slums of Nairobi was attributable to AIDS, at 30% (35). Infrastructure

Figure 11.
Impact of the 90–90–90 Target on HIV infections and AIDS-related deaths, 2016–2030

Source: Joint United Nations Programme on HIV/AIDS 2014 (88).

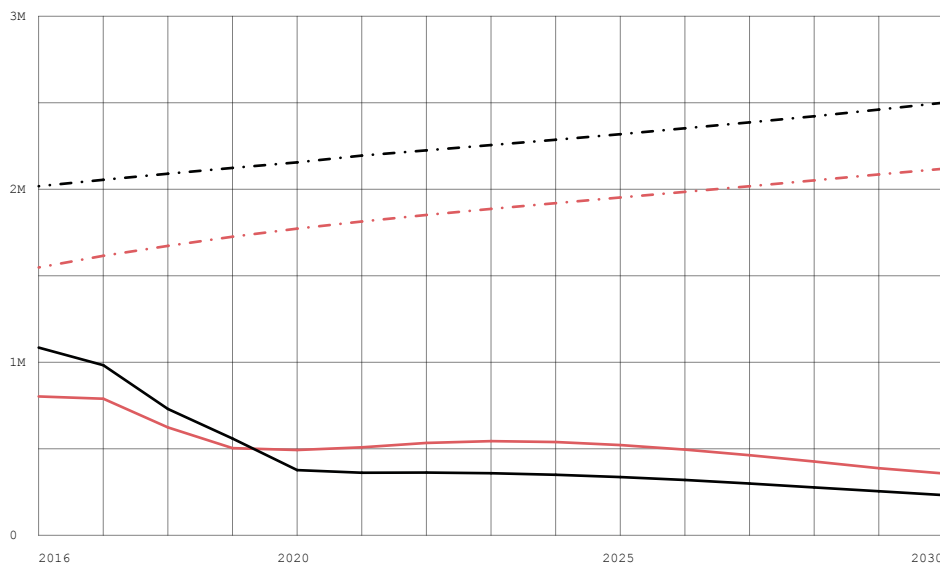
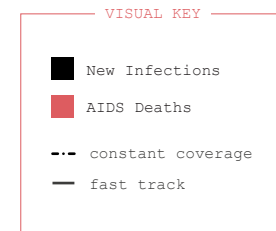
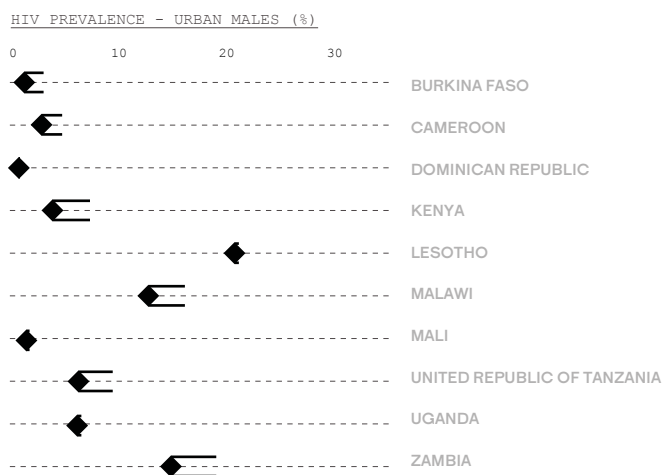
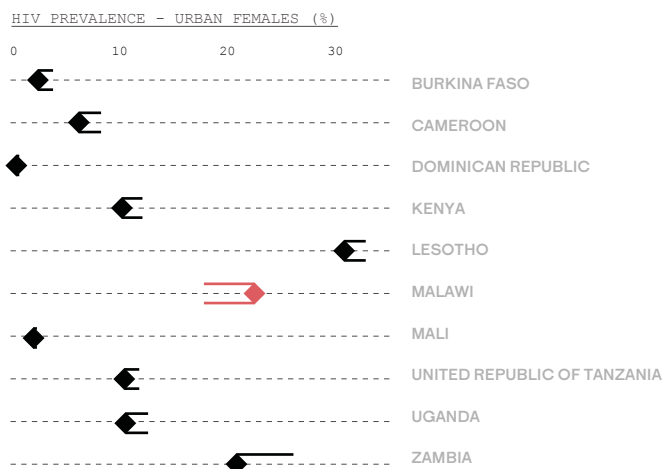
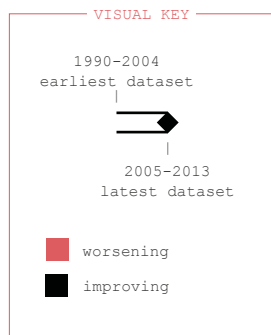


Figure 12.
Trends in HIV prevalence, by sex in urban areas

Source: Global Health Observatory 2015 (21).



and health-care services in informal settlements simply cannot compare to the access advantages found elsewhere in cities. Informal settlements in Durban, South Africa, for example, have the highest rates of mother-to-child transmission and the lowest rate treatment utilization compared with other areas of the city.

In the 35 fast-track countries, health equity remains a hurdle to accomplishing the fast-track goals by 2020. Urban slums and informal settlements are crucial issues that must be addressed not only on the grounds of social justice, but also as clear obstacles to making progress with HIV. Urban women disproportionately bear the burden of HIV. In fast-track countries where it is measured, poor and less educated

urban women, in particular, are less likely to have comprehensive knowledge of how the HIV virus is transmitted than their wealthier, more educated peers. In some cases, the gaps between income groups and educational attainment is quite large (Figure 13). In Pakistan, for example, the wealthiest urban women are nearly six times more likely to have knowledge of transmission than the poorest urban women. In the Ukraine, highly educated women are more than 2.5 times more likely to have comprehensive knowledge than poorly educated women. Urban women in nearly all fast-track countries are less likely to have this knowledge than urban men (21).

Box 5.	Cities responding to the call
<p>Cities with high burden of HIV/AIDS around the world are taking the initiative to develop city-level strategies to turn back the epidemic in their municipality. City-level strategies are proving to be essential, as vulnerable populations and the epidemiology of the disease are often unique in each city. In the city of Windhoek, Namibia, the most recent estimates of adult prevalence stood at nearly 15% in 2009 (89). The city found that most infections were clustered in parts of the city where informal settlements have developed because of the city's rapid growth, with poor coverage by the city's health services. Once these vulnerable populations were identified, Windhoek and its partners developed a mobile clinic strategy where clinicians visit</p>	<p>the informal settlements twice weekly with free medicines provided by the Ministry of Health (90). Another example is the city of Kigali is home to one third of people living with HIV in Rwanda (91). At 7.3%, it has the highest prevalence rate in Rwanda, while all other provinces have a prevalence rate below 3% (92). The city works in tandem with national-level and district-level policies and programmes, but the city focuses on key vulnerable populations. The city will expand condom provision and services for male circumcision as well as enhancing the provision of food and community-based home care for people living with HIV in the city.</p>

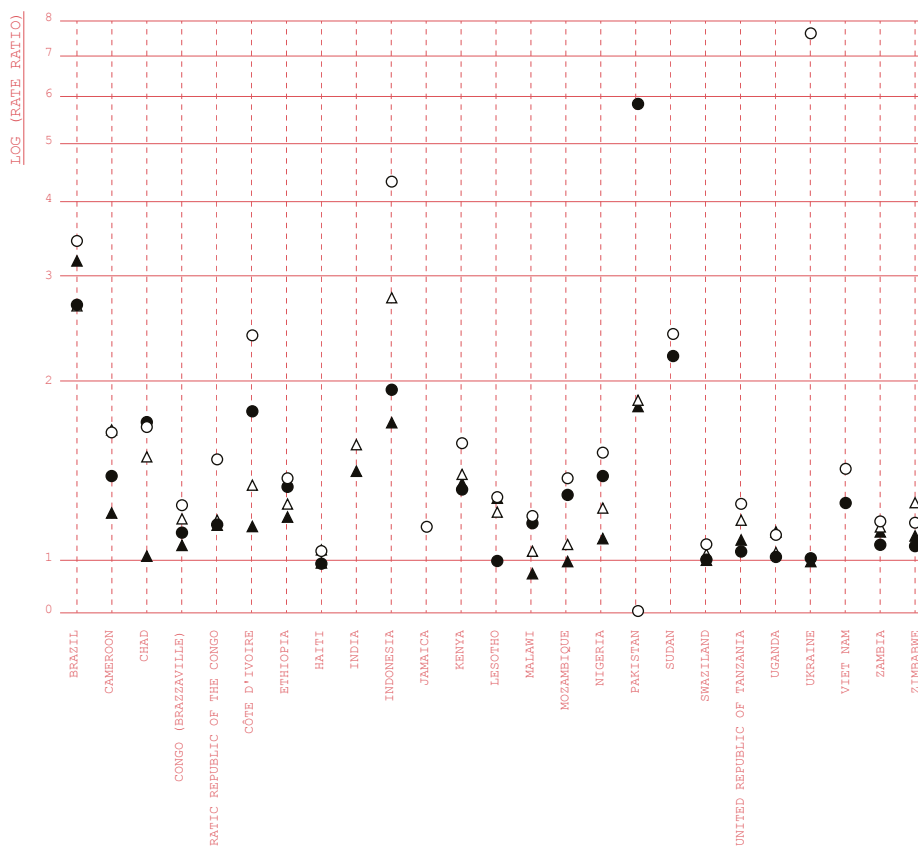
ADAPTING THE END TB STRATEGY IN CITIES

TB continues as a major public health threat, particularly in large urban centres. It ranks alongside HIV/AIDS as a leading cause of death worldwide (93). WHO estimates that 9.5 million people were sick with TB in 2014. For 1.5 million people, the illness was fatal. Complicating the challenge is that the disease continues to evolve due to incomplete or inappropriate treatment. Drug resistant strains have emerged, with 500 000 cases of MDR-TB estimated worldwide. More troubling still, the emergence of extensively drug resistant tuberculosis (XDR-TB) means that most second-line therapies are no longer efficacious for affected patients, treatment can cost up to half a million dollars and cure rates are very low (94).

TB has managed to proliferate in large urban areas, particularly among densely populated, deprived communities. In some larger cities of low-burden, higher-income coun-

Figure 13.
Comprehensive Correct Knowledge of HIV/AIDS by educational attainment and wealth

Source: Global Health Observatory 2015 (27).



VISUAL KEY

RATE RATIO BY EDUCATIONAL ATTAINMENT

- People with 12+ years of education
- People with 0 to 5 years of education

△ Males
○ Females

RATE RATIO BY WEALTH

- Wealthiest quintile
- Poorest quintile

▲ Males
● Females

NAM
PAK
RWA
UKR
USA

tries, TB incidence can be several multiples or more of the national average (95). TB incidence in Toronto, Canada, and Osaka, Japan, is three times their respective national averages. At least 15 large cities in Europe have been found to have more than double the national incidence rate, even as national rates are falling in Europe (17). TB tends to thrive in the more deprived communities within cities. In the United Kingdom, more than 70% of all TB cases come from the 40% most deprived areas (96). Mapping the epidemic in Rotterdam, the Netherlands, and London reveals similar patterns of high TB concentration in focused pockets of the city (Figure 14).

TB continues to be more widespread in large cities in the developing world, where rapid urbanization, poverty and inadequate living conditions exist on a far greater scale without commensurate capacity in the health system to cope. Over 95% of global TB incidence and mortality is carried by developing countries (97). The growth of slum housing contributes to the disease's perpetuation in urban centres. Up to one third of all urban housing in the developing world may be classified as slums. These homes often suffer from crowding, poor hygiene and ventilation, and indoor air pollution. Homes in informal settlements often have inadequate access to health facilities and services. These areas not only enable the transmission of TB between residents, but also have poor access to care and costs that can undermine treatment. A study in three slum districts of Abia and Anambra States in Nigeria found the prevalence of TB to be 6.4% (98). Similar studies have shown lower, but still unacceptably high TB prevalence in slums in Bangladesh (0.3%), Cambodia (0.2%) and Uganda (3.5%) (99). At the same time, widespread access to medicines without prescriptions from pharmacies or informal providers can contribute to the emergence and spread of MDR-TB.

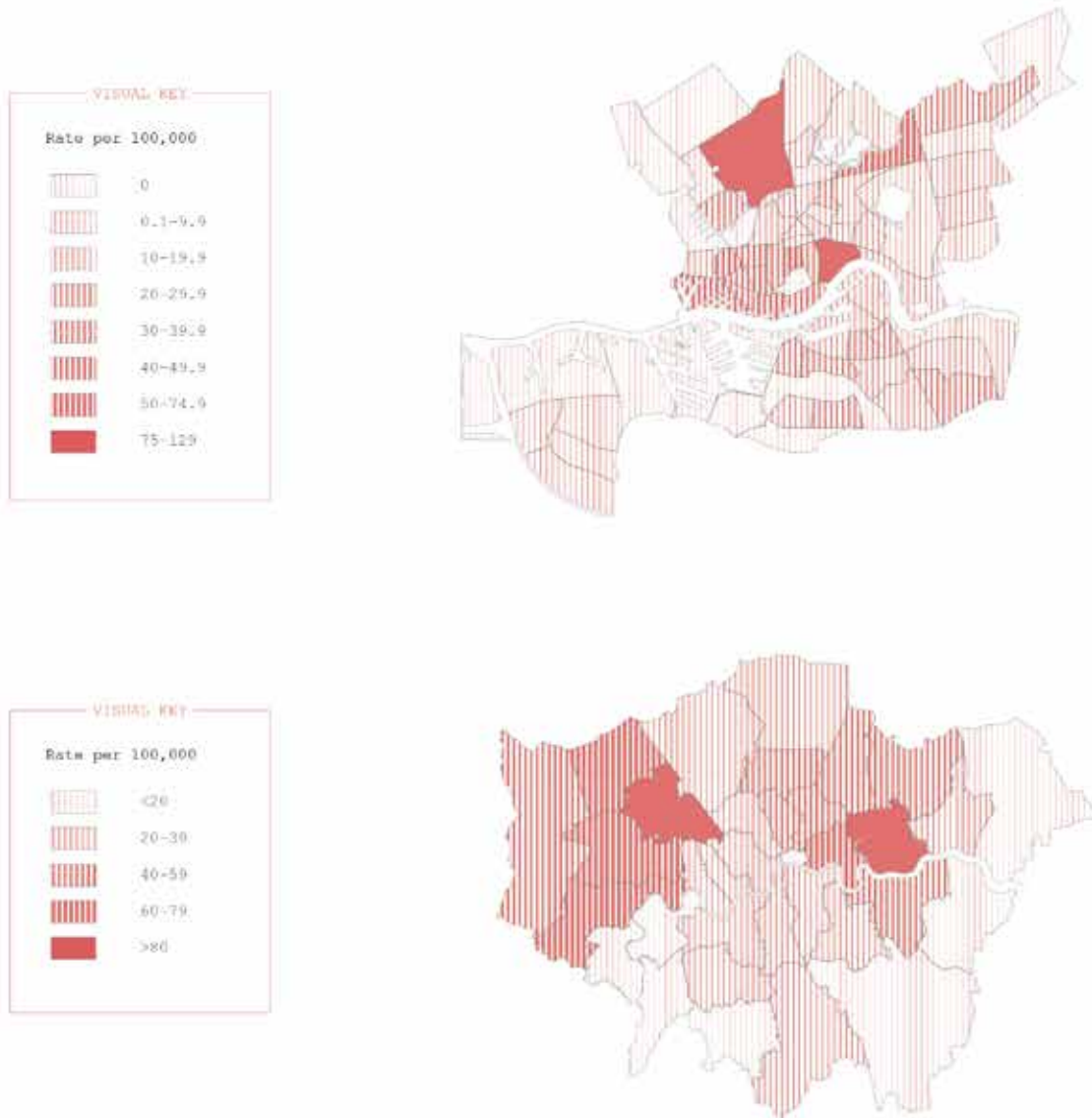
There can be no doubt that the challenges in rolling back the disease are significant, but cities and their partners, including WHO, are pushing forward with new initiatives to drastically reduce the number of TB-related deaths. The World Health Assembly in 2014 approved the End TB Strategy with the goal of reducing TB mortality by 90% by 2030 and an 80% decline in TB incidence. The SDGs adopted the same 90% decline in deaths by 2030. The WHO strategy proposes an approach with three mutually reinforcing focus areas to achieve its global goal. The first component of the strategy covers integrated, patient-centred care and prevention, focusing on expansion of early diagnosis and treatment as well as preventive action to care for those at high risk, including people who are HIV-positive. The second component focuses on policy and systems, including securing political commitment, advancing UHC and social protections, and addressing the social and environmental determinants of health. The third component focuses on research, ranging from basic research, to tools development and operational research.

Cities are well positioned to help deliver on the End TB Strategy. Cities in some of the highest burden countries in the world are mobilizing strategies to improve screening and diagnostic services, especially in the most vulnerable communities, expand treatment and social support, and develop policies and programmes to address the social and environmental determinants of TB.

In the fight against TB, the resource and density advantages of cities present significant opportunities for eliminating TB deaths. Cities are demonstrating that they can harness these advantages and significantly scale up their response in a short time. In India, home to the highest absolute burden of TB in the world, the city of Mumbai has been experiencing an unprecedented epidemic of MDR-TB. In 2014, Mumbai registered 2951 MDR-TB cases, over 12% of the cases in the entire country (100). Mumbai

Figure 14.
TB prevalence maps of
Rotterdam and London

Source: de Vries et al. 2014 (17).



BGD

CAN

GBR

IND

JPN

KHM

NGA

NLD

UGA

PVRTY
1

has a health system with a highly unequal distribution of essential infrastructure, expertise and other resources necessary to combat TB in places where it may be needed most. Since the launch of a city-led initiative to improve access to diagnosis and treatment, the city has scaled up the number of labs from one to 12, providing free rapid TB diagnostics. The number of hospital beds designated for MDR-TB treatment has expanded from 22 to 314. The city and its partners have trained 1500 informal health-care providers to administer quality diagnostics and treatment and vastly expand the system's reach in the slums. These broader systems have enabled the city to more than double the number of MDR-TB patients identified each year, and quickly get them under treatment.

HNGR
2

HLTH
3

City leaders are demonstrating that they can coordinate TB policy up and down the various levels of government, and more effectively engage with communities. Programmes coordinated by WHO and partners in the WHO Region of the Americas are facilitating these new dynamics. Cities in the region are among the most unequal in the world, with one fourth of the urban population living in poverty, and over 100 million people living in slum conditions. These conditions create an environment in which TB can proliferate, and barriers to accessing and staying in care for those who fall ill are great. As a first step, WHO is bringing together national-level managers and local authorities to deliver political commitment at all levels of government to end TB in their cities. WHO is working with national and local authorities to facilitate coordination on urban TB strategies. Fragmentation of providers across cities, between public and private providers, medical colleges, specialist hospitals and prison health services, has historically constrained coordination at the city or national levels. These programmes have mapped providers across cities in the region, and developed new frameworks to coordinate and unify their services and reporting. In order to reach the most vulnerable people in the region's cities, these systems must be coordinated with community-based networks of care. Community-based care delivery programmes in the most vulnerable areas of Lima have been able to deploy DOTS (Directly Observed Treatment, Short-

WATR
6

INFRA
9

A patient receives an HIV test

Source: A patient receives an HIV test by Arne Hoel / World Bank is licensed under CC BY 2.0, <https://creativecommons.org/licenses/by/2.0/legalcode>

CITY
11



PARTN
17

SUBSECTION

Leverage the urban advantage to tackle communicable diseases



A portrait of Dr. Abdoul

Source: A portrait of Dr. Abdoul by Dominic Chavez/World Bank is licensed under CC BY 2.0, <https://creativecommons.org/licenses/by/2.0/legalcode>

Course) and DOTS-plus at the community level, at low cost and with 83% cure rates (67). Coordination between community-based and formal care systems is another level of integration that has been crucial to efforts to bring TB under control.

Cities are also developing the analytical capacity to identify vulnerable groups of people and, as a result, deliver more targeted programmes to control TB. In the Philippines, a country with a high burden of TB and MDR-TB, the city of Manila and its partners are working towards new analytical approaches to identify at-risk communities and people. For the first time, the city is using geographical information systems to map the disease and identify where it clusters in neighbourhoods across the city. Subsequent analysis of the social determinants has been able to link specific housing characteristics and educational status to neighbourhoods with high rates of TB. This will ultimately help the city to develop more targeted interventions and determine where to expand services.

HEALTH EMERGENCIES IN CITIES

With increasing globalization and connectivity of human settlements, city populations are exposed to infectious diseases that, in most cases, can be effectively controlled with basic public health measures and functioning health systems. Occasionally, however, even common endemic diseases can lead to infectious disease outbreaks. In recent years, several rare diseases have also landed in cities with devastating effect. The Ebola virus, Middle East respiratory syndrome (MERS), severe acute respiratory syndrome (SARS) as well as new variants of influenza arrived and spread in urban environments, resulting in great loss of life.

The existence of abysmal living conditions for millions creates vulnerabilities through crowding, poor building construction and ventilation, malnutrition, inadequate access to safe water, sanitation and waste removal, among other unacceptable conditions that can create environments that quickly propagate communicable diseases. Resolving the inequities of urban living will be central to any city's strategy to build

PER
PHL



resilience to outbreaks, as well as other health conditions.

No two outbreaks are the same, and in the absence of well-functioning health systems, there are no silver bullets. For example, the Ebola virus has landed in urban areas before. In 1995, Ebola broke out in Kikwit in the former Zaire (now the Democratic Republic of the Congo), and in 2001 it entered Gulu, Uganda, with populations of 400 000 and 100 000, respectively (101). In both cases, there was significant loss of life of about 250 people, but on a considerably smaller scale than the 2014 Ebola outbreak in West Africa. Neither city would have had substantially better social conditions or health system capacity than the cities affected in 2014, nor were they immune to urban poverty. Lagos, one of the most crowded cities on the subcontinent, was able to contain the virus in 2014. An important question is what can we learn from the myriad of experiences with these and other outbreaks to make cities more resilient?

City contexts and the evolving nature of outbreaks are diverse, but it is certain that city governments must be able to communicate effectively with their residents about outbreaks. Communication from government officials, community leaders and health professionals helps to prepare the public for the actions they need to take. Often in an acute emergency, people need to make decisions in a short time, the decisions may be irreversible, and yet information can be incomplete or uncertain. Equally importantly, people and their communities need to trust the messenger and the information that they receive. Such trust is more likely to be absent or weak in places where health and other forms of inequities are prevalent.

Officials need to communicate to the public what they know about the disease and how to prevent its further spread. Communication is vital to ensuring that community members change behaviour when required and follow necessary precautions. Experience and research have taught that uncertainty is a given, that community members need help to accept it and that communicating honestly about it can build trust and

Maouloud festival in Mali, January 2015

Source: Maouloud festival in Mali, January 2015 by UNMEER/Pierre Peron is licensed under CC BY 2.0, <https://creativecommons.org/licenses/by/2.0/legalcode>

confidence, which must be earned. During an outbreak, people likely will turn to sources they already trust. When people do not trust certain officials, it is critical to identify whom they do trust and would listen to and how to reach them with information. Conversely, overly reassuring the public leaves them unprepared for difficult situations and, ultimately, reduces the trust in communication from those leaders.

During the Ebola virus epidemic in Guinea, local leaders, Ministry of Health officials, the International Federation of the Red Cross and Red Crescent Societies, WHO, local NGOs, universities and religious leaders worked together to communicate broadly with the city's residents about prevention of Ebola (102). The communication campaign used multiple channels and trusted sources. Tailored to the literacy level of the population, prevention messages were communicated by bullhorn in crowded markets and other public places, door-to-door visits that included giving out bleach and radio and television messages in multiple languages.

In Nigeria, in addition to aggressive contact tracing, the Ministry of Health and other partners utilized social media and television programmes, drawing on its internal resources of Nigerian movie stars (103). They developed and delivered public education programmes and engaged traditional, religious and community leaders to disseminate messages to communities. Similarly, in Liberia, where legacies of conflict and mistrust may have frustrated communications about the outbreak and prevention, civil society organizations, along with community radio stations, were trusted arbiters of information. Combined with community leaders conducting door-to-door visits, they were able to deliver important information from WHO and the government so that information resonated (104).

Communications are crucial in times of outbreaks. Building confidence in communities and identifying trusted messengers and information channels is a critical undertaking that should be prioritized before outbreaks occur so that they can be relied upon during times of emergency.

SUMMARY

Cities have become the focus of much of the international community's efforts to eliminate deadly infectious disease epidemics. There is good reason for their urban focus. The unique characteristics of the modern urban environment promise both vulnerability and opportunity at a significant scale. These vulnerabilities can be addressed. Urban health inequity, by its very definition, is avoidable and solvable with the resources and capabilities that already exist. New technologies and medical advances could catapult these efforts forward, but there is much that can and should be done at present. Ending deadly disease epidemics such as HIV and TB will depend on cities to control transmission and ensure that those who are already dealing with infections are affordably accessing and adhering to treatment. This will depend on building capacity to identify those who are at risk and those who are already infected as well as extending the reach of treatment and prevention for all, particularly for vulnerable people and communities. Importantly, cities must address the social and environmental determinants that contribute to the persistence and spread of these diseases. Enhancing urban health risk management, reinforcing local health systems and preparedness can reduce the impact of new communicable disease outbreaks, as well as other disasters and health emergencies.

CHAPTER 4 — NONCOMMUNICABLE DISEASES: OVERCOME THE NEW URBAN EPIDEMIC

KEY MESSAGE • NCDs present not only a threat to human health, but also have significant economic implications for cities.

Cities face a multitude of health challenges, not least the risk posed by communicable diseases. However, there is a new urban epidemic emerging – NCDs – shaped by the lifestyle and working patterns of urban residents. CVD, cancer, chronic respiratory conditions and diabetes have replaced communicable diseases as the leading causes of death in many settings, and are the primary focus of this chapter. Mental health is also examined, while violence and injuries and related interventions are dealt with in more detail in the chapter on safety in Section 2.

THE DOUBLE BURDEN OF DISEASE

NCDs have rapidly emerged as a 21st century health threat and present a challenge to policy-makers, who are now tasked with addressing the double burden of communicable and noncommunicable disease. Approximately 38 million people die annually from NCDs, representing 63% of the total global deaths from all causes. NCDs also impact longevity and the ability of people to age well, with more than 16 million people dying prematurely before the age of 70. CVDs account for most NCD deaths (17.5 million people annually), followed by cancers (8.2 million), respiratory diseases (4 million) and diabetes (1.5 million) (105).

In LMICs, NCDs now coexist with communicable diseases, representing a significant challenge to disease prevention and control efforts. The burden of NCDs in LMICs is disproportionately high and accounts for almost three quarters (28 million) of NCD-related deaths (105). In India, for example, urbanization and its associated lifestyle changes have triggered a health transition in favour of NCDs. CVD and cancer are now the top two leading causes of death in urban areas (106). Similar transitions have been observed elsewhere. In Kenya, CVD and injuries significantly increased and mortality related due to HIV/AIDS declined among the urban poor of Nairobi between 2003 and 2012. Cardiovascular deaths steadily increased from 2% in 2003 to 8% in 2012, and peaked at 14% in 2005, with women more frequently affected (35).

While NCDs are not confined to cities, the city environment is conducive to lifestyles and behaviours that contribute to their development, including greater consumption of unhealthy foods, use of tobacco and alcohol, and physical inactivity. Demographic shifts associated with population ageing also have implications for NCD prevention and control – not only are people living longer, in many contexts they are also developing NCDs at an earlier age. With up to 80% of older people expected to be living in LMICs by 2050, urgent action is required to ensure that health and social systems are ready to address the growing burden of NCDs (107). Governments must seek solutions beyond the health sector to address the burden of NCDs on the human capital and economic productivity of cities.

THE ECONOMIC COST OF NCDS

NCDs present not only a threat to human health in cities, but also have significant economic implications. It is estimated that, if intervention efforts were to continue in their present form in the face of the growing burden of NCDs, the cumulative economic losses to LMICs from CVD, diabetes, cancer, chronic respiratory diseases would exceed US\$ 7 trillion during 2011–2025. These losses equate to an average of nearly US\$ 500 billion per year and are equivalent to approximately 4% of these countries' current annual output. On a per-person basis, the annual losses range between US\$ 25 and US\$ 139, depending on a country's level of development (108).

The lifestyle and working patterns of urban residents have the potential to fuel an increase in NCDs in cities. It will come as no surprise then that the cost of NCDs is substantial in urbanizing economies. China and India are rapidly urbanizing: between 2014 and 2050, China is expected to add an additional 292 million people to its cities, while in India that figure is estimated at 404 million (2). The cost of CVD, diabetes, cancer, chronic respiratory diseases and mental health conditions has been estimated at US\$ 27.8 trillion for China and US\$ 6.2 trillion for India, respectively, during 2012–2030 (Table 2) (109).

Table 2.
Cost of NCDs in China and India: estimated losses during 2012–2030 (2010 US\$ trillions)

Source: Working paper No. 19335, August 2013, National Bureau of Economic Research (NBER), cited in Bloom et al. 2013 (109).

	China	India
CVD	8.25	2.25
Diabetes	8.25	2.25
Respiratory disease	5.71	1.17
Cancer	3.97	0.31
Mental health	9.43	2.28
total	27.85	6.16

In both countries, CVD and mental health conditions present the greatest economic threats, followed by respiratory diseases and cancer. China's losses exceed those of India's as the impact of lost labour and physical capital is greater in higher-income countries.

NCDs can also have an adverse effect on the economic position of individuals and their families. NCDs can be an additional burden to those already facing financial hardship. In China, 73% of stroke survivors reported experiencing catastrophic health expenditure, whereby their out-of-pocket health-care costs exceeded 30% of their annual household income (110). Out-of-pocket expenses, ongoing costs related to treatment, loss of employment and the need for care and lifestyle modification all

PVRTY 1
 HLTH 3
 GNDR 5
 ENRG 7
 ECON 8
 INFRA 9
 INEQ 10
 CITY 11
 CLIMT 13
 PEACE 16

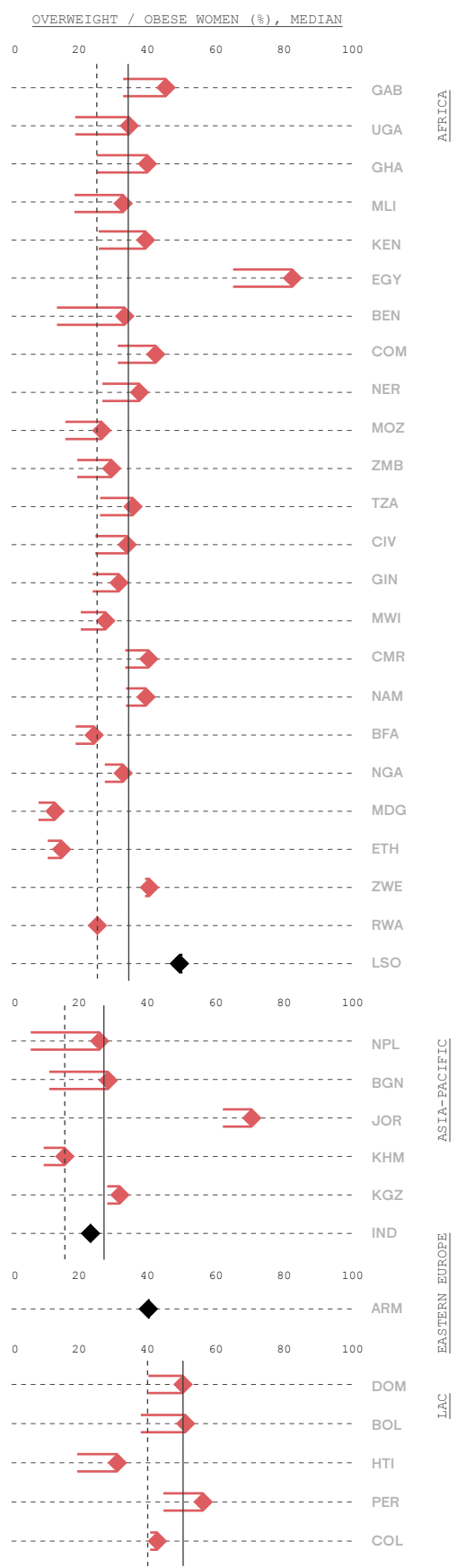
contribute to the overall cost of NCDs and can contribute to the vicious cycle of poverty, particularly in underinsured populations. The evidence of ruinous and long-term economic burdens borne by many households indicates that effective prevention and management of such diseases will help achieve the wider objective of global poverty reduction. Poverty alleviation can be promoted through programmes that strengthen financial protection from ill-health. In the context of NCDs, this means not only protection from the burden of user fees associated with illness, but also providing the means to cope with the ongoing costs of long-term treatment, rehabilitation and prevention. In LMICs, incomplete or absent health insurance can force households to employ a wide range of coping strategies that call upon their financial reserves. Even for countries that have ostensibly achieved UHC, chronic illness can still be a major source of economic hardship (111).

UNDERSTANDING THE RISK FACTORS AND DETERMINANTS OF NCDs

The four leading risk factors for the development of NCDs are physical inactivity, an unhealthy diet, smoking and alcohol consumption. In the urban context, a significant body of research has examined the relationship between urban form, physical activity and healthy eating. While these issues are covered in further detail in Section 2, it is important to underscore how cities contribute to health-harming behaviour. Poor transportation and an over-reliance of motorized transport have resulted in people spending longer periods of time commuting, the availability of affordable healthy food is restricted by poor urban planning policies and longer working and commuting hours, coupled with increased female participation in the workforce, has contributed to dietary changes in favour of convenience foods. The interaction of these factors is reflected in the rising rates of overweight and obesity, particularly in urban areas and, increasingly, for the urban poor.

Rising rates of overweight and obesity have the potential to fuel an increase in the burden of NCDs. Trend data from LMICs showed that the prevalence of urban female overweight and obesity has increased substantially over time (Figure 15). Critically, the burden of overweight and obesity favours urban areas, where one in three women are overweight or obese compared to one in five in rural settings. Of the countries examined, the fastest increase in overweight and obesity was observed for Bangladesh, Benin and Nepal, while substantial gains also occurred in Egypt, Jordan and Zimbabwe.

Similarly, smoking is a risk factor for NCDs and remains a significant concern. Globally, one in five men smoke.



PARTN 17

SUBSECTION

Noncommunicable diseases: overcome the new urban epidemic

PG

Figure 15.
Trends in prevalence of overweight and obesity among urban women by country

Note: For the full country names, see Annex 1, Table A1.2

Source: Global Health Observatory 2015 (21).

However, there is substantial regional variation: in the Asia-Pacific region, one in two urban men smoke compared to one in six in the African and LAC regions (Figure 16). The poorest one fifth of urban men are nearly twice as likely to smoke as the richest one fifth. The prevalence of smoking among the poorest one fifth of urban men, compared to the richest one fifth, is even higher when examined at the country level for Cambodia (4.8 times), Sierra Leone (4.9) and Malawi (8.8). Smoking is particularly high among the urban poor in Bangladesh and Indonesia, where seven in 10 and eight in 10 urban men in the poorest one fifth of households smoke.

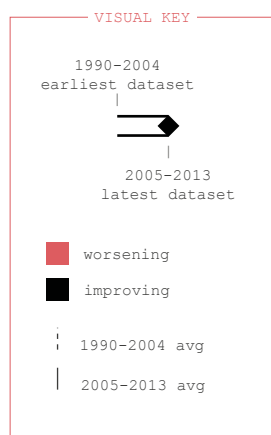
The rise of overweight and obesity and persistent levels of smoking, especially among the urban poor, across all regions is a worrying trend for the future of NCD prevention and control. In the African region alone, the prevalence of NCDs is projected to increase by 27% in the next 10 years. The burden is already high, with the prevalence of hypertension ranging between 30% and 60% in western and southern Africa (112). With low awareness, late presentation and weak health service readiness, there is a need to act at the primary care level to address the impact of NCDs, particularly in LMICs. An urban survey from Mozambique revealed that 80% of cervical cancers were diagnosed at late, inoperable stages. Only one tenth of people with diabetes knew they had the condition, and only 18% of people with hypertension were aware of their condition (113).

However, addressing health system readiness is not the only need resulting from the NCD epidemic – consideration also must be given to the physical and social environment. Poor infrastructure, high levels of insecurity and weak legal systems interact with poverty and social exclusion to create unsafe living and working conditions. In Nairobi, injuries were the second most frequent cause of death (21%) reported during 2003–2012. Injury deaths were four times more likely among men and the prevalence doubled over the 10-year period (35). Section 2 of this report provides a more detailed discussion of violence and injuries and the strategies to improve interpersonal safety in cities.

The environment can also interact with individual characteristics, meaning some people are more vulnerable to poor health outcomes due to their living and working conditions. Violence and harassment are common occurrences for migrant girls living in slums, where they may be limited in their capacity to seek assistance from health and social providers (44). The built and social environment of urban areas can also significantly impact mental health outcomes (114). For example, analysis of the World Mental Health Survey in the metropolitan area of Sao Paulo, Brazil, revealed high levels of mental health disorders, with one third of respondents reporting a mental health condition in the past 12 months (115).

THE BEST BUYS – COST-EFFECTIVE STRATEGIES TO TACKLE NCDs

Addressing the conditions and risk factors associated with the development of NCDs requires multilevel, multisectoral responses. Globally, the need to address the social, economic and public health burden of NCDs has been recognized through the adoption of the United Nations Political Declaration on the Prevention and Control of Noncommunicable Diseases in 2011 as well as the adoption of the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020. As part of these global efforts, a core set of NCD interventions – the “best buys” – have been identified





Get Healthy Philly

Source: Get Healthy Philly reproduced with permission from the Philadelphia Department of Public Health

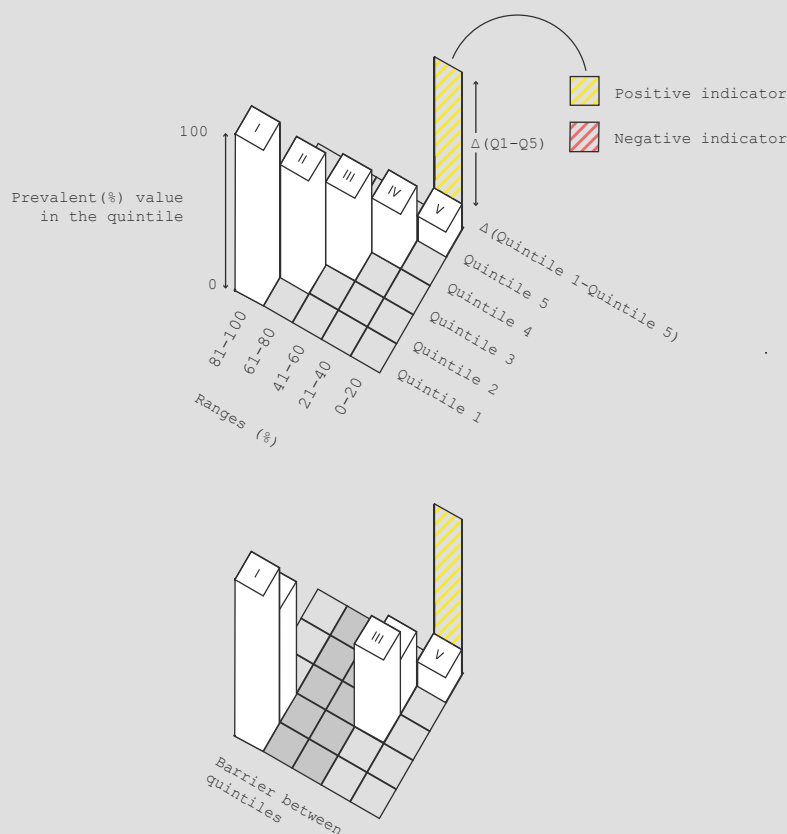
QUINTILE DISTRIBUTION

How you should read the data

In this visual model, levels of service coverage or prevalence are given for urban populations by wealth quintile. Rates for the poorest 20% of urban residents in a given country are represented by the bar labeled I in the first row of each grid. Each subsequent bar represents rate for each of the next four wealth quintiles, ending with the wealthiest 20%, labeled V. Levels of coverage can be read by the height of the bar, or its precise value at the end of the row.

The bars are also oriented from right to left, according to their approximate value. This helps to visualize the differences between the wealth subgroups. When there is a difference of more than 20% between two consecutive income groups, that portion of the grid is highlighted in order to underscore the gap.

A coloured bar indicates the difference between the poorest 20% and the wealthiest 20% of urban residents in a given country. For indicators where higher values denote more desirable results, such as access to an improved water source, the gap is yellow. For indicators where higher values denote poorer results, such as smoking rates, the gap is indicated in red.



Africa

Malawi

18
97.7
93.7
89.1
88.6
79.7

Democratic Republic of the Congo

15.6
92.8
87.4
86.9
81.2
77.2

Mozambique

13.9
91.0
90.0
89.8
83.6
77.1

Lesotho

19.2
75.3
71.7
66.1
64.0
56.1

Gabon

21.8
84.3
80.0
79.4
74.3
72.9

Kenya

10.9
88.9
84.9
83.5
76.0
78.0

Zimbabwe

11.6
84.7
80.1
83.7
83.3
73.1

Côte d'Ivoire

11.8
86.5
73.6
77.0
75.2
75.0

Uganda

8.5
91.9
91.5
90.8
90.1
83.4

Congo (Brazzaville)

7.7
69.3
68.0
64.6
66.7
61.6

Comoros

10.8
88.8
82.8
85.4
75.2
78.1

Madagascar

7.5
96.4
97.6
98.1
95.6
88.8

Swaziland

2.3
81.2
84.4
76.6
78.2
70.8

Burkina Faso

2.3
82.3
77.4
75.3
72.4
78.9

Sao Tome and Principe

1.3
94.3
83.1
91.8
93.8
93.2

Benin

6.9
95.1
96.0
93.7
96.0
88.2

Nigeria

1.3
94.3
83.1
91.8
93.8
93.2

Cameroon

5.7
88.6
89.6
83.8
86.9
82.9

Niger

-0.6
78.8
79.5
77.8
77.5
79.4

Namibia

-0.9
80.6
75.9
75.6
81.1
81.5

Figure 16. Inequalities in smoking rates among urban men by wealth quintiles and by region



Note: For the full country names, see Annex 1, Table A1.2. Q2, 2nd quintile; Q4, 4th quintile

Source: Global Health Observatory 2015 (21).

to assist policy-makers, members of civil society and business leaders in responding to the challenges posed by NCDs. The intervention strategies include taxation, advertising restrictions and public information, and are aimed at the risk factors and diseases associated with NCDs, namely tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity for CVD, diabetes, cancer and chronic respiratory diseases (108).

The price tag for scaled-up implementation of a core set of NCD “best buy” intervention strategies is comparatively low, with the potential to be highly beneficial. Population-based measures for reducing tobacco and harmful alcohol use, as well as unhealthy diet and physical inactivity, are estimated to cost US\$ 2 billion per year for all LMICs – less than US\$ 0.40 per person. Individual-based NCD “best buy” interventions, which range from counselling and drug therapy for CVD to measures to prevent cervical cancer, bring the total annual cost to US\$ 11.4 billion. On a per-person basis, the annual investment ranges from less than US\$ 1 in low-income countries to US\$ 3 in upper-middle-income countries. Investing in these strategies will help avoid many millions of premature deaths and result in significant economic savings. For example, reducing the mortality rate for ischaemic heart disease and stroke by 10% would reduce economic losses in LMICs by an estimated US\$ 25 billion per year – a cost-effective investment when just one third of this amount is required to achieve these benefits (108).

EXPLOITING THE URBAN ADVANTAGE

Tackling the burden of NCDs presents an opportunity for government, the private sector and civil society organizations to work together to an unprecedented degree and make life-saving, life-enhancing differences for entire city populations. It is a chance for cities to show their true worth and to exploit the urban advantage to maximum effect.

The WHO “best buy” strategies provide a starting point for NCD prevention and control efforts. Local governments often exercise policy and legislative control over many of the strategies to reduce the risk factors for NCDs. Tax increases, consumer information and health warnings, smoking prohibitions in public spaces and cessation programmes have been used effectively to reduce tobacco consumption. In New York City, a comprehensive antismoking programme bundled tax increases, smoke-free workplace legislation, public and health-care provider education, and cessation services saw a 19% drop in tobacco consumption from 2002 to 2006. This is approximately a 5% annual decline on average (116). The health outcomes of smoke-free legislation are substantial, particularly for child and maternal health. The implementation of smoke-free legislation in England has been associated with a reduction in stillbirths (7.8%), low-birth-weight (3.9%) and neonatal mortality (7.6%). Furthermore, in the first four years after legislation, it was estimated that 991 stillbirths, 5470 cases of low-birth-weight and 430 neonatal deaths were prevented (117). A worldwide meta-analysis study of the impact of smoke-free laws found both immediate and sustained reductions in hospital admissions for a range of cardiovascular and respiratory diseases, including an average reduction of heart attacks, by 15%. Notably, the study found a dose-response relationship between smoke-free laws and disease and expense. In other words, more comprehensive smoke-free laws are associated with greater health and cost effects (118). Comprehensive approaches applying both to increased prices as well as nonprice interventions, have been shown to substantially impact smoking cessation as well as the initiation of smoking (119).

Box 6.	WHO Smoke-free cities guide
<p>More than 600 000 people die from second-hand smoke each year (120). Local governments have the capacity to influence smoking in public spaces and workplaces through the implementation of smoke-free legislation. The evidence for action is compelling – compliance with legislation is high, it has high levels of public support and it is good for business. The WHO guide <i>Making cities smoke-free</i> (121) is designed to assist</p>	<p>mayors and local government officials in the preparation and implementation of effective smoke-free legislation. The guide draws on the experiences of cities in widely different contexts – from Almaty to Liverpool to Mecca and Medina – to provide practical information about how cities can become smoke free.</p> <p>Source: WHO Centre for Health Development 2016 (122).</p>

GBR

Cities can benefit from reducing alcohol-related harm. Both taxation and restrictions on availability and use have been shown to be effective in reducing alcohol-related harm (123). To be effective, both types of interventions should be targeted with higher-risk drinkers in mind. For example, a tax programme in Thailand balanced risk reduction with revenue generation by taxing lower-quality beverages by alcohol content, while also taxing higher-quality drinks by value. Restrictions of the sale of alcohol (e.g. restricted opening hours; reduced density of outlets; safe service practices) have also been effectively tailored to high-risk groups, as well as high-risk locations (124,125). Such restrictions can help to reduce harmful alcohol consumption, and have also been used as a mechanism to reduce urban violence. Restrictions on harmful use, such as those targeted at motor vehicle operators, have also been found to be effective, when enforced. These restrictions have been found to reduce fatal vehicle crashes using sobriety checkpoints and blood alcohol limitations, particularly for younger drivers (124).

Strategies to improve diet and physical activity levels of urban residents are discussed in the next chapter on urban food security and nutrition. In addition to the best buy strategies, governments must also consider the environmental and social conditions associated with the development of NCDs and the capacity of communities to respond, particularly in informal settings.

Box 7.	The impact of the built environment on health equity in cities
<p>Many of the most cost-effective measures are population-based programmes for NCDs that encourage healthy lifestyles and behaviours. The built environment – including buildings, streets, neighbourhoods and their amenities – have a significant role in shaping lifestyles and</p>	<p>behaviours. There is strong evidence for the effectiveness of environmental approaches to support physical activity, since inactivity is one of the four leading risk factors for NCDs. Interventions, including the development of walkable streets and neighbourhoods,</p>

THA

USA

connected sidewalks, and adequate lighting and visibility have been shown to increase regular physical activity up to 161%. Within buildings, simple environmental measures such as placement of point-of-decision signage at elevators and stairs have been shown to increase stair use by a median of 50% (126). Improving stairwells through increased visibility, music and art, and natural lighting have also been shown to be associated with increased stair use (126,127). Importantly, environmental interventions can

have multiple co-benefits across sectors, helping governments to achieve wider goals, including environmental sustainability and universal accessibility. Evidence from New York City reveals that improvements to the physical environment to promote physical activity also resulted in improved safety, air pollution and economic outcomes. The introduction of protected bicycle lanes in the Manhattan area of New York City resulted in a 35–58% drop in injuries to all street users and increased retail sales in the area by 49% (128).

Turning to the health sector, the double burden of disease necessitates an integrated approach to health care. This has become increasingly important as more patients present with coexisting communicable and noncommunicable diseases. In Khayelitsha, the largest informal settlement in Cape Town, South Africa, comorbidity of HIV, TB and NCDs has become commonplace among adults attending primary health care services (129). To address this growing reality throughout the country, the national government of South Africa is introducing a new integrated health-care delivery strategy (Box 8).

Common risk factors for communicable and noncommunicable diseases also call for a shift in the disease prevention and control paradigms away from the traditional, disease-specific approaches to care to health-centred, all-inclusive models of care (130). Models developed specifically for the underresourced and fragmented health systems of LMICs, such as the Innovative Care for Chronic Conditions Framework, focus on the need to improve health-care delivery by developing multilevel synergies between patient and families, community and health-care organizations and coordinated policy and health systems for effective long-term interventions in primary health care. The participatory role of the community and patients in the prevention of NCDs is considered essential to the success of such an approach (131).

Box 8.	Integrated health-care delivery in South Africa
<p>The strategic plan for the control of NCDs in South Africa recognizes the need to integrate chronic infectious diseases and NCDs in health-care delivery. The Integrated Chronic Disease Management model was developed and is being introduced by the National Department of Health in response to the changing</p>	<p>pattern of disease. Building on the strengths of the HIV programme, this health systems strengthening model uses a systems approach to improve health outcomes by restructuring health-care delivery across the continuum of care, integrating prevention, treatment and care of chronic diseases at the primary care</p>

level. The model also focuses on assisted self-management by empowering chronic disease patients to take responsibility for their own health. The chronic diseases in this model include HIV, TB, diabetes, hypertension, epi-

lepsy, asthma, chronic obstructive pulmonary disease and mental health illnesses.

Source: Department of Health, Republic of South Africa 2013 (132).

While integrated, effective health system functioning is a necessary component of NCD prevention and control, it is only part of the solution. **Data** systems are required to ensure evidence-informed **policy** and decision-making at all levels of government. At the local level, **data** utilization is critical to ensuring that interventions are responsive and timely to **community** needs, particularly in **poor** urban settings where there is a scarcity of information for **NCDs** and risk factors. Urban HEART, for instance, has been used to collect and use health and determinants of health **data** for **NCDs**.

SUMMARY

NCDs are changing the landscape of urban health by becoming the dominant cause of morbidity and mortality in many cities regardless of whether they have conquered communicable diseases or not. The urban environment, especially those characterized by poor urban planning, heavy reliance on personal motorized transport and lack of access to healthy food options, enhances NCD risk factors such as physical inactivity and poor diet. NCDs have typically been thought of as diseases of affluence, but they are now killing more people in the developing world than anywhere else, including in the urban slums. They take a heavy toll on people's health as well as on the economy.

The urban health system needs to be better oriented towards dealing with NCDs. Integrated health-care delivery systems that provide seamless prevention, early detection, treatment and management of NCDs along with communicable diseases will be essential both at national and local levels. Moreover, actions must be taken in various other domains of the urban environment in order to address the primary causes and risk factors of NCDs. The other chapters in this report show how the urban food environment, the spatial layout of the city, transportation systems, housing conditions and safety all play a role in shaping the urban NCD burden, as do other social determinants such as education and income.

In responding to NCDs, it is clear that action by the health sector alone is not sufficient, and that collaboration across sectors is essential. Such collaboration will increase the likelihood that resources are used efficiently and that the outcomes will not only benefit the health sector, but also contribute to achievements in other areas. Local governments often have the policy and legislative control over key issues affecting NCD risk. Thus, they are poised to exploit the urban advantage to reduce the health and economic burden of NCDs. Encouraging active participation of multiple stakeholders and critically, the communities themselves, is a necessary component of effective, sustainable solutions.

CHAPTER 5 — TACKLE 21ST CENTURY MALNUTRITION

HNGR

2

KEY MESSAGE • Cities increasingly face the unprecedented dual challenge of undernutrition and overnutrition.

HLTH

3

EDUC

4

From the very beginning of life, good nutrition influences individual health and well-being across the life course as well as many other determinants of health, including education and employment. Rapid urbanization has led to a fundamental shift in the way we live our lives, including how and what we eat. Cities, by their very nature, influence the quality and quantity of food, its availability, price and consumption patterns. The food system is inherently related to the city dynamic, from how cities are planned and the policies governing land use, to social norms around food consumption.

In the evolution of cities worldwide today and over recent decades, two outstanding trends are occurring almost side by side. Both have profound implications for the health of urban populations everywhere. The first is the “epidemiological transition” in which the main causes of disease have been shifting steadily from infectious to noncommunicable conditions, even though some infectious diseases continue to flourish (as discussed in the previous chapter). The second trend, closely related to the first, is the “nutrition transition”, or the malnutritionⁱⁱ transition, in which overnutrition is increasingly a problem, while undernutrition is being brought under control, though modestly and unevenly across countries. Overweight, obesity and increased risks of chronic diseases are thus on the rise. Yet, here too, there is a “double burden” – both may coexist in communities and even within the same household, with parents who are overweight, while their children are stunted.

ECON

8

Rapid urbanization coupled with lifestyle trends, socioeconomic development and generally improved health status have led to the growth of this relatively new pattern of malnutrition in cities. This chapter takes a close look at nutrition outcomes in urban areas, which have profound implications for the burden of communicable and noncommunicable diseases discussed earlier, and explores the cross-sectoral approaches available to cities for improving food and nutrition for its citizens.

CITY

11

ii Malnutrition encompasses both undernutrition (includes underweight, stunting, wasting and micronutrient deficiency) and overnutrition (overweight and obesity). Different standards apply for children and adults. See: A manual: measuring and interpreting malnutrition and mortality. Atlanta and Rome: Centers for Disease Control and Prevention and World Food Programme; 2005 ([http://www.micronutrient.org/nutritiontoolkit/ModuleFolders/13.Manuals_and_resources/WFP_Measuring_and_Interpreting_Malnutrition_and_Mortality/3\)_Chapter_1_-_Defining_&_measuring_malnutr_\(pgs_15-32\).pdf](http://www.micronutrient.org/nutritiontoolkit/ModuleFolders/13.Manuals_and_resources/WFP_Measuring_and_Interpreting_Malnutrition_and_Mortality/3)_Chapter_1_-_Defining_&_measuring_malnutr_(pgs_15-32).pdf)); and WHO Indicator and Measurement Registry for indicator definitions (<http://www.who.int/whosis/indicators/en/>).

PARTN

17

SUBSECTION

Tackle 21st century malnutrition

PG

92



Rooftop farm/greenpoint

Source: Rooftop farm/greenpoint by Lila Dobbs, is licensed under CC BY 2.0, <https://creativecommons.org/licenses/by/2.0/legalcode>

PVRTY
1

INCREASING OVERWEIGHT AND OBESITY IN CITIES

Overweight and obesity have more than doubled since 1980 and are linked to more deaths worldwide than underweight. In 2014, more than 1.9 billion adults were considered overweight and, of these, more than 600 million were obese (133) (Figure 17). The left panel of Figure 17 shows how overweight, including obesity, has increased in the urban areas of LMICs in Africa, the Asia-Pacific, and Latin America and the Caribbean between 1990–2004 and 2005–2013. In Latin America and the Caribbean, where the average prevalence is highest, about half of urban women are overweight. In the right panel of Figure 17, rising rates of overweight among urban women in selected countries over the last decade or more are highlighted. In some countries, such as Egypt and Jordan, a great majority of urban women are overweight according to most recent estimates. These trends partly explain why no country is currently on course to meet the global nutrition target of halting the rise in adult overweight and obesity (134).

Historically, in LMICs, these two conditions have been linked to high-income status, while the opposite has been the case in richer countries, where overweight and obesity are more common among low-income groups (135,136). However, this pattern in developing countries is changing, with overweight and obesity increasing even among the lower-income groups, including in urban areas.

Urban overweight and obesity in seven African countries increased by about 35% over at least a 10-year interval during 1992–2005. This growing health burden is much greater for the poor, with a 50% increase among the urban poor, compared to only 7% in the richest group. Furthermore, there was an increase of 45–50% among the non-educated and primary educated women, compared to a reduction by 10% among women with secondary education or higher (137).

Another analysis of 36 developing countries found that among adult women living in urban areas, overweight exceeded underweight by a factor of 5.8, compared to 2.1 in rural areas. In this case, too, a considerable burden was borne by the poor. In the relatively more developed countries, half (51%) of urban women of low socioeconomic status are overweight (138).

Worryingly, children, including in LMICs, are also

HLTH
3

EDUC
4

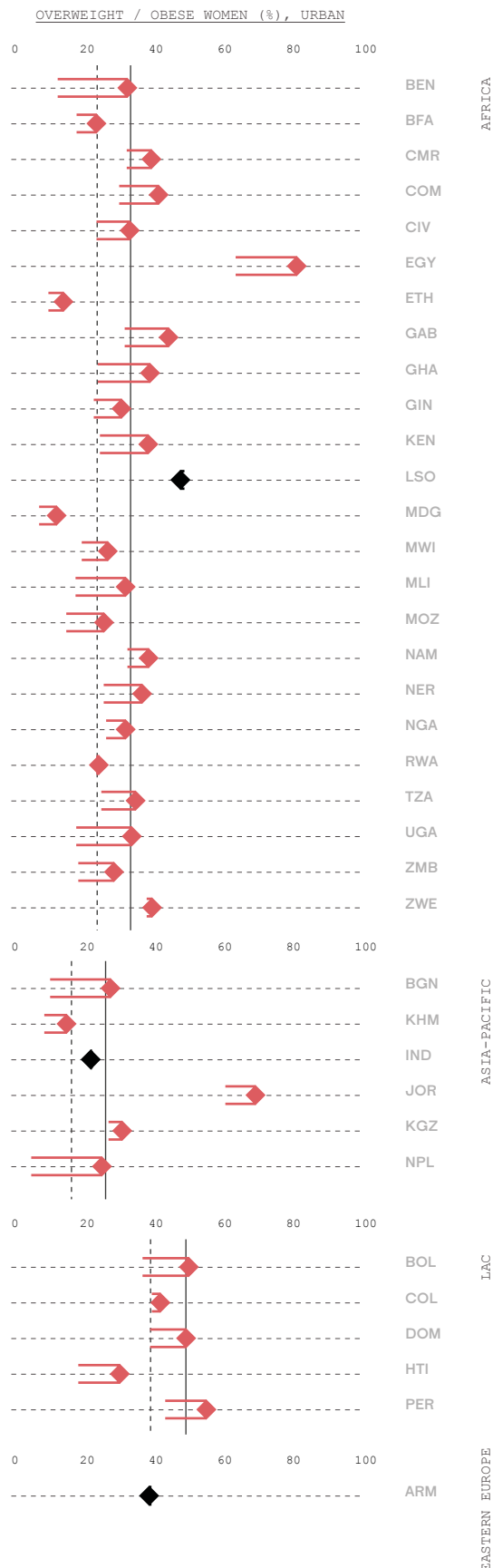
GNDR
5

INEQ
10

Figure 17.
Trends in prevalence of overweight (including obesity) among urban adult women, 1990–2013

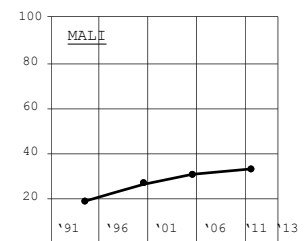
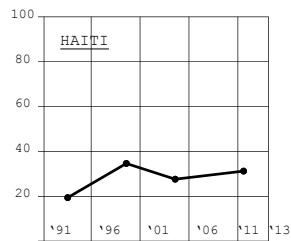
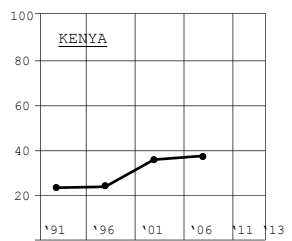
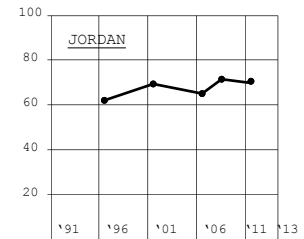
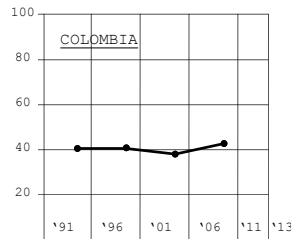
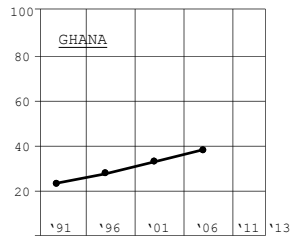
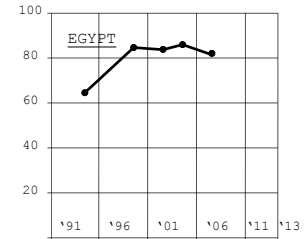
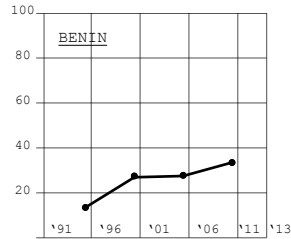
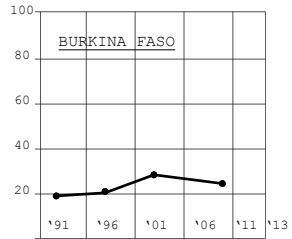
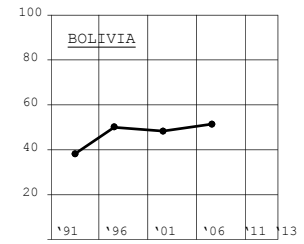
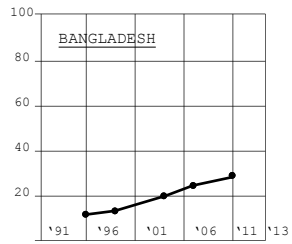
Note: For the full country names, see Annex 1, Table A1.2.

Source: Global Health Observatory 2015 (21).



VISUAL KEY

Overweight
Obese Women (%)
Urban



VISUAL KEY

1990-2004
earliest dataset

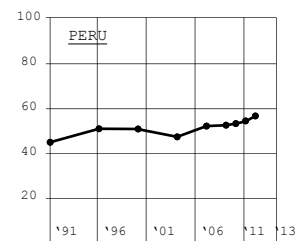
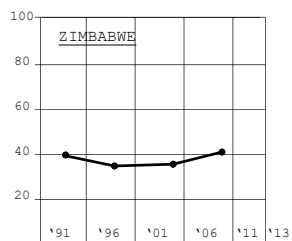
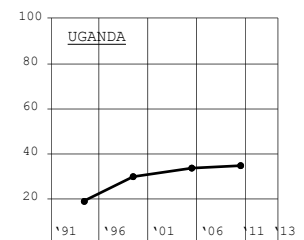
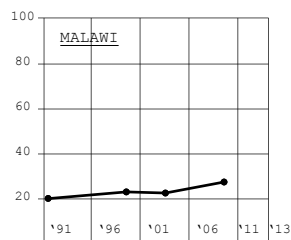
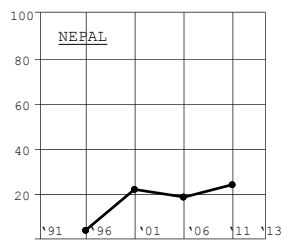


2005-2013
latest dataset

■ worsening
■ improving

⋮ 1990-2004 avg

⋮ 2005-2013 avg



EGY

JOR

becoming part of a worldwide rise in obesity due largely to poor nutrition in early childhood and exposure to energy-dense, micronutrient-poor foods (133,139). However, most countries still tend to focus primarily on undernutrition in the under-5 age group. Many countries do not collect or utilize data on childhood overweight and obesity beyond the age of 5 and into adolescence, which is a critical time when nutrition-related habits are formed and unhealthy food marketing is often targeted.

INEQUITIES HAMPERING PROGRESS ON UNDERNUTRITION

At the same time, evidence shows that undernutrition and micronutrient deficiencies, or “hidden hunger”, is still common in many LMICs. Overall, the number of people with inadequate dietary energy intake (i.e. undernourished) in the world is down by 167 million over the last decade, and 216 million less than in 1990–1992. The decline is more pronounced in developing regions, despite significant population growth. However, of about 795 million people in the world who are still undernourished, 780 million are in developing countries (140).

In urban areas, undernutrition is also commonly associated with socioeconomic status. From 1990 to 2013, while child stunting – an indicator of sustained poor dietary intake, repeated infections, or a combination of both – had generally declined over the years in urban areas, most dramatically in the Asia-Pacific and LAC (Figure 18, left), the inequity in stunting had not improved. On average, the relative difference in prevalence of child stunting between the poorest one fifth and richest one fifth of urban households only slightly decreased among countries in Africa, and in countries in the other regions it increased (Figure 18, right). The latest data from the DHS showed that in LMICs in LAC, stunting was about five times higher in the poorest one fifth of urban children than in the richest one fifth.

Such inequities limit progress on reducing stunting in urban areas that, in turn, can hold back progress at the national level. Figure 19 shows trends in stunting rates among urban children in four countries in South-East Asia over different periods. In each country, prevalence of stunting among the richest one fifth of urban children was between 10% and 20%, according to the latest DHS in each country. Child stunting rates among the richest urban households improved since the earliest survey undertaken in each country in the 1990s, with the exception of Bangladesh. On the other hand, stunting still affected 40–60% of the poorest one fifth of urban children in these countries according to surveys conducted since 2000. In Pakistan, there was hardly any reduction in stunting among the poorest one fifth between 1990 and 2012. Thus, large gaps remain to be filled in order for all urban children to have stunting rates as low as those of the richest urban children.

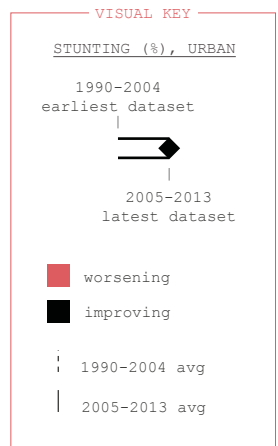
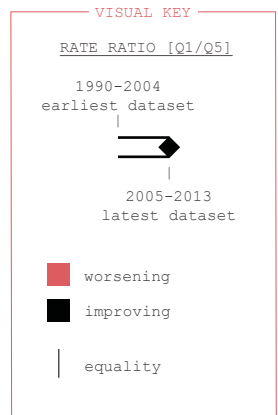
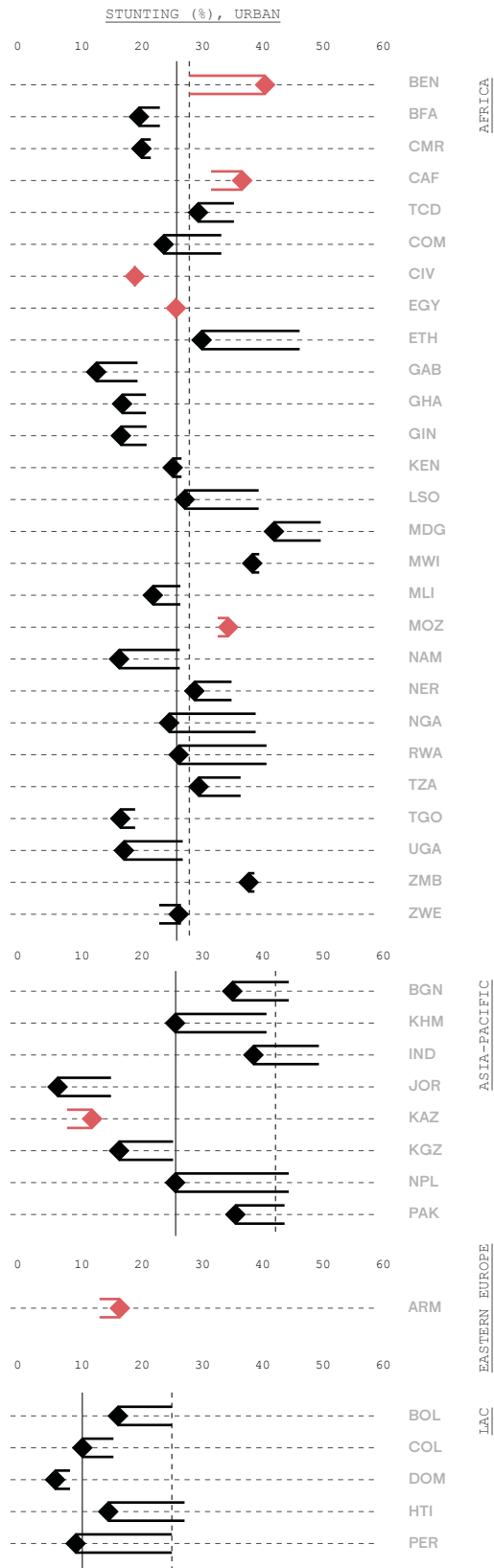
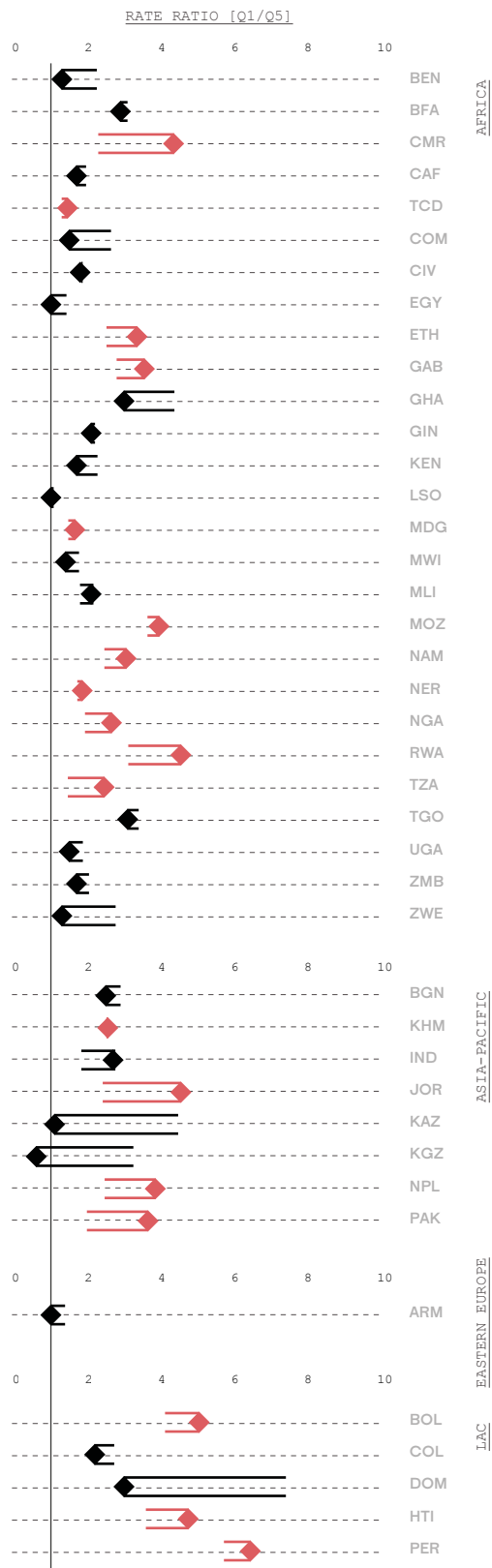


Figure 18.
Trends in prevalence of stunting among urban children under 5 years, 1990–2013

Note: For the full country names, see Annex 1, Table A1.2.

Source: Global Health Observatory 2015 (21).

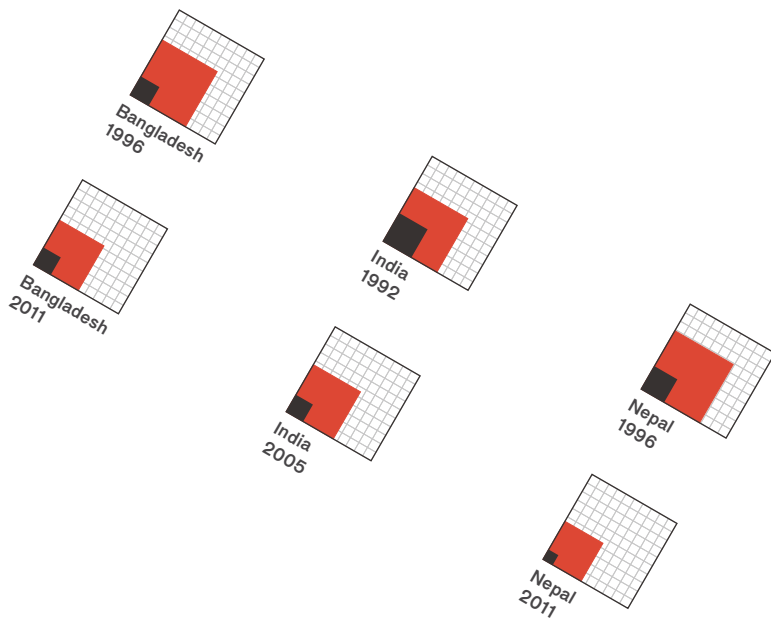
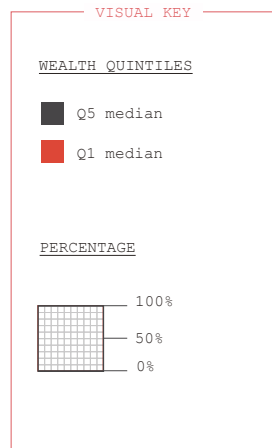


BGD

PAK

Figure 19.
Trends in prevalence of stunting among children under 5 years by country and urban wealth quintile, 1990–2012

Source: Global Health Observatory 2015 (21).



CO-EXISTENCE OF OVERNUTRITION AND UNDERNUTRITION IN CITIES

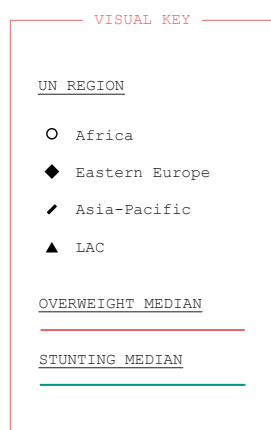
With the changing patterns of malnutrition associated with urbanization, wealth and development, an increasing number of LMICs are now experiencing the simultaneous burden of both undernutrition and overnutrition, especially in urban areas. Figure 20 shows that, in general, the prevalence of overweight and obesity among adult women declines with increasing levels of child stunting in the urban areas studied. However, several countries, clustered in the centre of the graph, carry a double burden in terms of a moderate level of both child stunting and adult female overweight. The countries in the first (upper-right) quadrant have an especially heavy double burden, with levels of both stunting and overweight above the urban median.

Other global studies have found similar trends of an increase in overacquisition (or excess consumption) of nutrients in the face of declining undernourishment (134). Even in households of urban slums in Nairobi, a study of 3335 children and their mothers showed that only 7.5% of the mothers were underweight, while 32% were over-

Figure 20.
Association between the prevalence of overweight (including obesity) among adult women and the prevalence of stunting among children under 5 years living in urban areas

Note: For the full country names, see Annex 1, Table A1.2.

Source: Global Health Observatory 2015 (21).

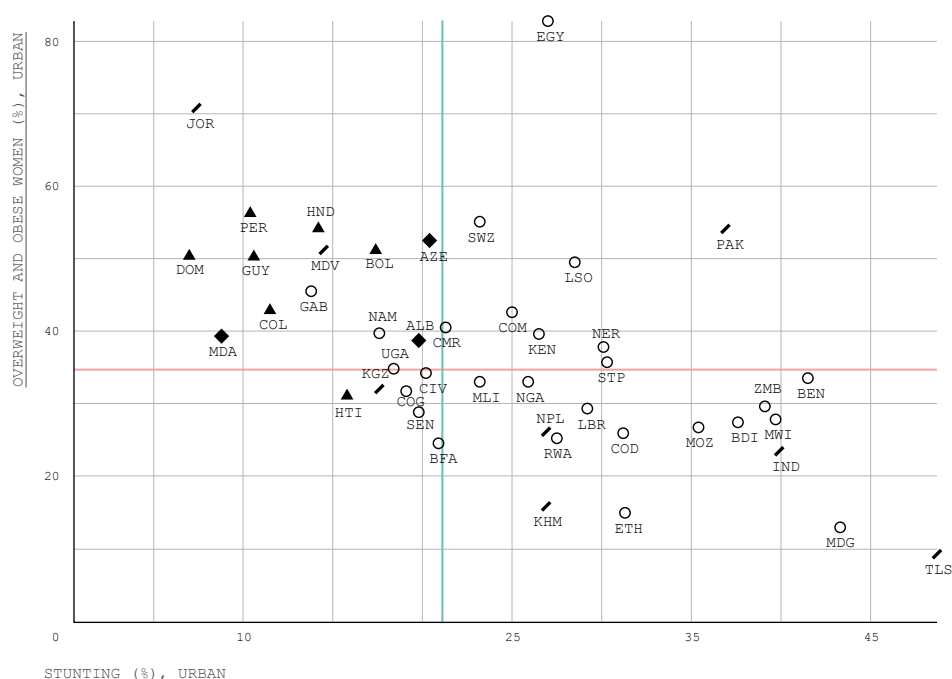


weight or obese. Moreover, 43% of the overweight mothers and 37% of the obese mothers, respectively, had stunted children (141). Thus, the dual challenge of overnutrition and undernutrition manifest not only at the population level of cities and countries, but even within households. The specific causes of this coexistence is yet to be fully understood.

MANY POTENTIAL COSTS TO CITIES FROM MALNUTRITION

Malnutrition in all its forms presents several interlinked challenges in cities. First, there is the human cost of children and adults who are kept from reaching their full potential and may have shortened lives – malnutrition is a risk factor for increased mortality and morbidity from noncommunicable and infectious diseases as well as psychological disorders. Second, there is the cost to the health system in terms of treatment and care. Third, there is the cost to economic and social progress. Altogether, these issues create a fourth challenge for city leaders and policy-makers: how to prioritize actions that prevent and reduce malnutrition.

Malnutrition, which includes undernutrition and overnutrition, is a risk factor for both communicable and noncommunicable diseases (134). The toll it takes on people’s lives is substantial. Globally, undernutrition alone is responsible for 45% of all deaths in children under 5 years, approximately 3.1 million deaths per year (142). It is the leading risk factor for poor health outcomes in sub-Saharan Africa, and fourth highest in Asia (143). Overweight and obesity cause more deaths than underweight worldwide because they are major risk factors for the development of NCDs, which are responsible for about 63% of all deaths worldwide (144). Globally, 44% of diabetes, 23% of ischaemic heart disease and 7–41% of certain cancers are attributable to overweight and obesity. A large proportion of NCDs lead to premature death, particularly in



PVRTY
1

LMICs. A higher proportion (29%) of all NCD deaths in LMICs is estimated to occur in people under the age of 60 than in high-income countries (13%).

HNGR
2

Malnutrition also creates huge costs to the health system. In a country such as Egypt, where undernutrition is associated with 11% of all child mortalities, the health system costs of treating pathologies related to undernutrition (e.g. diarrhoea; respiratory infections; anaemia; low-birth-weight) generated an estimated cost of 1.14 billion Egyptian pounds, based on 2008 data (145). While the families are thought to bear around 72% of this health-care cost, it is still an important component of public expenditure, consuming approximately 1.6% of the total budget allocated to health. In New York City, obesity is epidemic, and it starts early in life. More than half of adult New Yorkers are overweight (34%) or obese (22%) as are nearly half of all preschool and elementary school children (146). As a result, more than 50 000 deaths per year are caused by obesity and overweight, which cost the city US\$ 4.0 billion in medical costs alone (147).

HLTH
3

EDUC
4

In Canada, evidence shows that people with more severe food insecurity (a contributing factor to malnutrition) use more health services and incur higher health-care costs of between 23% and 121% compared with adults in food-secure households (148). The 3.4 million Canadians affected by food insecurity in 2013 – including nearly 1 million children – are vulnerable to the physical and emotional hardships that characterize the experience of food insecurity and the associated compromises to health and well-being (149).

WATR
6

The social and economic costs of malnutrition are not negligible. Malnutrition impacts the individual’s capacity to engage in education and employment opportunities, and contributes to poorer educational outcomes. Adults affected by malnutrition are less able to work, contribute to local economies and provide care for their families. This perpetuates a cycle of poverty and economic stagnation.

ECON
8

A study in Guatemala, for example, demonstrated this cycle, showing that adults who were stunted as children had less schooling, lower test performances, lower household per capita expenditure and a greater likelihood of living in poverty (150). It has also been estimated that malnutrition can result in a decrease in earning capacity in adulthood of up to 2.9% (151).

CITY
11

An extensive study in Egypt showed that stunted children are more likely to drop out of school and that this disadvantage in the labour market led to losses in potential productivity. A large proportion (40%) of Egyptian adults are also stunted, representing more than 20 million people of working age that are not able to achieve their potential as a consequence of child undernutrition. Furthermore, an estimated 857 million working hours were lost in 2009 due to absenteeism from the workforce due to of nutrition-related mortalities. This represents an economic loss equivalent to 0.5% of the country’s GDP (145).

CLIMT
13

Altogether, malnutrition costs US\$ 3.5 trillion per year to the global economy. Undernutrition and micronutrient deficiencies cost up to US\$ 2.1 trillion per year, and the cost of NCDs related to obesity and overweight was estimated at US\$ 1.4 trillion in 2010 (152).

These costs are partly supported by studies from around the world. In Asia, malnutrition reduces human productivity by 10–15% and GDP by 5–10% (153). In the USA, obesity alone is estimated to result in productivity losses equivalent to US\$ 668–4299 per person per year (154). In Egypt, the annual costs associated with child undernutrition is estimated at 20.3 billion Egyptian pounds (US\$ 3.7 billion), which is equivalent to 1.9% of GDP (145).

PARTN
17

SUBSECTION

PG

DIFFERENT PATHWAYS FOR CITIES TO TACKLE THE CAUSES OF MALNUTRITION

Evidence from cities and nations around the world about the human, health system, socioeconomic and other costs bolsters the argument for cities to tackle the widespread roots of malnutrition. The SDGs also spur cities with a call for action to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

The large body of evidence and experience on effective nutrition interventions demonstrates that they can have a lasting impact on multiple aspects of people's life. Primary health care is a logical and critical setting for conducting food and nutrition interventions alongside other health promotion activities, and much work is already under way in these areas.

However, in order to adequately and fundamentally address the challenges of food and nutrition in cities, broader interdisciplinary and intersectoral actions are required. This chapter thus focuses on the many ways that urban services and planning can contribute to improve food and nutrition in cities. This also provides a bridge to Section 2, which directs attention to urban sectors beyond health.

One important area of urban management that has strong ramifications for nutrition is water, sanitation and hygiene (see also the chapter on water and sanitation in Section 2) (155). Repeated episodes of diarrhoea or intestinal worm infections due to unsafe water, inadequate sanitation or insufficient hygiene are associated with half of all malnutrition cases globally (156). Diarrhoea, in particular, is a leading cause of death of children under 5 years worldwide, and its constant presence in low-income settings contributes significantly to undernutrition (157). Repeated parasitic infections can result in anaemia and inhibit physical and cognitive development. Over 2 billion people worldwide are infected each year, while an estimated 4.5 billion people are at risk of infection (158,159). The burden of undernutrition can thus be reduced with adequate provision of basic urban services such as safe water, sanitation and hygiene.

In addition, city planning and design that promote physical activity can be effective in preventing and reducing unhealthy weight gain that is important for NCD prevention. Urban planning also influences access to healthy food sources (discussed later in this chapter). While these areas of urban services and planning – water, sanitation, hygiene, active city design, distribution of healthy food sources – are typically dealt with independently, coordinated action can generate valuable synergies that can make a real impact on improving nutrition outcomes in cities.

SUSTAINABLE FOOD SYSTEMS TO ENSURE FOOD SECURITY IN CITIES

The growth of cities poses a challenge for all aspects of the food system. It increases competition for land use, contributes to the demand for food supplies and shifts food consumption habits towards convenience foods. Moreover, the growing impacts of climate change can affect availability of food, resources required to produce food, access to and utilization of food, and stability (e.g. price fluctuation) (160). Between 2003 and 2013, natural hazards and disasters such as flooding and drought in developing regions affected more than 1.9 billion people and resulted in nearly half a trillion US dollars

CAN

EGY

GTM

USA

in estimated damage. The agricultural sector absorbed up to 22% of the total economic impact of these events (140).

Some countries are struggling to improve the availability, access and utilization of food in the face of rapid urbanization and economic instability (161). Many cities across all levels of development are similarly affected. In rapidly urbanizing cities, uncontrolled urban expansion can lead to the loss of nearby agricultural land, strain transportation and logistics systems for distribution and thereby exacerbate problems with access and utilization of food. In contrast, already highly urbanized places are faced with concentrations of poverty that are inextricably linked to food insecurity and sprawling development that results in more expensive locally produced goods and heavier reliance on more distantly grown products (162). For example, in Zambia's capital, Lusaka, 69% of households in the poorest neighbourhoods are severely food insecure; only 4% are considered to have total food security (163). In the USA, the most recent national survey of household food security revealed that 14% (or over 17 million) of households are food insecure, and 81% (or over 14 million) are in metropolitan areas, of which 40% (nearly 6 million) live in principal cities. The health impact of such food insecurity includes malnutrition and reduced diet diversity (164).

All stakeholders need to work together at global and local levels for advocacy and project implementation as well as for raising awareness on urbanization and food security as one of the key issues of our times. A more localized food system approach can and should be promoted in connection with national and international food systems. Interactions of local and global food supplies should be governed in ways that promote trade and local procurement to improve the conditions for small and limited resource farmers in all regions. Local authorities can act to improve the food security of their cities by adopting city-region food systems: creating a diverse food supply geographically close to population centres and improving local management of food systems, while strengthening linkages with rural producers (160).

Although local authorities are key players in developing policies and interventions that support sustainable food systems in city regions, often they have not considered the food system as an important issue when designing, planning and managing cities. The perception has been that because food is there, and one can easily buy it in supermarkets or on the streets, food will always be there (160). This perception, however, is rapidly changing.

There is good evidence that many cities are now firmly committed to action. In April 2015, 100 cities from around the world signed the Seoul Declaration, which calls for the development of sustainable urban production and resilient city-region food systems (165); and, in October 2015, another 115 cities, including several from LMICs, signed the Milan Urban Food Policy Pact, which calls for the development of food systems based on the principles of sustainability and social justice (166).

URBAN AGRICULTURE

The implementation of urban agriculture – the cultivation, processing and distribution of food within the city – could prove an important response to anticipated food shortages, while also providing several economic and health benefits (167). Urban and peri-urban agriculture offer many potential benefits to cities: supply and distribution of fresh food;

HNGR
2

WATR
6

ECON
8

INEQ
10

CITY
11

CNSUM
12

CLIMT
13

PEACE
16

PARTN
17

SUBSECTION

Tackle 21st century malnutrition

PG

102

increased dietary diversity; lower food costs for consumers resulting from reduced distribution costs; income generation for producers and distributors; and contributions to environmental sustainability by reducing pollution, stabilizing soils and absorbing excess rain water (168,169).

Other specific actions that can be taken at the local level include legislation regulating land use practices, zoning, transportation and permitting urban and peri-urban agriculture as well as enhancing land use security for food production and sale (168).

For example, in Beijing, China, urban agriculture is integrated into its strategic development plan. Five specialized agricultural zones have been created to promote urban agriculture to produce food as well as to attract tourism and to use as an educational tool. Farmers are encouraged to establish cooperatives to take advantage of their combined scale and bargaining power. Through the cooperatives, the government delivers subsidies to incentivize growth, including selling organic fertilizers and less polluting pesticides at lower prices, reducing farmers' costs and enhancing food safety. The city government estimates that this urban agriculture practice is worth RMB 340 billion a year, with a growth rate of 6.1%, not just in terms of products, but also in contributions to the social and environmental fabric of the city (170).

The Participatory Urban Agriculture Project, founded in Quito, Ecuador, in 2002 (171), supports more than 12 000 individuals (86% of them women) and 380 community-based organizations in urban and peri-urban farming. It is inclusive of all community members, including those who would often be excluded or marginalized – older people, single mothers, abandoned children, migrants and refugees, and people with disabilities. More than 1000 active gardens have been established, including 140 community gardens. Annual food crop production is estimated at 400 tonnes, with 47% of produce sold and the remainder kept for home consumption. Participants earn at least US\$ 55 per month from the sale of surplus produce and make a further saving of at least US\$ 72 per month on food purchases by consuming what they grow. The programme has helped diversify the diet of urban farmers and their families, and supported the establishment of produce markets across the city.

In the Democratic Republic of the Congo, government support for urban and peri-urban horticulture since 2000 has created over 16 000 producers across five cities. This has generated some 60 000 jobs and produces 150 000 tonnes of vegetables per year for a total urban population of 11.5 million. Between 2000 and 2010, the project disbursed loans worth US\$ 1.08 million to market gardeners for investment in crop production and other income-generating activities. Most of that credit was channelled through “microbanks” managed by development NGOs and growers' associations. Each microbank serves 50–75 growers, who contribute 20% of the loan amount for approved activities. The loans, averaging US\$ 60 per grower, are used mainly to buy inputs and farm tools, or invested in small-scale enterprises, such as seedling nurseries, composting units and small-scale animal production (172).

Bringing attention to the fact that urban agriculture contributes towards many city-wide health, social, economic and ecological benefits as well as to the goals of municipal agencies and elected officials may help overcome challenges in mobilizing resources and multiple stakeholders.

CHN
COD
COG
ECU

ITA

USA

ZMB

PVRTY
1

ACCESS TO SAFE AND HEALTHY FOODS

HNGR
2

The availability and accessibility of safe and healthy foods are essential for good nutrition, but there are many obstacles to this in cities. Local authorities have an influential role in determining the location of outlets stocking fresh fruit and vegetables and ensuring that healthy food is available, accessible, safe and utilized, not only where people live, but also in other spheres of urban life such as school, work or recreational places. Poor urban planning and sprawl combined with dysfunctional transportation networks can make healthy food outlets hard to reach. It can also lead to increased hours of commuting for working people, leaving them with less time for food preparation. In poorly constructed housing, there may be no kitchen space, refrigeration or water, all necessary for safe food preparation. These conditions increase reliance on processed or prepared foods, which tend to be higher in calories and lower in nutrition, especially among people with fewer resources. Food safety is also a concern especially with foods prepared in unhygienic conditions in urban street markets and by street vendors.

HLTH
3

EDUC
4

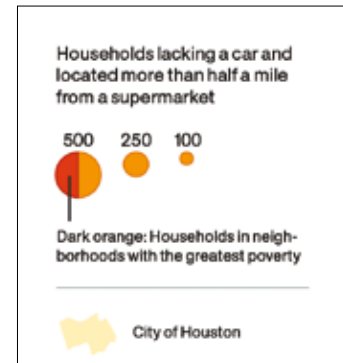
These situations can sometimes lead to what are called “food deserts”.

WATR
6

Food deserts appear when residents of low socioeconomic status are unable to access nutritious, affordable food in the vicinity of their home (173). For example, some 43 000 households in Houston, USA, many of them in neighbourhoods with the greatest poverty, are located more than half a mile from a supermarket and do not have access to a car, leaving them vulnerable to malnutrition (Figure 21).

Figure 21.
Urban food deserts in Houston, Texas

Source: McMillan 2014 (174).

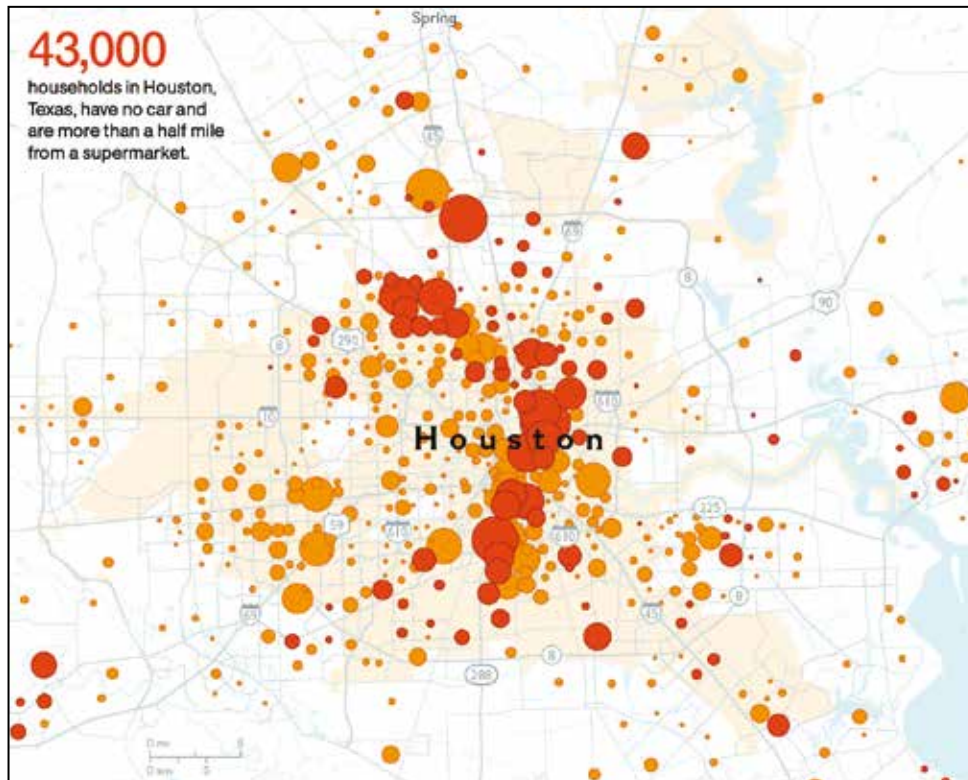


INFRA
9

CITY
11

CNSUM
12

CLIMT
13



PARTN
17

SUBSECTION

PG

Such problems could be addressed by: (i) legislation that supports local food production (e.g. informal markets; farmers markets; community gardens; urban agriculture); (ii) linking social protection schemes to food purchase; (iii) integrating food security considerations into transportation and spatial planning (e.g. zoning food outlets); (iv) healthy eating guidelines for schools and community organizations; and (v) policies and infrastructure on safe food storage, processing, transport and distribution, among other possible interventions.

WHO has developed an approach to improve the safety and nutritional quality of foods sold in urban markets as part of its Healthy Cities Programme. The Healthy Food Markets approach aims to achieve sustainable improvements in food markets, not only by improving the physical infrastructure and essential services, but also by changing the behaviours of various market participants, including primary producers, wholesalers, market vendors and consumers (175).

Box 9.	Get Healthy Philly
<p>Get Health Philly is a city-wide approach to improving food security, tackling food deserts and reducing inequities in childhood obesity in Philadelphia, Pennsylvania.</p> <p>The programme uses a range of measures, including: (i) public awareness campaigns (e.g. for salt reduction; smoking; physical activity); (ii) city-wide nutrition standards for all food served by city agencies affecting almost 64 000 residents and 20 million meals; (iii) supporting corner stores to stock and promote healthy food options; (iv) incentives for food subsidy recipients to spend money on fruit and vegetables; (v) healthy vending machine standards; and (vi) increasing the number of farmers markets.</p> <p>The city pioneered new financing strategies to bring back full-service grocery stores to underserved neighbourhoods and improve food and physical activity in schools, and was one of the first jurisdictions in the country to remove all sugar-sweetened drinks from public school vending machines. Urban planning policies focus on making it easy and appealing for people to walk and bike throughout the city.</p> <p>Since the programme began in 2010, a 6.3% decline in childhood obesity has been reported compared to the baseline in 2006–2007. Importantly, significant improvements are reported among the African-American and Asian racial/ethnic minorities who live in the city.</p> <p style="text-align: right;"><i>Source: Department of Public Health, City of Philadelphia 2015 (176).</i></p>	

COST OF FOOD IN CITIES: A REMOVABLE BARRIER TO BETTER NUTRITION

The impact of food cost is closely tied to socioeconomic status and nutrition outcomes. When food prices go up, there are at least two consequences: those most affected suffer a loss in the quality of their diet; and then go on to eat less. This may be especially true of women and mothers who eat less in order for there to be more for other members of

PVRTY
1

the family. Other consequences may be that families make less use of health services, and their children go less often to school (177). When food prices go up, policy attention tends to focus on rural food insecurity and agriculture. But this approach misses a large part of the problem as there is evidence that urban food insecurity exceeds or equals rural levels in many LMICs (178).

HNGR
2

The reduced quality of food intake as a result of high food prices in cities is partly due to greater consumption of street foods, with potentially unhealthy consequences. As vendors can buy produce and fuel in larger quantities than individual households, street foods can be cheaper than cooking at home, making it especially attractive to low-income families. For example, in Accra, Ghana, street foods account for 40% of food purchases by low-income families, and even 25% of those by high-income families (178). But street foods everywhere are often high in starch and fat, and researchers have noted the risk that this contributes to increasing levels of overnutrition (177). On the other hand, reduced costs for healthy foods have been shown to achieve the opposite effect by sustaining healthy selections once new habits are established (179).

EDUC
4

These issues go back to an earlier stage of the food chain. The food and agriculture sector has the primary role of feeding people well by increasing availability, affordability and consumption of diverse, safe, nutritious foods and diets, aligned with dietary recommendations and environmental sustainability. Agricultural programmes and investments can help improve nutrition if, among other strategies, they incorporate explicit nutrition objectives and indicators into their design, target vulnerable populations, and improve equity through participation and access to resources. They can also improve processing, storage and preservation to retain nutritional value, shelf life and food safety, and make healthy foods more convenient to prepare.

ENRG
7

Food and agriculture policies can have more impact on nutrition by increasing incentives (and decreasing disincentives) for availability, access and consumption of diverse, nutritious and safe foods. They can also monitor dietary consumption on the same basis, and include measures that protect and empower the poor and women and provide safety nets that allow people on low incomes to access nutritious food during hard times. These and related recommendations have been formulated following an extensive review of available guidance on agriculture programming for nutrition conducted by FAO and through consultation with a broad range of partners, including United Nations agencies, NGOs, government officials and donors (180,181).

ECON
8

INEQ
10

CITY
11

In addition, social protection programmes, such as cash transfers, can be delivered at the local level and buffer against food insecurity. The Get Healthy Philly programme (Box 9), for example, includes incentives for recipients of food assistance to buy fruits and vegetables. The case study from Brazil (Box 10) cites similar initiatives and others that can contribute to a virtuous cycle of better nutrition and higher labour productivity.

CNSUM
12

Box 10.	A city initiative on food security that led to a national programme: Belo Horizonte, Brazil	
In Latin America, conditional cash transfer programmes have proven successful in improving the nutrition status of the poorest	families as well as facilitating access to health-care services and education through the empowerment of women in decision-	

PEACE
16

PARTN
17

SUBSECTION

PG

making (182). The Zero Hunger programme in Brazil, started in 2003, reached almost one quarter of the population, mainly women, and provided families with approximately US\$ 100 per month if their children went to school. This programme, in combination with other schemes, has significantly reduced income inequality in Brazil and, within six years, reduced the number of people facing food insecurity from 50 million to 30 million (140). This national programme originated in a pilot initiative in the city of Belo Horizonte in 1992. The newly elected mayor launched a programme of inclusive development to tackle hunger and poverty. A municipal food agency was established to ensure food security that continues to deliver programmes such as food distribution, school meals, subsidized food sales and price regulations. Under a municipal urban agriculture programme, more than 100 gardens and orchards have been established, including in areas serving vulnerable populations. School gardens have been used for environmental and food education. Since 2011, at least 30%

of the food for school meals is bought directly from family farms. Other initiatives include the distribution of fruit trees, gardening education and the establishment of distribution points where families can sell their goods. The contribution of urban agriculture to the overall food system is low (approximately 50 tonnes of a total of 45 000 tonnes), but the programme has contributed to strengthening social networks, community education and environmental sustainability. The civic forum Urban Agricultural Space was established to bring together 33 civil society organizations and government agencies. In 2013, it successfully campaigned for the municipal government to increase programme funding from US\$ 160 000 in 2012 to US\$ 240 000 for urban, peri-urban and rural food production. Agriculture is now integrated into municipal programmes for housing, welfare, health, education, employment, training and environmental protection.

Source: Food and Agriculture Organization of the United Nations 2015 (171).

BRA

CHN

GHA

MEX

HEALTHY EATING BEHAVIOUR INFLUENCED THROUGH LOCAL ACTION

Across all countries, it would be difficult to find an urban community where cheap, processed and packaged foods are not a significant part of the diet. This is especially true in many low-income urban neighbourhoods where foods are often of very poor quality, containing high levels of unhealthy fats, sugar and salt, and lacking in essential nutrients. Eating food from restaurants and street vendors is also common in urban areas. While some serve healthy foods, most serve unhealthy foods, or even unsafe foods, with a higher concentration of such food outlets in lower-income areas.

In Mexico, overall, 58% of caloric intake is from processed foods. This proportion goes up to 66% in Mexico City. China is at an earlier stage of the retail food sector growth and, hence, an earlier stage of consumption of consumer-packaged foods and beverages. Nevertheless, already one third of total calories consumed comes from processed foods. The consumption of calories from processed foods and restaurants increases with the size of the urban area. In Chinese megacities, 35% of total calorie intake is based on processed foods and 19% on restaurants (183).

Different measures have been taken to promote healthier eating behaviour in cities as well as nationally, including policy measures to alter the food environment,

PVRTY
1

public awareness campaigns and skills training, and programmes within specific settings such as schools and workplaces.

HNGR
2

Regulatory and taxation measures have been used to influence the availability and consumption of unhealthy foods. For example, in 2006, New York City passed the first regulation in the USA restricting the use of trans-fats, a risk factor for coronary heart disease, in restaurants and fast-food chains. This resulted in a decrease in average trans-fat per purchase by 2.4 grams, with restaurant patrons from high- and low-income areas benefiting equally (184). In Mexico, purchases of sugar-sweetened beverages fell by about 10% within three months after a one peso per litre tax on the products was introduced nationally in 2014 (comparing the first quarter of 2014 to that of 2013), in combination with a 7% increase in purchases of non-taxed beverages (185). Importantly, though, taxation alone can be regressive. Individuals may not be responsive to price increases if the cost of the desired product is already high or the tax is a small proportion of their income. As such, additional targeted strategies, including tax redistribution measures, subsidies, behaviour change campaigns and regulatory restrictions, are also required to improve health outcomes.

HLTH
3

EDUC
4

WATR
6

Public awareness campaigns aim to influence consumer choice through improved nutrition knowledge and food utilization. Dietary guidelines and messaging as well as cooking recipes or demonstrations can all promote healthy eating. While food labelling is another potentially effective strategy, its success depends on the audience – the use of nutrition labelling is considerably lower among people of lower socioeconomic status and people who have little nutritional knowledge (186). In general, public awareness strategies are most effective when delivered as sustained components of a larger intervention strategy (179).

ENRG
7

ECON
8

While national governments are often responsible for the rollout of such measures to promote healthy eating, such approaches have also been incorporated into local-level approaches. This includes programmes within schools, workplaces, market-places and other specific community settings. School-based nutrition programmes are especially important for child development and forming healthy eating habits that will affect their health over the life course. The WHO Global Strategy on Diet, Physical Activity and Health recommends that school policies and programmes support the adoption of healthy diets and physical activity (187). Furthermore, the WHO Nutrition Friendly Schools Initiative provides a framework for addressing the double burden of malnutrition (described at the start of this chapter). It includes components relating to school-based healthy eating policies, staff and community engagement in nutrition and health-related issues, and supportive school environments and curricula (188).

INEQ
10

CITY
11

The evidence consistently shows that multicomponent interventions are effective (179). For instance, in northern India, a controlled trial evaluating a multi-component, school-based, nutrition intervention with urban adolescents found that the intervention group had improved knowledge, lower consumption of sugar-sweetened beverages and energy-dense goods, greater fruit consumption and lower BMI (189).

CLIMT
13

In northern France, EPODE (Ensemble, Prévenons l'Obésité des Enfants – Together Let's Prevent Childhood Obesity), a school-based nutrition education programme that began in 1992 in two towns, has now scaled up internationally, promoting a community-based model of a multisectoral, multipronged intervention to tackle obesity. The initial programme was expanded in scope over 12 years to eventually address physical activity and nutrition in the town populations as a whole through a series of com-

PARTN
17

munity-based actions. Over the years, downward trends in mean BMI and obesity have been observed among children. In the years following the scale-up of the intervention to incorporate multiple components both in and out of the school setting, the prevalence of overweight children was found to be about half (8.8%) that of a comparison town (17.8%) (190).

The original programme has now been adopted and expanded to over 300 European cities and towns as well as overseas. The EPODE model is an innovative methodology that enables the entire community, to create a healthy environment that facilitates social change (191). It promotes the involvement of stakeholders across different sectors and at both local and national levels to ensure consistency with national legislation.

FRA

SUMMARY

The burden of ill-health associated with malnutrition is significant in cities worldwide. Overweight and obesity, both indicators of overnutrition, are growing while undernutrition still remains a challenge for many of the world's urban poor. As a result, the coexistence of overnutrition and undernutrition, even within the same household, is occurring in urban settings. This is especially the case in LMICs undergoing a transition from undernutrition to overnutrition as the main malnutrition challenge. All of these forms of malnutrition contribute to the burden of communicable and noncommunicable diseases and conditions, and threaten the economic and social foundations of sustainable city development. Overall progress on a broader level is further impeded by persistent inequities in nutrition outcomes.

IND

MEX

Malnutrition in cities is largely the result of a complex web of interactions between the physical, economic and social environments of cities. On the one hand, this presents a daunting challenge for cities. On the other hand, it offers multiple avenues for cities to make incremental, but sustainable change to improve food and nutrition outcomes in cities. While primary health care is a key setting in which food and nutrition interventions should be delivered, this chapter goes beyond the boundaries of the health sector to highlight approaches that take advantage of the link between the urban environment and malnutrition. Water and sanitation services are an essential complement to nutrition interventions aimed at reducing undernutrition. Land use regulation and transportation planning can promote urban agriculture and equitable access to safe and healthy food. Active city design can increase physical activity that is a key to preventing overweight and obesity along with nutrition. Other actions that can be taken at the city level to tackle malnutrition include integrating food security considerations into social protection programmes and promoting healthy food choices through education and regulation. The various factors that strongly influence each of these aspects, whether they lie with the private sector or at national and global levels, must also be taken into consideration. Furthermore, without an explicit focus on ensuring equity, large portions of the community will continue to suffer from the lifelong implications of poor nutrition.

The multifaceted nature of urban malnutrition thus requires an overarching framework relying on multidisciplinary approaches in which resources are combined and policies are coherent and integrated to holistically improve urban food security and health and nutrition outcomes.

USA

The adoption of the SDGs in September 2015 has created a new framework where global, national and city goals can align. The adoption of a goal and targets for cities in the SDGs has brought city leadership onto the global development agenda and implicates city leadership to take action. It also links them to other global goals, including health, where they can have significant influence. The population scale of cities, the unique nature of diseases and vulnerability in cities and the resources they wield for prevention and care endows cities with the power to move the needle on global priorities as well as local. For the first time, many global health and

SECTION 1 — CONCLUSION

development agencies are focusing their attention on the city venue for their work. These dynamics present cities with the opportunity and the obligation to take on a leadership role in rolling back many of the world's most challenging diseases and creating environments that actually produce good health.

Cities should embrace their leadership position. It is not only a moral imperative to tackle these sources of premature mortality, reduced quality of life and health inequity, but also an economic imperative. These conditions are eminently preventable

and treatable, and the cost of their prevention or swift treatment overwhelmingly outweigh the costs of hospitalization and preventable death. Disease and premature mortality also have implications for the loss of economic productivity. Most importantly, these are human beings, who along with their families are a part of the fabric of the city and deserve the opportunity to live a long and healthy life. Cities have the power to grant them this opportunity.

A frequent problem in cities is more often one of not using adequately the tools and resources that exist than a lack of usable solutions. Cities are nested in nation–states that share their health priorities and these priorities and strategies need to be aligned and accountable. Nation–states should have urban health strategies, and they should coordinate with city leadership to ensure alignment and feasibility. In order to tackle these health issues at the scale required of them, cities need to recognize the cost of health inequity. They need to understand the groups in their city that are more vulnerable and why, whether it is due to gender, education or even the location of homes within the city. This depends on increasing the quantity and quality of city-level data for health. An urban data revolution is overdue and will give city officials much needed capacity to determine empirically health-related policies and programmes. Armed with better data, cities will be better equipped to deploy solutions that efficiently distribute access to better health and its determinants. Cities are, therefore, capable of leading on UHC. Cities are capable of eliminating preventable, premature death for all people, and that is eminently within reach.

MDG SCORECARD

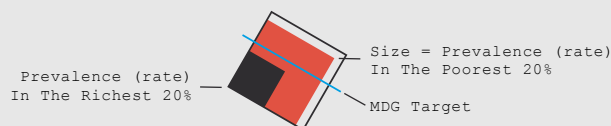
Why this matters

While the Millennium Development Goals [MDGs] have now been replaced by the Sustainable Development Goals [SDGs], we take a look back at how people in urban areas fared with respect to the MDG targets. There are two main objectives for doing so:

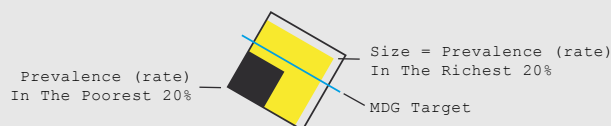
1. To recap our focus on MDGs in the first Hidden Cities report in 2010. In particular, we claimed that rapid progress was needed for the more disadvantaged sections of the urban populace to achieve the MDGs. Therefore, we will examine progress with reference to inequalities in health-related MDGs;
2. To prepare a baseline for the SDGs since all of the health-related MDGs are included within the framework of the new global goals. For example, targets 3.1 – 3.3 of SDG 3, focused on health, are aligned with MDGs 5, 4, and 6 respectively.

How you should read the DATA

Indicators for MDGs 1.C and 4.A indicate a worse outcome with increasing values, e.g. under-five mortality. These indicator values for the highest and lowest income quintiles are given by black and red squares, as in the figure below. The contrasting differences in size between these squares depict inequality in progress toward the MDG target. The MDG target is represented by a blue line.



For all other indicators a higher value denotes a more desirable result, e.g. skilled birth attendance. These indicator values for the highest and lowest income quintiles are given by black and yellow squares, as in the figure below.

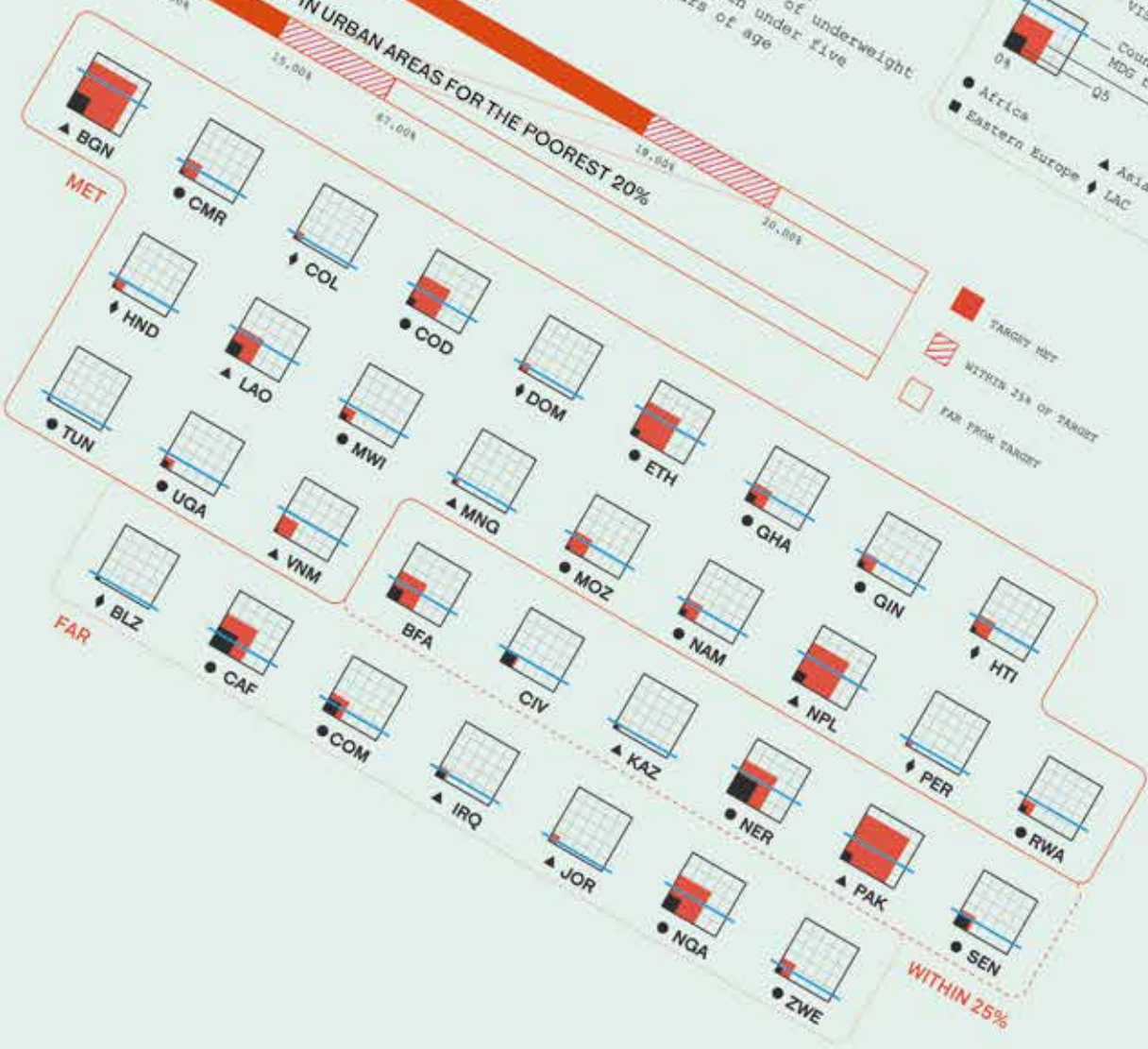
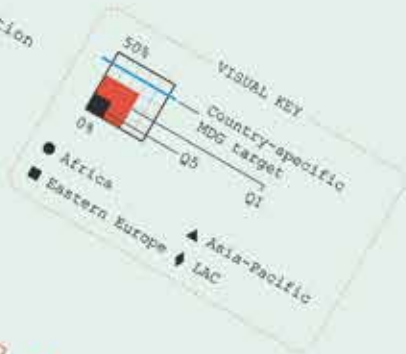


MDG TARGET IN URBAN AREAS

MDG TARGET IN URBAN AREAS FOR THE POOREST 20%

TARGET 1.C
 Halve, between 1990 and 2015, the proportion of people who suffer from hunger

INDICATOR 1.8
 Prevalence of underweight children under five years of age



MET

FAR

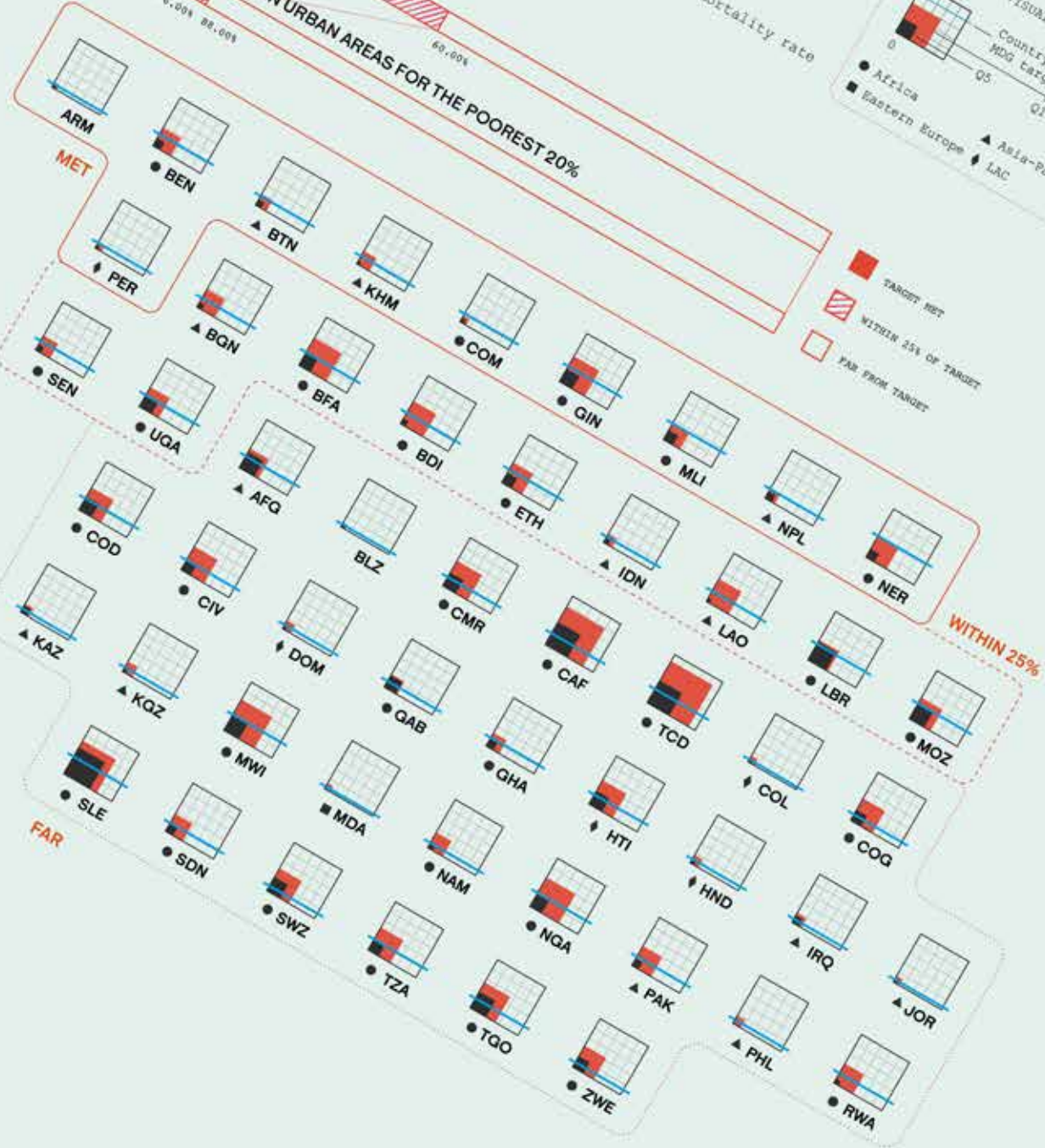
MDG TARGET IN URBAN AREAS
MDG TARGET IN URBAN AREAS FOR THE POOREST 20%

TARGET 4.A
 Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

INDICATOR 4.1
 Under-five mortality rate

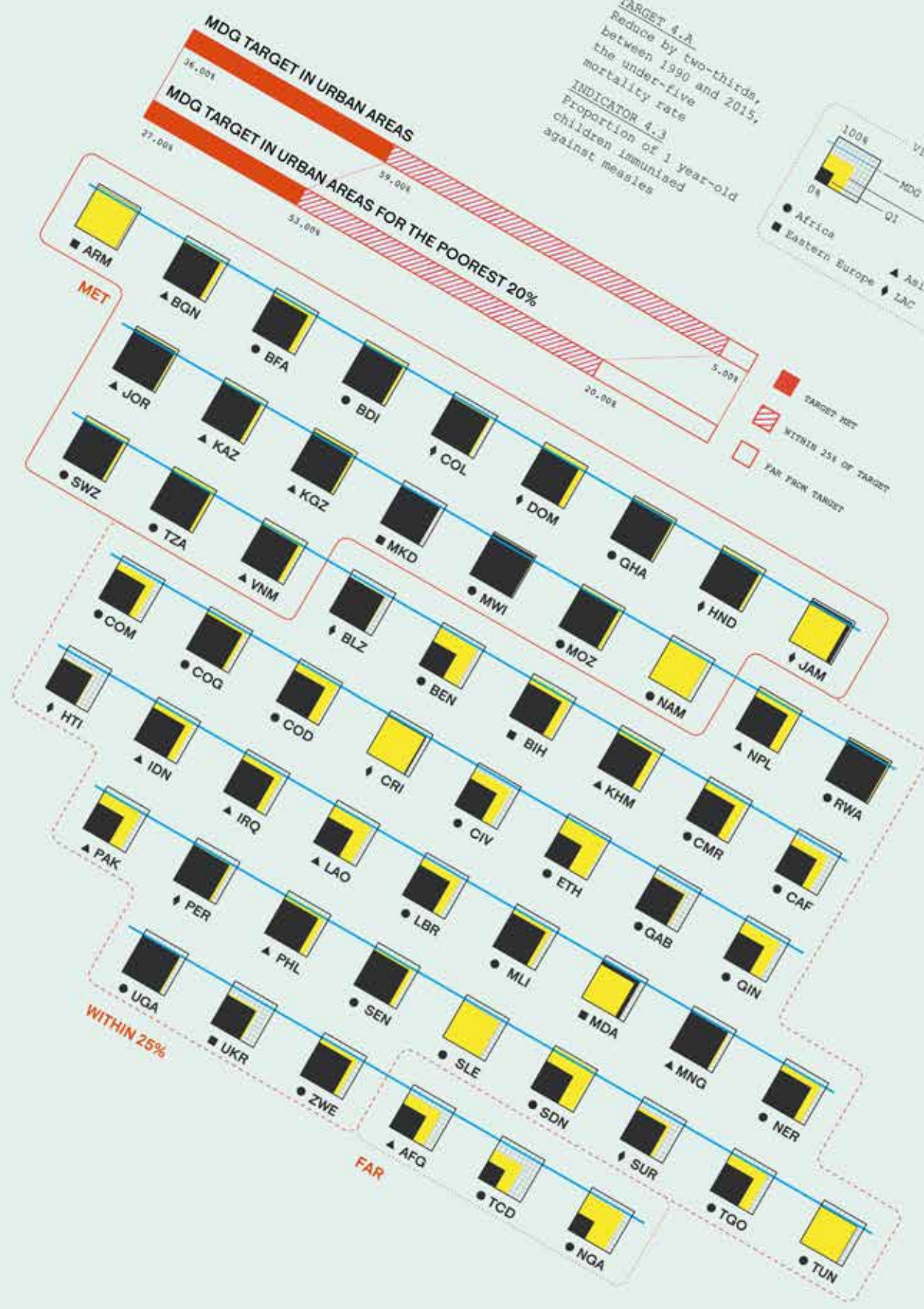
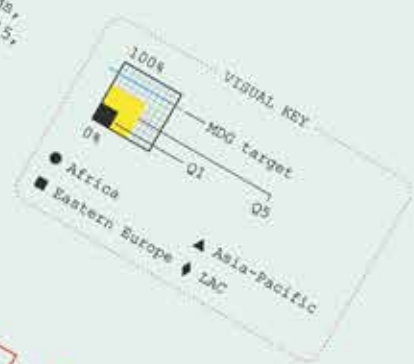


21.00%
 19.00%
 6.00% 6.00% 88.00%



TARGET 4.A
Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

INDICATOR 4.3
Proportion of 1 year-old children immunised against measles



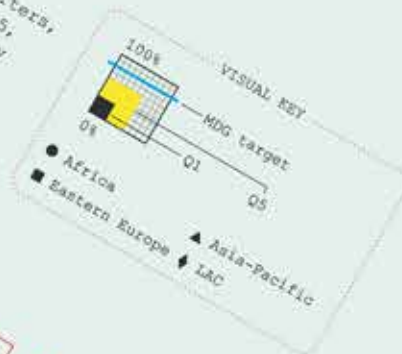
MDG TARGET IN URBAN AREAS

58.00%
36.00%

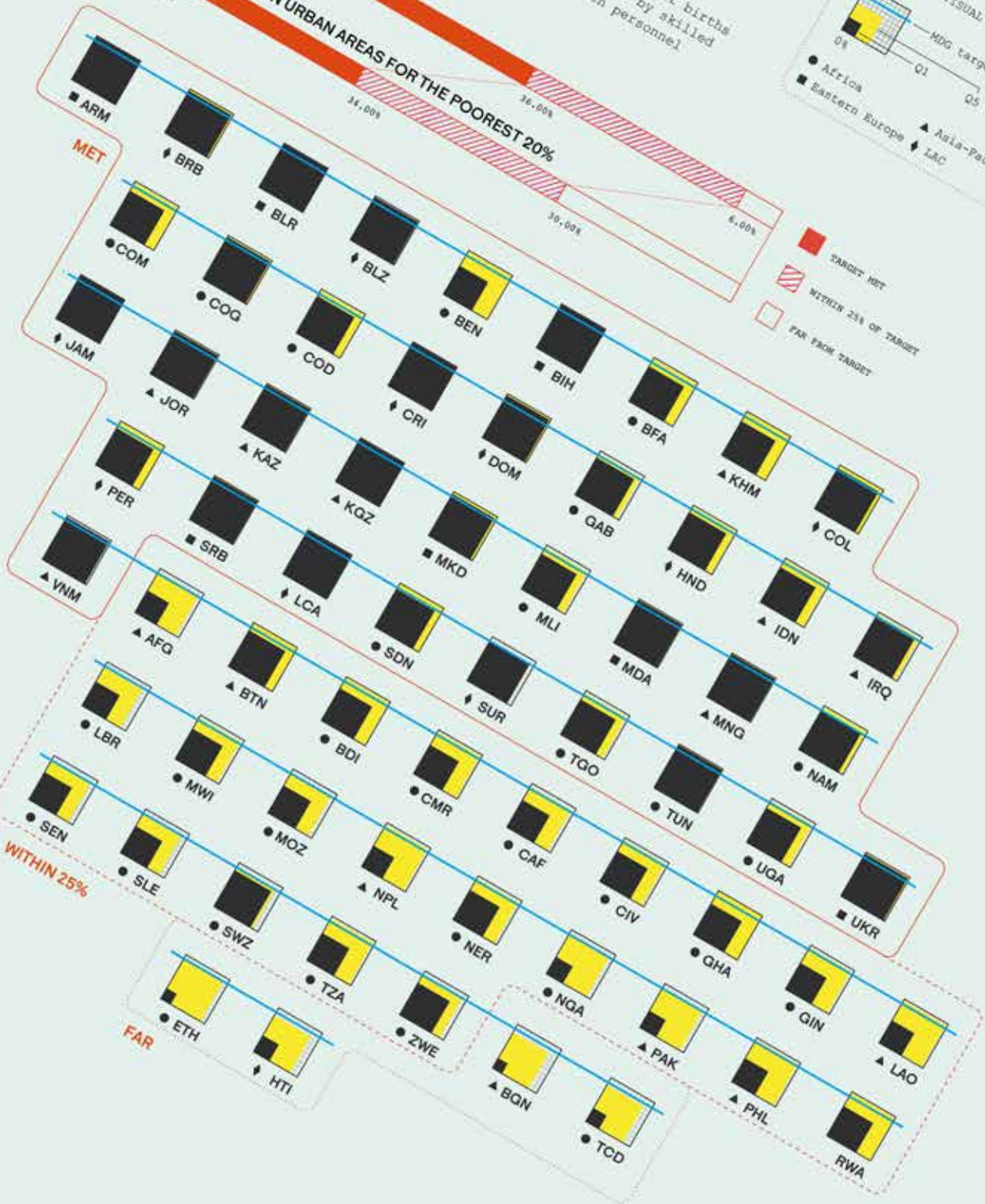
MDG TARGET IN URBAN AREAS FOR THE POOREST 20%

TARGET 5.A
Reduce by three quarters,
between 1990 and 2015,
the maternal mortality
ratio

INDICATOR 5.2
Proportion of births
attended by skilled
health personnel

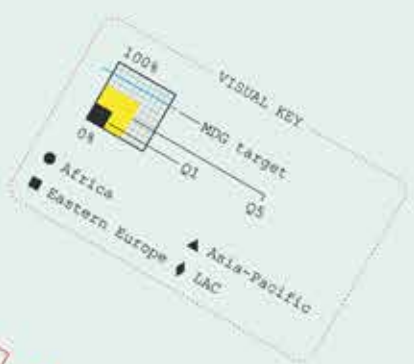


■ TARGET MET
▨ WITHIN 25% OF TARGET
□ FAR FROM TARGET



TARGET 5.B
 Achieve, by 2015, universal access to reproductive health

INDICATOR 5.5
 Antenatal care coverage (at least four visits)

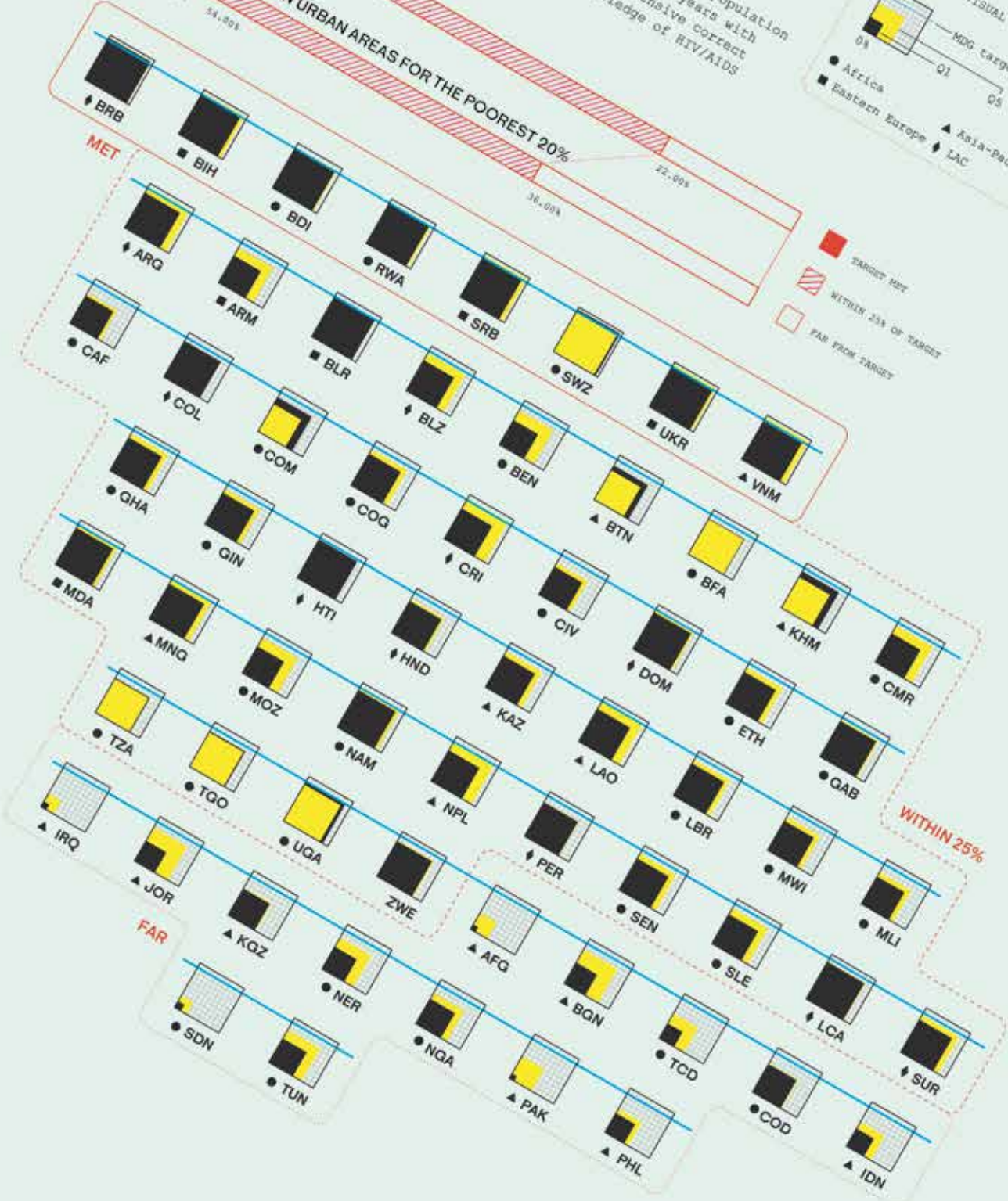
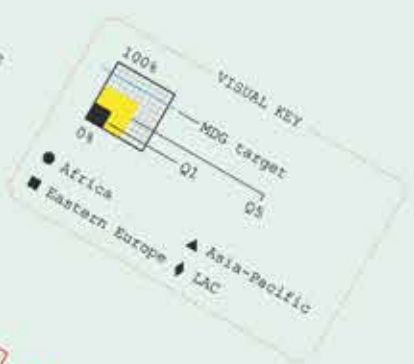


MDG TARGET IN URBAN AREAS
 13.00% 85.00%

MDG TARGET IN URBAN AREAS FOR THE POOREST 20%
 10.00% 54.00%

TARGET 6.A
 Have halted by 2015
 and begun to reverse
 the spread of HIV/AIDS

INDICATOR 6.3
 Proportion of population
 aged 15-24 years with
 comprehensive correct
 knowledge of HIV/AIDS



MDG TARGET IN URBAN AREAS
MDG TARGET IN URBAN AREAS FOR THE POOREST 20%

TARGET 7.C
 Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation

INDICATOR 7.8
 Proportion of population using an improved drinking water source

