

# Chapter 7:

## Public Health and Sustainable Urban Futures



## *Quick facts*

1. Climate change has overtaken disease as the foremost urban health threat and risks leading to the high damage urban future scenario.
2. The causes of mortality and ill health in cities have shifted significantly in the past 20 years with the rising toll of Non-Communicable Diseases (NCDs) in both low-income and higher-income cities.
3. COVID-19 amplified cities' entrenched health inequities with racial/ethnic minorities, women, displaced populations, residents of informal settlements, precarious workers, and other marginalized groups disproportionately affected.
4. Rising levels of depression, anxiety and other mental health impacts have been linked to COVID-19, particularly for essential workers, those with heightened caring duties (especially women), racial/ethnic minorities and other vulnerable groups.
5. In six of the most disruptive conflicts currently waging in the world today, major cities have been active battlegrounds leading to immediate and long-term devastating impacts on urban health and future development.

## *Policy points*

1. When health is recognized and acted upon as a priority across all urban interventions, there are vital possibilities to achieve multiple benefits for well-being and foster inclusive, resilient, and sustainable urban futures.
2. Ongoing disaggregated data collection is essential to reveal the true picture of multi-layered rapidly changing urban health risks for effective policy formulation and action to ensure policymakers "leave no one behind."
3. Challenges of health inequity—often rooted in geographic, political and socioeconomic exclusion—can be tackled via place-based initiatives co-developed with residents to promote health in marginalized neighbourhoods and support more equitable urban futures.
4. Expanding Universal Health Care is a key priority in advancing health for inclusive, resilient, and sustainable urban futures as well as strengthening health system preparedness for a future of epidemics and pandemics.
5. Responsive, accountable local governments play a pivotal role in developing effective holistic place-based interventions that can generate multiple co-benefits for health, inclusion and climate change mitigation.



Health in all its multifaceted dimensions has surged to the forefront of public dialogue, especially discussions of cities, in the last two years. But the reinvigorated movement for healthy cities to achieve the optimistic urban future scenario urgently needs multisectoral approaches extending far beyond the health sector. Such wide-ranging approaches are necessary because health is an essential component of sustainable urbanization given its impact on and interrelation with social, economic and environmental factors. Rather than existing as a standalone priority, health can serve as a catalyst that unifies several SDGs and generates multiple far-reaching benefits beyond the absence of disease.

Indeed, health should not be so narrowly understood. The Constitution of the World Health Organization (WHO) defines “health” broadly as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”<sup>1</sup> More recently, WHO has championed the “healthy cities” global movement to inform city governments of the important role of social, spatial and physical factors in supporting health and well-being for all.<sup>2</sup> The approach also emphasizes the pivotal overarching role of responsive, accountable local governance in supporting social determinants of health including fostering safety, promoting social cohesion, enhancing living conditions and creating access to decent work.<sup>3</sup>

Improved access to healthcare; water, sanitation, and hygiene (WASH); and other health-promoting infrastructure and services are the necessary minimum components to support well-being in urban areas. However, in the wake of present-day challenges, health interventions for sustainable urban futures will need to incorporate considerations of climate change, which poses the foremost contemporary urban health threat.<sup>4</sup> Climate-related health impacts will need to be addressed across several sectors and levels, including at the home, workplace, neighbourhood, city, metropolitan and regional scales.

Analyses of rural and urban health data have often suggested there are better health outcomes in urban areas and that urban residents typically “enjoy better health on average than their rural counterparts.”<sup>5</sup> However, when household wealth is taken into account, the “urban advantage” in health often disappears.<sup>6</sup> Based on recent data on children’s survival and well-being from 77 low- and middle-income countries, the “poorest and most vulnerable urban children fare worse than their peers in rural areas.”<sup>7</sup>

More generally, in many urban centres, the same health risks are experienced and acted upon in starkly different ways due

to racial divides, gendered discrimination, xenophobia and other sources of disadvantage. Known as “health inequities,” such differences in health outcomes are “not only unnecessary and avoidable, but in addition, are considered unfair and unjust.”<sup>8</sup>

Improved understanding of how multiple factors contribute to urban health disparities at several levels and sites (including homes, workplaces and neighbourhoods) will be key to effective interventions that can avoid entrenching urban health inequities. Additionally, there is a crucial need for ongoing, disaggregated data collection to understand and address urban health inequalities. Findings on health risks by residents themselves (so-called “citizen scientists”), including those in informal settlements, can help fill data gaps while also informing effective, equitable interventions.

The COVID-19 pandemic exacerbated cities’ profound health inequalities, with racial/ethnic minorities, women, people with disabilities, residents of informal settlements, precarious workers and other marginalized groups bearing an especially heavy toll.<sup>9</sup> In the wake of COVID-19, it will be essential to develop strategies that promote healthy urban futures while also fostering climate resilience, social inclusion and more inclusive development pathways in order to avoid the high damage urban future scenario.<sup>10</sup> Promoting health for sustainable urban futures will require a holistic multisectoral approach to address the interrelated social, economic, political, and environmental factors influencing health in cities. Such interventions can simultaneously address the complex set of determinants of urban health as well as generate co-benefits toward these goals.

This chapter will therefore focus on opportunities for generating multiple co-benefits for health, inclusion and climate change mitigation by placing health at the core of urban interventions. This requires a holistic understanding of the factors influencing health in cities as well as addressing the roots of health inequities. The question guiding the chapter is: How can cities effectively promote and secure health for inclusive, resilient, and sustainable urban futures?

Section 7.1 illustrates the multilayered, rapidly changing nature of urban health risks and analyses data on the shifting causes of mortality in urban areas. The section also examines how health outcomes can vary markedly based on race, gender, disability, income levels, residence and other differences within and between cities. It also discusses the intersectional nature of urban health inequalities and the necessity of developing inclusive, contextually rooted strategies.

Section 7.2 considers recent innovative strategies for addressing urban health inequities. The section presents place-based interventions being implemented in cities across the world that are fostering equitable health and well-being such as telemedicine, “citizen science”, partnerships with civil society organizations, and urban redesign.

While health equity - promoting initiatives are necessarily place-specific, the forward-looking section 7.3 reflects on the overarching vision to create healthy cities and thus generate inclusive, resilient and sustainable urban futures. The section identifies nine interrelated priorities: 1) the “health in all policies” approach; 2) ongoing, disaggregated data collection 3) developing holistic, place-based strategies; 4) pursuing climate and health co-benefits; 5) enhancing universal health coverage and complementary social programmes; 6) strengthening health system preparedness; 7) supporting healthy diets and active lifestyles; 8) enhancing health at the workplace; and 9) promoting mental health. The chapter concludes in section 7.4 with five lessons for policy to promote and secure health for inclusive, resilient and sustainable urban futures.

## 7.1. Towards a Multilayered, Intersectional Understanding of Urban Health

This section elaborates the multilayered, rapidly changing nature of urban health risks and highlights how disadvantages linked to race, gender, disability, income levels, residence and other differences in urban areas generate intersectional inequalities. To improve urban health effectively, policymakers will require ongoing, disaggregated data collection with attention to emerging inequalities and the diversity of the urban context.

While the text will discuss recent data on urban health risks, there are inevitably major gaps in our understanding (especially in cities located in low- and middle-income countries and for vulnerable groups) that remain a priority for future research and interventions.

### 7.1.1 The multilayered nature of urban health risks

Long before the appearance of COVID-19, the world was already on track to a pessimistic urban future scenario for health. Studies had already confirmed how land-use change, extraction activities and migration altered and fragmented natural habitats, thus broadening the interface for human-wildlife interactions and increasing the chances of novel infectious diseases.<sup>11</sup> The negative impacts of climate

change on the interface between natural and human habitats is linked to zoonotic diseases that pass from animals to humans, such as COVID-19, Ebola, bird flu, H1N1 flu, Middle East respiratory syndrome (MERS), SARS and Zika. This has led to a situation where one new infectious disease appears in humans every four months.<sup>12</sup> While HIV/AIDS is not a zoonosis, it remains a key concern in cities globally (Box 7.1). Cities are often where HIV/AIDS prevalence rates are highest despite better services and active civil society organizations addressing the epidemic.<sup>13</sup>

Even as the world was preoccupied with the COVID-19 pandemic, several outbreaks of the Ebola virus were reported in the Democratic Republic of the Congo and Guinea; major outbreaks of cholera struck Bangladesh, Yemen, Haiti, Niger and Nigeria in 2021;<sup>14</sup> and Chikungunya and dengue epidemics were confirmed in the Americas, Africa, Asia, Europe and Oceania.<sup>15</sup> While COVID-19 recently heightened public health awareness, the spread of communicable diseases within unhygienic conditions has long been proven historically, with those living in close contact to domestic animals and without access to running water and separate toilet facilities at heightened risk of infection.

While disease has historically been the foremost urban health threat, the 20<sup>th</sup> century saw public health improvements that dramatically reduced disease risk and increased life expectancy. Climate change is now the foremost urban health threat leading to the high damage urban future scenario due to more frequent, intense and longer-lasting extreme weather events, particularly floods and heatwaves among



Stay home banner during Covid 19 Lockdown in Cape Town, South Africa. © Micha Serraf/ Shutterstock

### Box 7.1: HIV/AIDS epidemic statistics as of 2020

Globally, approximately 37.7 million people were living with HIV in 2020. Of them, 27.5 million were accessing antiretroviral treatment. Some 680,000 people died from AIDS-related illness in 2020. There are notable regional differences of people living with HIV/AIDS. In sub-Saharan Africa, as many as 63 per cent of all new HIV infections in 2020 were amongst women and girls.

By contrast, outside of sub-Saharan Africa, 93 per cent of new infections occurred among key populations – such as sex workers and their clients; gay men and other men who have sex with men; and transgender people – who together accounted for 65 per cent of HIV infections globally.

Rates of HIV/AIDS are often elevated amongst marginalized groups such as racial/ethnic minorities, migrants and intravenous drug users.

Source: UNAIDS, 2021.

other disasters.<sup>16</sup> These climate related risks translate to several significant urban health burdens that vary regionally and within cities (Chapter 5).

Climate change is already having major impacts on cities' WASH provision and food security via more intense, severe or frequent flooding and droughts. Many coastal or low-lying cities are faced with rising sea levels and more intense flooding due to climate change.<sup>17</sup> Flooding risks can be exacerbated



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by shortfalls in drainage, poor solid waste management and lack of all-weather roads.<sup>18</sup> In turn, urban floods may result in rising levels of waterborne illness; escalating food prices and food insecurity; injuries, mortality, displacement and lost livelihoods amongst affected residents as well as broader economic burdens.<sup>19</sup> With further impacts on health and livelihoods, climate change is contributing to droughts and urban water insecurity while interacting with population pressures, water governance challenges and competing water uses. An estimated 25 per cent of cities globally already face water stress,<sup>20</sup> and the challenges of water management will only increase with rising temperatures.

Additionally, climate change worsens the urban heat island effect, which has resulted in cities being warmer on average than nearby rural areas attributed to transformations in

the built environment (e.g. dense buildings with limited reflectivity or greenspaces that promote cooling) and greater heat from vehicular transport and buildings.<sup>21</sup> More frequent and intense heatwaves are resulting in major health burdens, especially amongst the elderly, children and other vulnerable groups in urban areas.<sup>22</sup> The 2020 Carbon Disclosure Project survey of 670 cities (mainly in the North America and Europe) indicated heat-related illness as the most commonly reported health concern.<sup>23</sup> Annually, an estimated 7 million people die prematurely due to air pollution (both indoor and outdoor) while also causing a substantial reduction in years of healthy life.<sup>24</sup>

Air pollution, which is inextricably linked to climate change, can penetrate the bloodstream and affect all organ systems. Impacts can be either transitory (e.g. coughing) or long-term and irreversible, ranging from cardiovascular and respiratory disease, lung and other cancers, asthma and other non-communicable diseases (NCDs), poor birth outcomes and developmental challenges.<sup>25</sup> Urban air pollution is often linked to motor vehicles and local fuel consumption (e.g. household heating), as well as to industrial activities, refuse burning and biomass consumption. In 2021, the WHO substantially tightened its air quality guidelines for the first time since 2005.<sup>26</sup> Efforts to uphold the new guidelines would sharply reduce premature mortality and morbidity. If the WHO's new stringent standards are met in 1,000 European cities with a total population of over 168 million people, an estimated 109,188 deaths could be prevented annually due to particulate matter (PM<sub>2.5</sub>) and another 57,030 premature deaths due to nitrogen dioxide (Table 7.1).

Additional health burdens linked to motorized vehicles are road traffic injuries, which are the leading cause of mortality

**Table 7.1: Potential reductions in premature mortality for European cities if air quality guidelines are met**

	PM25(95%CI)	Nitrogen dioxide (95%CI)
2005 WHO Global Air Quality Guidelines	51213 (34036-68682)	900(0-2476)
2021 WHO Global Air Quality Guidelines	109188 (72846-145947)	57030(0-155257)
Lowest level in any city	124729 (83332-166535)	79435 (0-215165)

Table: Number of premature deaths that could be prevented in European cities if PM<sub>2.5</sub> and nitrogen dioxide concentrations met guidelines or lowest levels

Source: Khomenko et al, 2021, p. 764.

in cities globally. Annually, an estimated 1.35 million people die from road traffic accidents, with accidents now the leading killer of people aged 5 to 29 years old.<sup>27</sup> In Thailand, an estimated 22,000 people die annually due to road traffic injuries, many of whom live in cities. Highlighting the multilayered nature of urban health risks, many highly polluted cities also have limited access to safe walkways,



**Highlighting the multilayered nature of urban health risks, many highly polluted cities also have limited access to safe walkways, cycling lanes or parks**

cycling lanes or parks. The provision of these can encourage active lifestyles, combat obesity, improve mental health and reduce air pollution and NCDs.<sup>28</sup>

Rapid urbanization, food system transformations (especially the consumption of ultra-processed foods with high levels of fat and sugar) and changing activity patterns towards more sedentary lifestyles are leading to significant shifts in disease profiles towards diet-related health risks.<sup>29</sup> Recent findings indicate that “unhealthy diets pose a greater risk to morbidity and mortality than does unsafe sex, and alcohol, drug, and tobacco use combined,” while food systems are already pushing beyond safe ecological boundaries.<sup>30</sup> Meanwhile, there is a negative environmental footprint from industrial agriculture (particularly



Air pollution from Cars © NadyGinzburg/Shutterstock

meat and dairy production), which has been associated with rising water scarcity, major reductions in biodiversity, and emissions of methane and other greenhouse gases.<sup>31</sup>

A growing urban health concern is the increase in mental related illnesses. Mental disorders are in the top 10 leading causes of disease burdens globally, and the number of disability-adjusted life years (DALYs) lost due to mental illness has increased sharply from 80.8 million in 1990 to 125.3 million in 2019.<sup>32</sup> Access to mental healthcare is especially rare in low- and middle-income countries, where there are few studies on past interventions.<sup>33</sup> Rising levels of depression, anxiety and other mental health impacts have been linked to COVID-19, particularly for essential workers, those with heightened caring duties (especially women), racial/ethnic minorities and other vulnerable groups.

### 7.1.2 The changing causes of mortality in cities

Longitudinal analysis has revealed the changing causes of mortality in cities, underscoring the rising toll of NCDs in both low-income and higher-income cities. In 2019, the three leading causes of death globally were cardiovascular diseases, including strokes and ischaemic heart disease (IHD), respiratory diseases such as lower respiratory infections and chronic obstructive pulmonary disease (COPD), and neonatal conditions, with 7 out of the 10 top causes due to NCDs (Figure 7.1). For the lowest-income nations, in 2019, the two leading causes of death were neonatal conditions and lower respiratory infections, followed by IHD and stroke; diarrhoeal diseases and malaria were ranked fifth and sixth. But across other regions, the leading cause of death is the same: ischaemic heart disease.

Higher consumption of fats and processed sugars alongside reduced activity profiles are linked to increasing prevalence of obesity, diabetes, hypertension, heart disease and diet-related cancers that lead to premature mortality in urban areas.<sup>34</sup> Urban diets and activity patterns are strongly shaped by the built environment and city planning decisions. For example, the pessimistic scenario for urban futures is already a reality for low-income urban residents who live in so-called “food swamps” or “food deserts.” In food swamps, there is an abundance of unhealthy food for sale from fast food outlets and convenience stores. Food deserts have limited access to grocery stores that sell fresh produce or other sources of affordable, healthy foods.<sup>35</sup>

As a result of these socio-spatial patterns that inhibit healthy diets, some urban residents suffer from a complex challenge known as the double burden of malnutrition, defined as the

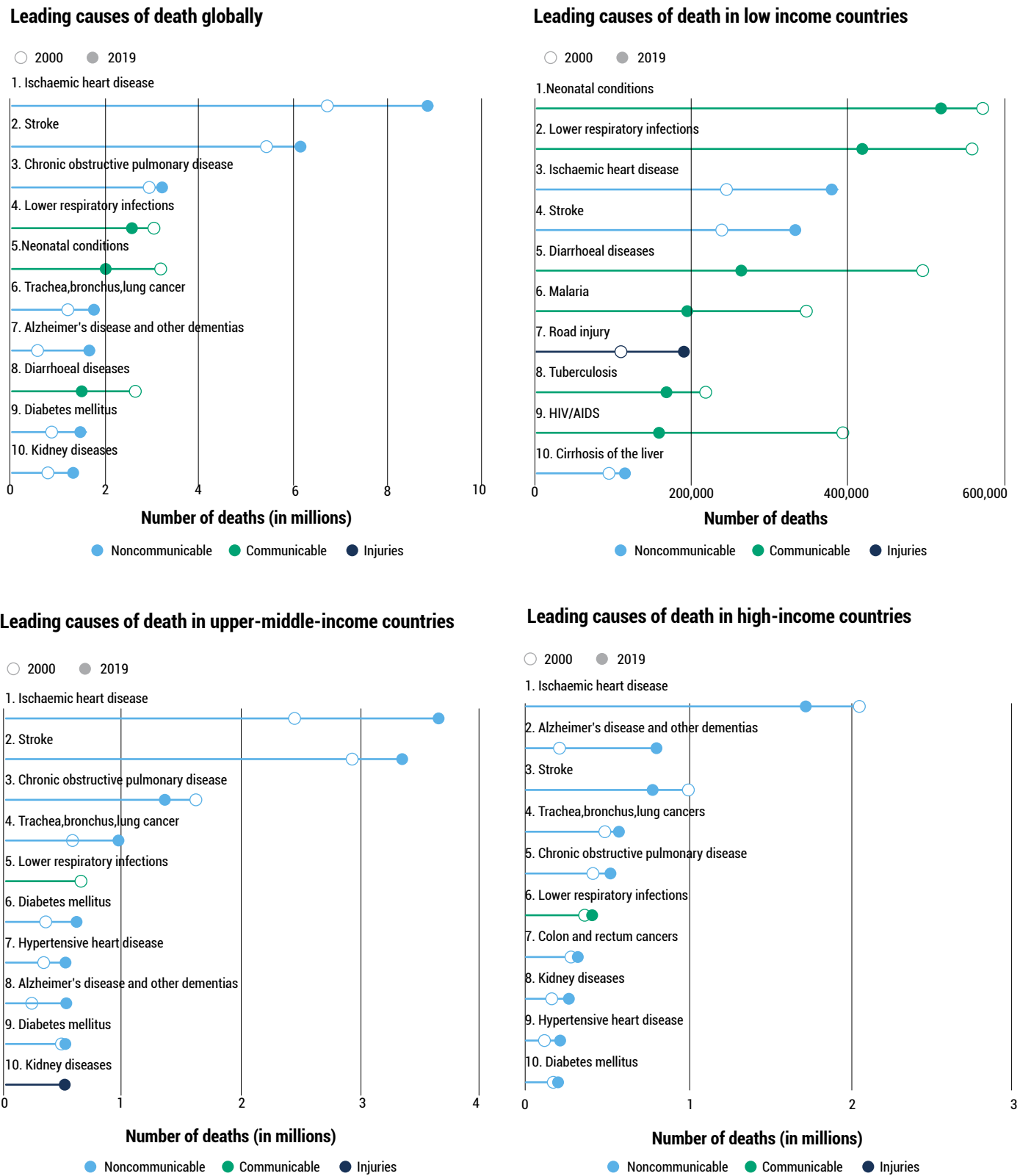
“simultaneous manifestation of both undernutrition and overweight/obesity.” Although patterns vary worldwide, residents in the lowest income quintiles are increasingly overweight and obese, including in Latin American and Asian cities.<sup>36</sup> An estimated one-third of stunted children globally live in urban areas.<sup>37</sup> Moreover, due to the prevailing gender-inequitable division of labour, women are usually tasked with providing and preparing food, which can impose major time and health burdens (especially in low-income areas without adequate WASH and refrigeration).<sup>38</sup> There is potentially a vicious circle, where gendered burdens as well as income poverty, unsanitary living conditions and malnutrition reinforce each other.

Kisumu, Kenya, offers a specific portrait of changing urban health threats in the developing world. Malnutrition was the leading behavioural cause of death in 1990, but malnutrition fell to the fourth leading behavioural cause by 2019 (Figure 7.2). Unsafe sex, high blood pressure, air pollution, high body mass and other dietary risks had grown increasingly important in Kisumu by 2019. These changes underscore the rising impacts of NCDs and air quality. There was also a heightened burden linked to HIV/AIDS, which rose starkly from 14 per cent of Kisumu’s total deaths in 1990 to 26 per cent in 2019. Confirming the ongoing dietary changes, Kisumu’s total deaths due to stroke and IHD increased from six per cent to eleven per cent from 1990–2019, while protein-energy malnutrition deaths fell from eleven per cent to less than four per cent of deaths.

Although Jakarta is a far larger and wealthier city than Kisumu, Jakarta’s causes of mortality have also undergone a comparable change with the rise of NCDs and falling levels of malnutrition from 1990–2019. Malnutrition was Jakarta’s leading behavioural cause of mortality in 1990, but by 2019 it had been replaced by high blood pressure, high body mass and high fasting plasma glucose, issues which are all linked to changing diets (Figure 7.3). In 2019, stroke and IHD each comprised up to 16 per cent of total deaths in Jakarta, with another 8 per cent due to diabetes.

Meanwhile, detailed data from London reveals the shared challenge of NCDs across low- and high-income areas (Figure 7.4). In 2019, IHD, stroke and COPD were among the leading causes of death in both London’s high-income boroughs of Kensington and Chelsea as well as the poorer Tower Hamlets. However, deaths linked to drugs, self-harm, Alzheimer’s and other factors still differed between the two boroughs.

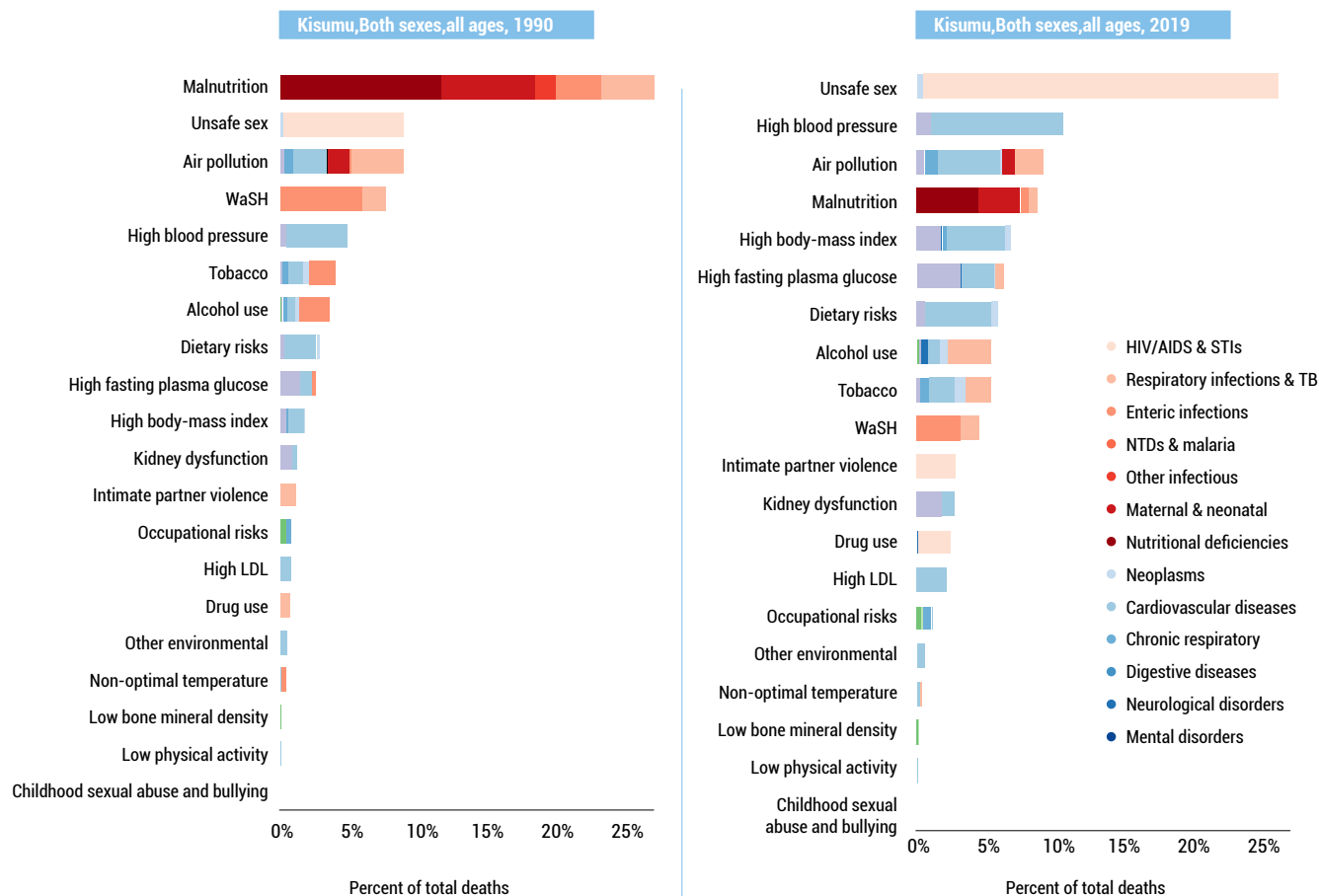
**Figure 7.1: Leading global causes of death (2000 and 2019)**



Source: WHO, 2020.



**Figure 7.2: Leading behavioural causes of mortality in 1990 and 2019 in Kisumu, Kenya (percentage of total deaths by risk factor)**

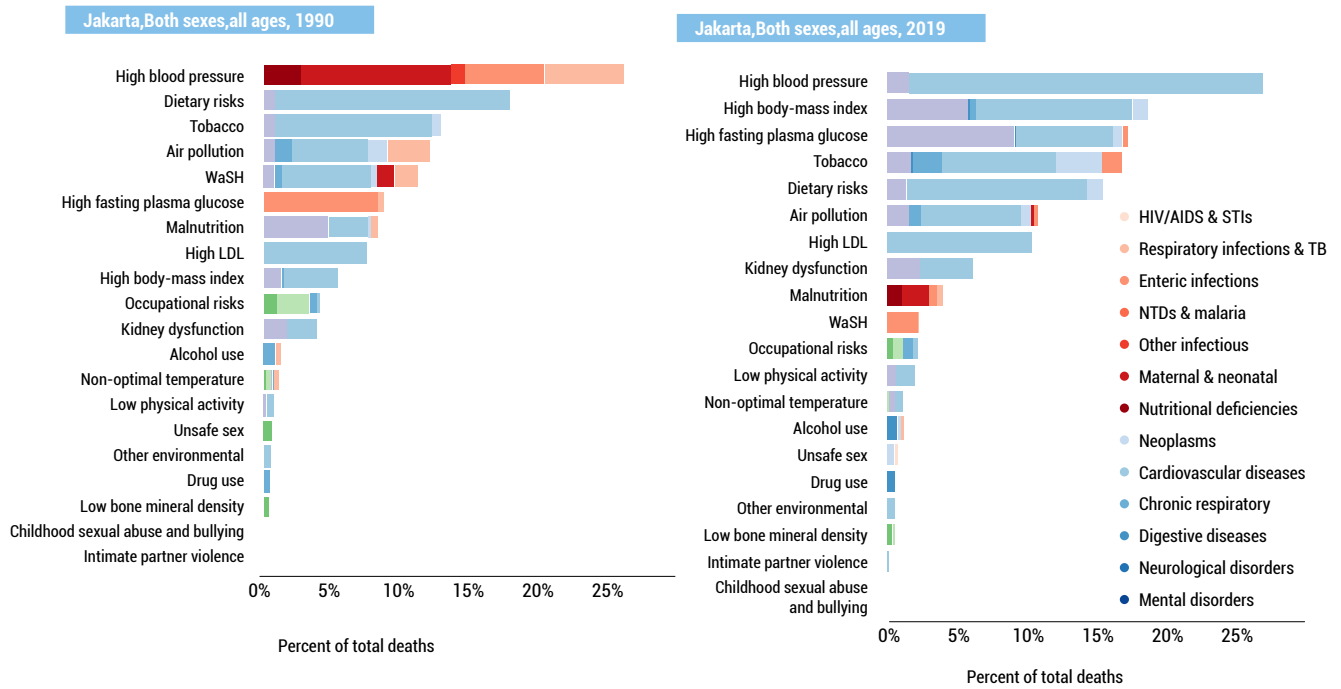


Source: Institute for Health Metrics and Evaluation, 2022



Street food vendors in Jakarta, Indonesia. © CatwalkPhotos/Shutterstock

**Figure 7.3: Leading behavioural causes of mortality in 1990 and 2019 in Jakarta, Indonesia (percentage of total deaths by risk factor)**

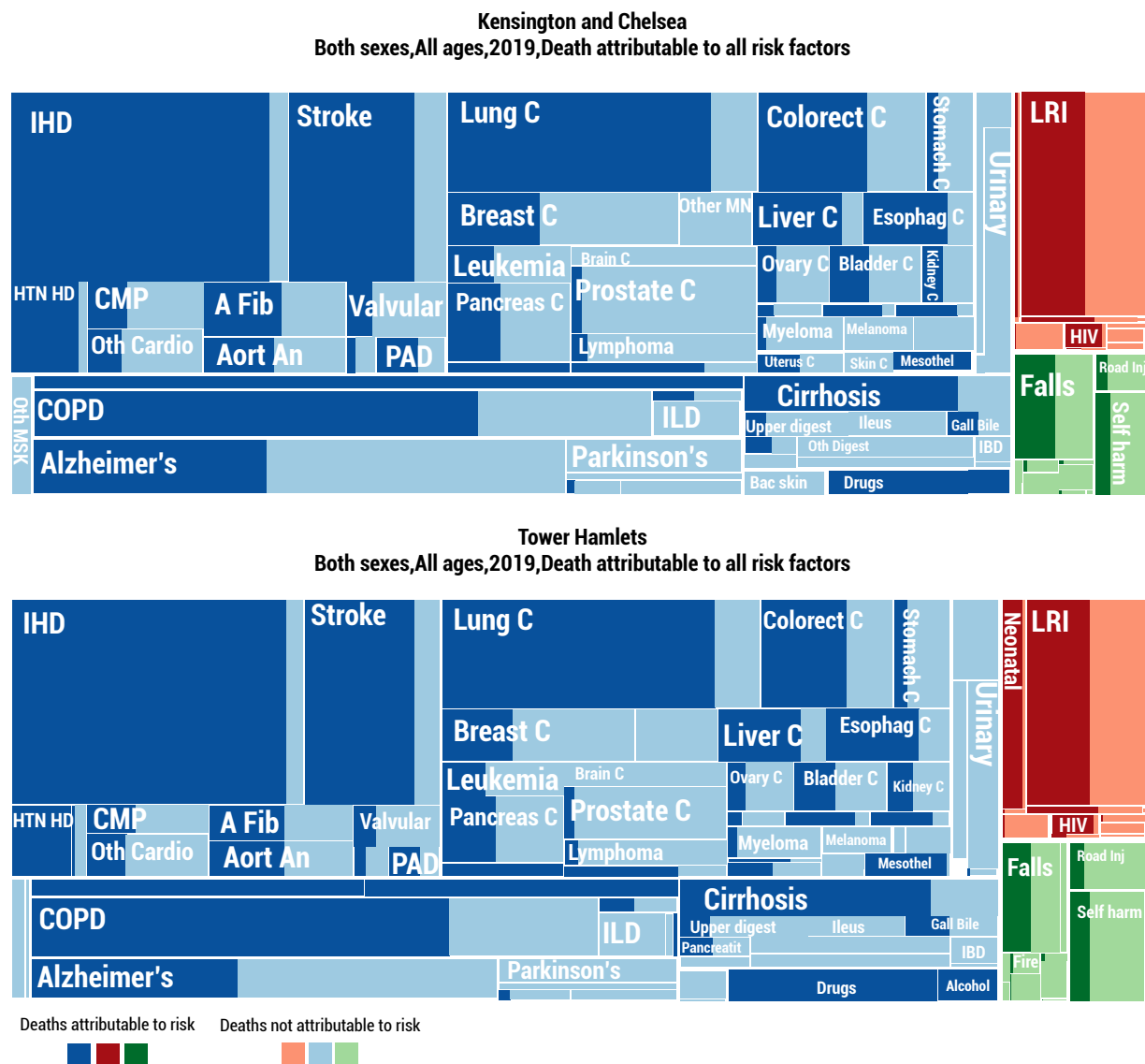


Source: Institute for Health Metrics and Evaluation, 2022.



Slums of Patna, Bihar state, India. © Yury Birukov/Shutterstock

**Figure 7.4: Causes of death in 2019 for London’s Borough of Kensington and Chelsea (wealthy neighbourhood) and Borough of Tower Hamlets (poorer neighbourhood)**



Source: Institute for Health Metrics and Evaluation, 2022.

### 7.1.3 An intersectional view of urban health inequities

In many urban centres, the same health risks are experienced and acted upon in starkly different ways. For instance, racial discrimination and segregation often negatively affect health by reducing minority groups’ access to healthcare while heightening the concentration of poverty and exposure to environmental hazards.<sup>39</sup> Defined as “health inequities,” such differences in health outcomes are “not only unnecessary and avoidable, but in addition, are considered unfair and unjust.”<sup>40</sup> If left unchecked, these health inequities will lead

us on a path to the pessimistic or even high damage urban future scenario.

An intersectional view can uncover how factors such as race, gender, disability, sexuality and socioeconomic status, among others, may interact to shape life experiences (e.g. access to healthcare, livelihoods, and housing) and to heighten health risks or deepen disadvantages in cities. Intersectional analyses can help to understand “diverse individuals and social groups, [who] experience the intersection of different structural drivers of exclusion in unique and situated ways.”<sup>41</sup>

As intersectionality remains a nascent area of urban health research, this sub-section offers illustrative findings and seeks to motivate future health-promoting interventions that truly leave no one behind. A gender-sensitive intersectional approach may spark interventions with marginalized groups that better meet their healthcare needs. This approach can also help to amplify their voice in decision-making.

Individual city dwellers' health risks and outcomes are influenced by a complex array of factors. Many cities have entrenched differences in health outcome linked to socioeconomic, environmental and political factors that together contribute to complex urban disadvantages. For instance, studies suggest that black and other racial minorities experience poorer health outcomes throughout the course of their lives. Low-income black women in Brazilian cities may face especially acute challenges in accessing healthcare; struggle to combine caring duties with lengthy commute times and precarious, low-paid employment; and grapple with racial discrimination and intergenerational poverty.<sup>42</sup> Meanwhile, transgender people of colour in Chicago often

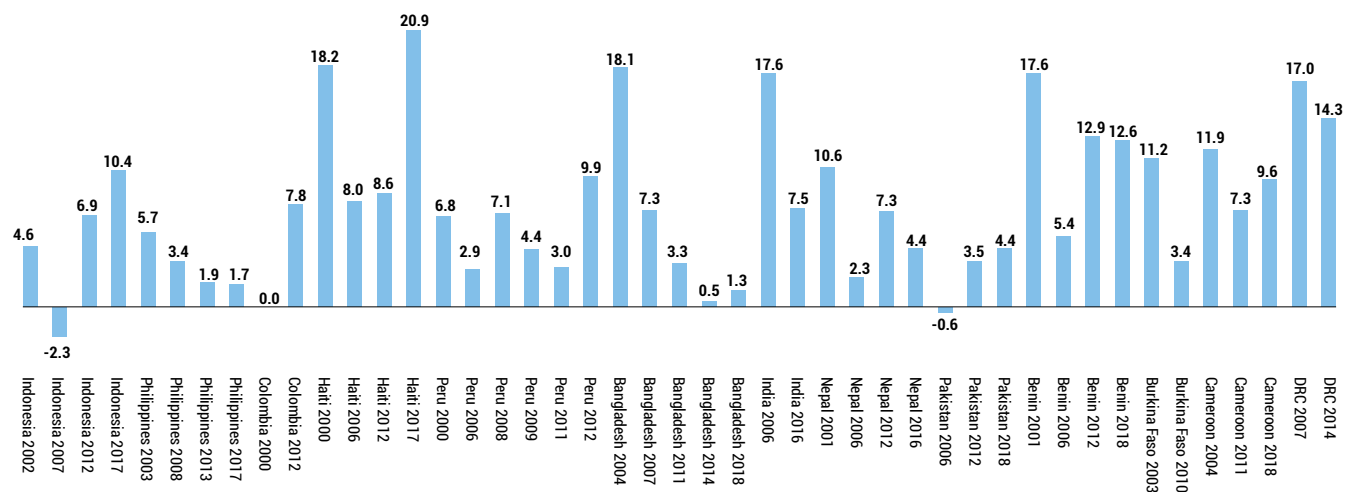
struggle to find adequate healthcare, which is linked both to racism and transphobia. Although some respondents sought healthcare providers that cater for LGBTQI residents, they also were concerned by these providers' racism.<sup>43</sup>

Rich and poor city dwellers in many low- and middle-income countries may differ markedly in their levels of infectious diseases and in rates of maternal and child mortality.<sup>44</sup> The poor are typically compelled to live in the least developed areas of a city, often places that are poorly integrated to the urban fabric, where dilapidated environments contribute to worse health outcomes and greater risk of premature deaths. This phenomenon is known as the urban health divide. According to a review comparing tuberculosis rates in slums to national prevalence rates, slum dwellers may be five times more likely to have this disease,<sup>45</sup> which is often linked to overcrowded shelter alongside minimal access to affordable, high-quality healthcare.<sup>46</sup> Increasingly, there are also major disparities within cities in the incidence of non-communicable diseases.<sup>47</sup> Although patterns vary worldwide, residents in the lowest income quintiles in Latin America and Asian cities exhibit higher incidences of the double burden of malnutrition.

Disparities in measles vaccination rates likewise illustrate the urban health divides (Figure 7.5). Inequitable access to vaccines was especially profound in Haiti, where in 2017,

### A gender-sensitive intersectional approach may spark interventions with marginalized groups that better meet their healthcare needs

**Figure 7.5: Urban inequalities in measles vaccination rates as shown through differences between non-slum urban areas and slums (in absolute per cent) for children aged 12–23 months**



Source: UN-Habitat, 2021i.

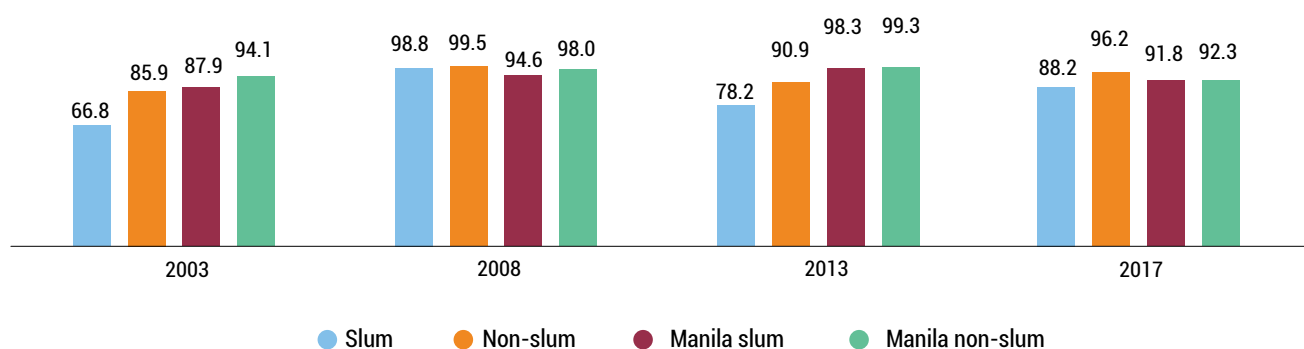
48.2 per cent of slum dwellers were vaccinated compared to 79.1 per cent of non-slum urban residents (a difference of 20.9 per cent). Promisingly, the gap in measles vaccination rates for India fell from 2006 to 2016 (from 17.6 per cent to 7.5 per cent) as rates in India’s slums rose from 67 per cent to 80.2 per cent and those in non-slum urban areas rose slightly from 84.6 per cent to 87.7 per cent.

Access to skilled birth attendance can again vary markedly between and within cities, as well as over time (Figure 7.6). From 2003 to 2017, Filipino women in slums increasingly gave birth in a health facility (rising from 40.3 per cent to 79.3 per cent), but this rate remained far below the levels of women in non-slum urban areas, whose access to health

facilities rose from 74.8 per cent to 92.5 per cent over the same period. Notably, Filipino mothers’ levels of access to health facilities in 2017 were far higher in Manila, where nearly 100 per cent of women gave birth in health facilities (across slum and non-slum areas).

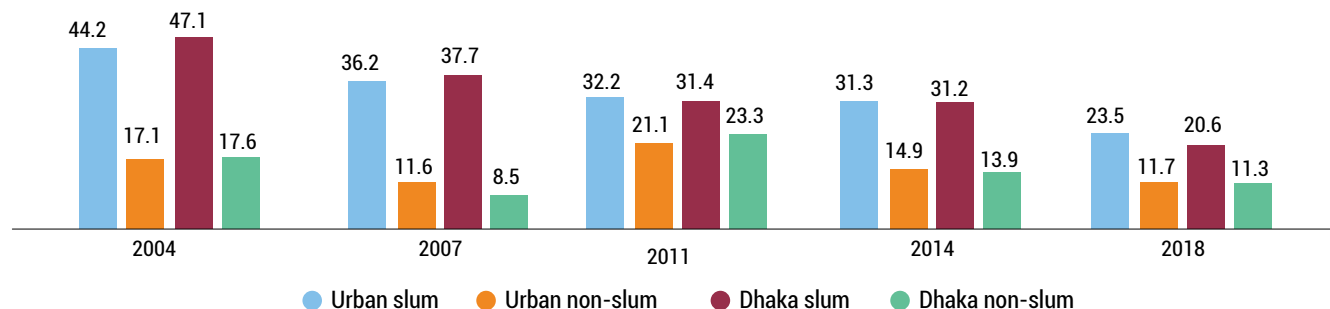
Other findings on urban child nutrition have uncovered enduring inequalities, even as there can be some progress over time. As seen in Figure 7.7, in Bangladesh from 2004 to 2018, levels of child stunting in slums fell almost by half from 44.2 per cent to 23.5 per cent, although this improvement was still double the levels of stunting in non-slum urban areas (where levels declined from 17.1 per cent to 11.7 per cent over the same period).

**Figure 7.6: Skilled birth attendance in the Philippines: percentage of births with skilled health personnel in all urban slum areas, all non-slum urban areas, Manila slum areas and Manila non-slum areas (2003–2017)**



Source: UN-Habitat, 2021i.

**Figure 7.7: Child stunting in Bangladesh comparing all urban slum areas, all non-slum urban areas, Dhaka slum areas and Dhaka non-slum areas (2004–2018) based on percentage of children aged 0–59 months who are below minus two standard deviations from median height-for-age**



Source: UN-Habitat, 2021i.

Cities are increasingly home to displaced populations including refugees, economic migrants and internally displaced people, whose health challenges remain poorly understood. The ongoing conflict in Ukraine triggered yet another global refugee crisis as millions of Ukrainians fled. Globally, an estimated 60 per cent of refugees reside in cities (rather than in refugee camps or rural areas), with many living in informal settlements or other urban areas with low-quality shelter.<sup>48</sup> Forcibly displaced residents in cities may face xenophobia or other discrimination; language barriers and employment restrictions (as if they live in refugee camps, they are often expected to remain there); and limited access to healthcare, mental health services or other much-needed assistance to cope with trauma.<sup>49</sup>



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Another growing concern that could lead to the high damage scenario for urban futures is the shift of battlegrounds to urban environments (Box 7.2). While open field battle away from human settlements dominated warfare for centuries, World War II saw modern warfare fought over towns and cities. The use of heavy weaponry in towns and cities inevitably leads to heavier civilian casualties as well as the destruction of basic infrastructure that is vital for the functioning and basic health of communities such as water, sanitation, gas and electricity lines, leaving fragile communities vulnerable to infectious diseases.<sup>50</sup>

The resulting disruptions from armed conflicts weaken health systems in multiple ways including the physical destruction

## The use of heavy weaponry in towns and cities inevitably leads to heavier civilian casualties

of hospitals, flight of healthcare workers as well as the interruption of child vaccination and communicable disease surveillance programmes. These damaged infrastructure and health systems require intense time and resource investments to rebuild, thus creating prolonged instabilities and intractable poverty as resources are diverted away from development.<sup>51</sup> The health impacts disproportionately affect women and children with over 60 per cent of preventable maternal deaths and 45 per cent of neonatal deaths estimated to occur in these fragile conflict burdened settings.<sup>52</sup>



Damaged residential building, Kyiv, Ukraine © Drop of Light/Shutterstock

### Box 7.2: Armed conflicts worsen health in cities

In six of the most disruptive conflicts currently waging in the world today, major cities have been active battlegrounds: Kabul in Afghanistan; Adwa, Bora, Dessie and Kombolcha in Ethiopia; Aleppo, Dier, Ezzour and Damascus in Syria; Mariupol and Kharkiv in Ukraine; and Sanaa and Aden in Yemen. There is evidence of subsequent devastating effects on health. For instance, Yemen recorded the world's worst cholera outbreak of the twenty-first century between 2015 and 2017 with over 2 million identified cases. There have also been spikes of diarrhoea in Syrian cities during periods of intense violence. In the Ethiopian region of Tigray, it is estimated that healthcare workers did not provide any child vaccinations nor deliver any antenatal or postnatal care in the first 90 days of conflict. With nearly two decades at war, Afghanistan experiences cyclical outbreaks of measles, with regular spikes reported in Kabul.

Source: IRRC, 2022; Gesesew et al, 2022; WHO, 2022e.

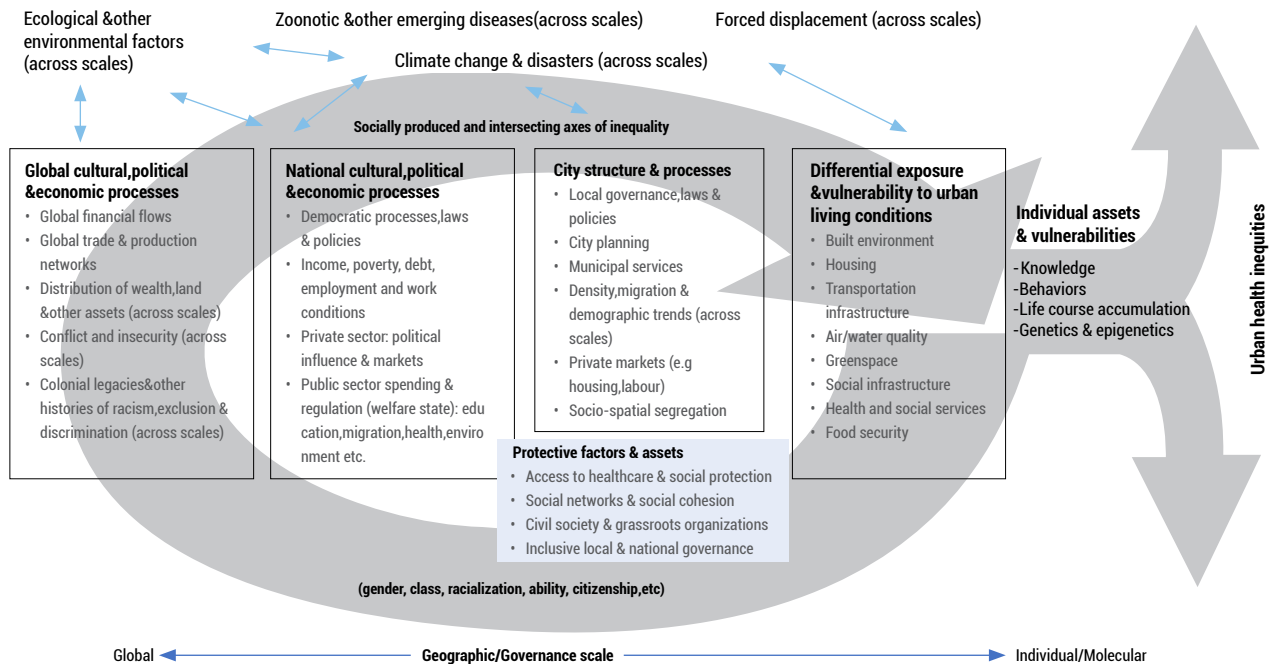


Maternity hospital in Kolonyi, Uganda. © Dennis Wegewijs/shutterstock

Finally, broader socioeconomic trends contributing to urban health inequalities may include globalization, market-led policy reforms and distribution of assets that in turn influence urban service provision and economic development trajectories (Figure 7.8). At the urban level, access to infrastructure, service provision, and city planning decisions (linked to inclusive or exclusionary forms of governance)

can significantly shape health outcomes. Meanwhile, at the individual level, a gender-sensitive, intersectional approach can help develop tailored strategies to tackle these complex sources of disadvantage. Urban decisionmakers can draw on community assets and develop inclusive, context-specific strategies to address the drivers of urban health divides across several scales.

**Figure 7.8: Framework on intersecting, multi-level urban health inequities: key factors from global to city and individual scales**



Source: Adapted from Brisbois et al, 2019.

### 7.1.4 Slum health

The importance of addressing intersectional disadvantages is especially clear in informal settlements, where residents often face hazardous shelter, heightened vulnerabilities to disasters and multiple social, economic and political exclusions. Residents of informal settlements typically encounter environmental health risks linked to inadequate living conditions (e.g. low-quality housing, unclean energy and unsafe WASH) that contribute to elevated risks of communicable diseases including tuberculosis, dengue, cholera and other waterborne illnesses.<sup>53</sup> For slum dwellers, the high damage and even pessimistic scenarios for urban futures could lead to catastrophic health outcomes.

Furthermore, informal settlements are often highly vulnerable to climate change and consequent extreme weather events as a result of low-quality shelter and infrastructure, risky locations (e.g. floodplains, steep slopes), and meagre access to emergency services.<sup>54</sup> These vulnerabilities can result in heightened “everyday” risks as well as small-scale and large-scale disasters that often contribute to communicable disease outbreaks and to deepening poverty.<sup>55</sup> With limited incomes, low-quality housing and few physical assets, residents of informal settlements often struggle to recover from disasters or everyday risks.<sup>56</sup> Ongoing floods, fires or other disasters may lead to a vicious circle of poverty and ill-health. According to research in Niamey, Niger, repeated small disasters can have a so-called “erosive effect” on household assets in informal settlements.<sup>57</sup> Underscoring the need for climate justice, low-income urban residents cumulatively contribute the least to greenhouse gas emissions but often lack the capacities to adapt effectively and require additional support<sup>58</sup> (see Chapter 5).

Tenure insecurity in slums contributes to poor health outcomes and exclusions via various pathways, including burdens linked to evictions and highly inadequate infrastructure provision. Evictions may result in disrupted livelihoods and social networks, escalating stress and mental illness, and lost physical assets (all linked to rising poverty and exclusion), as well as injuries or even deaths.<sup>59</sup> Many official agencies will not invest in areas with unclear land ownership, and in turn, tenure insecurity may lead to poorer health outcomes because of limited access to WASH, electricity or other services and infrastructure. Moreover, electricity access in informal settlements is often influenced by tenure security: although many cities have higher overall levels of power access than rural areas, slum dwellers may be unable to access legal electricity (due to tenure insecurity, onerous registration processes and/

or cost barriers) and instead may rely on polluting solid fuels or hazardous illegal electricity connections.<sup>60</sup> Tenure insecurity in Mumbai is associated with worse health outcomes: residents of non-notified slums (with greater tenure insecurity than Mumbai’s notified slums) had poorer child health and adult nutrition outcomes, likely due to curtailed access to services and infrastructure with deeper roots in slum dwellers’ political marginalization.<sup>61</sup> Residents of informal settlements may also face heightened levels of HIV/AIDS, as well as injuries due to road traffic and interpersonal violence, although such risks vary widely between and within these neighbourhoods.<sup>62</sup>

Attention to gender, age, disability and other differences is crucial to understand health vulnerabilities in informal settlements. Inadequate infrastructure and services provision often has gender-inequitable impacts. Due to gendered division of labour, women in informal settlements, who are often tasked with utilizing fuels to cook, are at an elevated risk of respiratory and cardiovascular disease due to lack of access to clean energy.<sup>63</sup> Inadequate sanitation has often disproportionately affected women and girls. Women and girls in African and Asian informal settlements often walk to public toilets at night-time in poorly lit, insecure settlements (thereby risking rape or assault), or else they must resort to degrading, improvised solutions such as plastic bags at home.<sup>64</sup>

Children are especially susceptible to communicable diseases including pneumonia and diarrhoea; the ensuing care burdens typically fall disproportionately on their mothers, who in the absence of adequate WASH often struggle with rising stress, mental health impacts and lost earnings.<sup>65</sup> Along with missed schooling, repeated outbreaks of childhood diarrhoea can contribute to malnutrition,

**Underscoring the need for climate justice, low-income urban residents cumulatively contribute the least to greenhouse gas emissions but often lack the capacities to adapt effectively**

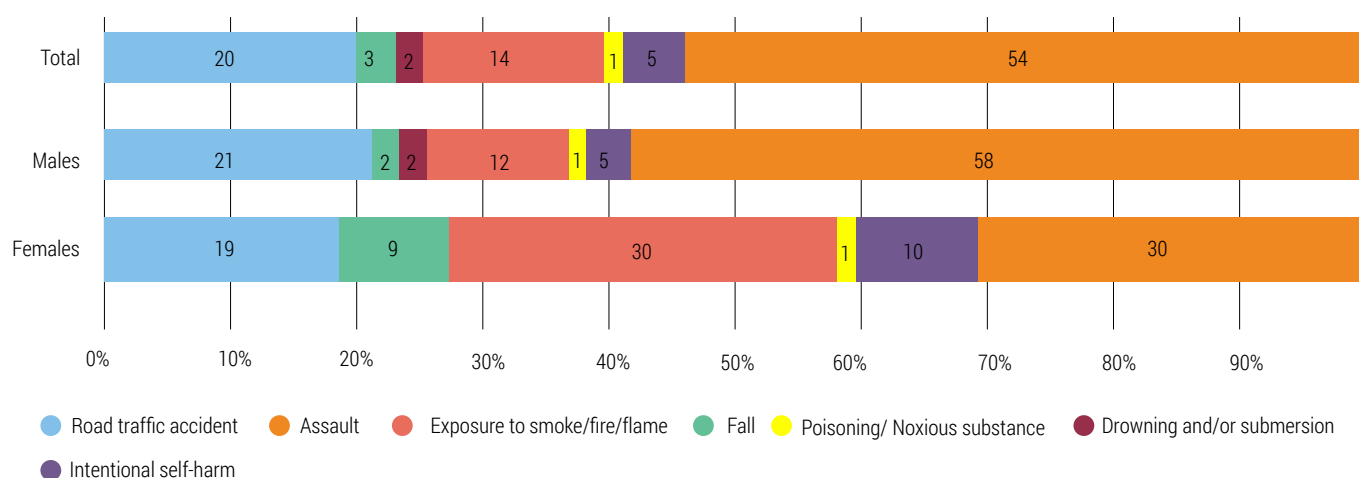
long-term cognitive impairments and reduced productivity in adulthood.<sup>66</sup> Holistic WASH solutions are essential to support women and other vulnerable groups including the elderly and people with disabilities (PWDs), especially in areas where the environment and its attendant risk and harms leads to worse health outcomes and greater risk of premature deaths.



Disaggregated data even within a small urban locale can offer insights into the gendered experience of urban health threats in slums. According to surveys in two Nairobi informal settlements, Korogocho and Viwandani, with about 2,500 adults (aged 15 and older), HIV/AIDS was the cause of 24.5 per cent of women’s deaths but just 12.3 per cent of men’s deaths from 2002–2012 (Figure 7.9).<sup>67</sup> Meanwhile, over 30 per cent of men’s deaths were due to injuries as compared

to just 7.2 per cent of women’s deaths. Injury patterns were again highly gendered: assault was the leading cause of men’s injury mortality (58 per cent), as compared to 30 per cent amongst women’s injury deaths. Another 30 per cent of women’s deaths were caused by fire, as compared to 12 per cent of men (likely due to gendered differences in cooking), and women were twice as likely to die from intentional self-harm as men (10 per cent vs. 5 per cent).

**Figure 7.9: Causes of injury deaths among adults by sex (aged 15 and older) in two of Nairobi’s informal settlements (January 2003–December 2012, N=2,464)**



Source: Mberu et al, 2015.



Street in Kibera slum, Nairobi, Kenya. © Renatas Repcinkas/Shutterstock

## 7.2 Advancing Urban Health Equity

This section considers recent promising strategies for addressing urban health inequities considering the multiple pathways of deprivations and exclusions that contribute to differential health outcomes. The fundamental causes of health inequities are found in social, political and economic conditions. Action to address these underlying causes and tackling the pathways through which they influence health outcomes can substantially help to promote equitable well-being in cities and arrive at the optimistic scenario for urban futures.



**Health inequities eliminate the so-called “urban advantage” as a health crisis cuts through economic, social and geographical barriers**

The COVID-19 pandemic brought to the fore the urgency of addressing urban health inequities. Health crises have historically been pivotal moments of transformation for urban areas. Health inequities eliminate the so-called “urban advantage” as a health crisis cuts through economic, social and geographical barriers. It therefore follows that enhancing equitable access to healthcare, as well as the social, spatial and physical factors that promote equitable urban health outcomes, should be a priority of urban planning for sustainable urban futures.

### 7.2.1 Leveraging technology for inclusive healthcare

Novel strategies are needed to promote accessible, high-quality healthcare, and cities are increasingly adopting ICT-enabled strategies to support accessibility and inclusivity. Research on telemedicine (the provision of medical care via telecommunication technology) has found several benefits, including for patients with NCDs. According to evidence from the United States, telemedicine has improved health outcomes for patients with stroke and heart failure, as well as helping to manage diabetes and other chronic conditions.

Recently, COVID-19 has accelerated the uptake of digital technologies, and there are encouraging examples of how technology was leveraged to ensure that no one was left behind. Rising levels of depression, anxiety and other mental health impacts have been linked to COVID-19, including for key workers, those with heightened caring duties (especially women), racial/ethnic minorities and other vulnerable groups. Many countries have enhanced helplines during

COVID-19 to provide mental health services (e.g. in Nigeria, Indonesia) including call-in lines tailored to healthcare workers in the Maldives and South Africa, or for South Asian migrants in Gulf countries.<sup>68</sup> In Karachi (Pakistan), the Aga Khan University initiated free, online training sessions in parent-mediated therapy to support children with disabilities that was available nationwide.<sup>69</sup>

Telemedicine was also used to support older persons and people with dementia during the pandemic and bridge the unequal access to healthcare in Gangdong-gu, South Korea (Box 7.3).

Drawing upon the 2014 Ebola response, Liberia’s mHero communication system that is operated on a basic talk-and-text pattern (no smartphone needed) was used to update healthcare workers about COVID-19 outbreaks. Likewise, within one month after its first reported COVID-19 case on 14 March 2020, Rwanda was able to deploy the use of drones in the city of Kigali and the secondary cities of Rubavu and Rusizi targeting densely populated, hard-to-reach areas that presented high-risk nodes in the management of the pandemic. The country coordinated a multi-sectoral response that leveraged technology alongside healthcare worker deployment in targeted hotspots.<sup>70</sup> The ability of Rwanda to leverage technology for effective interventions

#### Box 7.3: Using technology to bridge access to dementia care in Gangdong-du City, Republic of Korea

Gangdong-gu, a municipality on the outskirts of Seoul, has a longstanding commitment to serving people with dementia, including a safe village and public guardianship for people with dementia. During COVID-19, the Centre for Dementia initiated remote clinical assessments by staff who offered technical support and expanded access to web- and phone-based consultations (both for families and dementia patients). Gangdong-gu also offered dementia classes online, cognitive stimulation kits and tailored case management for addressing needs such as nutrition, housing, and emotional support throughout the pandemic. Using disaggregated data, the municipality was able to identify 261 people living alone and/or on basic incomes, which enabled tailored case management that considered emotional and daily living support.

Source: WHO, 2021d.

during the pandemic enabled the capital to remain on course in implementing its Kigali Master Plan 2050 that aspires for a green, efficient, inclusive, vibrant and productive city.<sup>71</sup>

There is urgent need, however, to overcome the digital divide facing disadvantaged populations, and few studies have considered how telemedicine can reach persons with disabilities or other excluded urban groups (Chapter 9).<sup>72</sup> Sometimes the anonymity of mobile consultin can be beneficial in discussing sensitive topics, but there are nevertheless concerns around lack of regulation, affordability, appropriateness and privacy.<sup>73</sup> There are again concerns about inclusion in “smart cities” strategies, which may overlook health equity concerns.<sup>74</sup> While digital solutions are a key element of healthy urban futures, these will need to be combined with other innovative strategies to reach vulnerable groups.

### 7.2.2 Strengthening collaboration with community organizations

There is an essential need for ongoing, disaggregated data collection with attention to multiple disadvantages to ensure that no one is left behind.<sup>75</sup> However, there may be limited data available for marginalized residents including the homeless, refugees and residents of informal settlements who may be excluded in census taking or other official data.<sup>76</sup> Findings on health risks by residents themselves, including those in informal settlements, can help to fill data gaps while also informing effective place-based interventions. This “citizen science” is an essential complement to official data sources.

**There is an essential need for ongoing, disaggregated data collection with attention to multiple disadvantages to ensure that no one is left behind**

Members of the global network Shack/Slum Dwellers International (SDI) have gathered in-depth findings on shelter provision, access to services and other determinants of health in their own neighbourhoods.<sup>77</sup> SDI’s informal settlement profiles and mapping exercises have explored residents’ access to housing, WASH, electricity, solid waste management, health clinics and fire stations (if available), alongside local demographics, eviction threats and locational hazards (e.g. recent experiences of natural disasters). These surveys have provided much-needed disaggregated findings and fostered effective health promotion strategies when acted upon.

### 7.2.3 Strengthening community health workers

In many cities, community health workers (CHWs) are essential service providers of inclusive health systems, but in urban settings policymakers do not recognize their contributions as much as those in rural areas. Where adequately supported in skills and resources, CHWs play a central role in urban health equity, including promotion of maternal and child health, enhancing health literacy and addressing both NCDs and communicable diseases.<sup>78</sup> In cities in low- and middle-income countries, CHWs typically provide health education, outreach, and direct service



Community-led data collection in Mombasa's informal settlements. © SDI Kenya

provision such as home visits. During COVID-19, CHWs were essential in promoting community sensitization and contact tracing, providing referrals and assisting patients in self-isolation.<sup>79</sup> In Ethiopia, CHWs conducted outreach via digital megaphones and audio messages in local languages; Viet Nam created a telemedicine platform to reduce CHWs' exposure to patients while still raising public awareness about COVID-19.<sup>80</sup> To build CHWs' capacities and strengthen their future contributions, policymakers will need to enhance their training in digital and other skills, offer significantly improved compensation and benefits (e.g. support with housing, transport, and PPE), and provide prizes or other recognition.<sup>81</sup> With women comprising the majority of CHWs, it will be fundamental to support the empowerment of these women and enhance the profile of these crucial but unsung agents of inclusion and change.

#### 7.2.4 Addressing social and environmental determinants of health

Promising initiatives that blend strategies for enhancing urban built environments and upgrading informal settlements with other social goals have improved several health outcomes among vulnerable groups while also promoting climate resilience, poverty reduction, and youth livelihoods. Improving access to affordable adequate housing, WASH, roads and drainages and other vital infrastructure can significantly reduce the risks of disasters and communicable disease transmission, while also enhancing access to healthcare and emergency services. Furthermore, equitable upgrading partnerships with strong grassroots participation can improve the social determinants of health such as safety, social cohesion, and empowerment.

Adequate housing is considered key in promoting health and building resilience to systemic shocks.<sup>82</sup> People experiencing homelessness often face barriers to accessing healthcare and several interrelated disadvantages, such as racial or gender-based discrimination, behavioural health issues and substance abuse. Additionally, homeless populations are especially exposed to extreme weather events, and their physical and mental health is likely to be affected by climate change.<sup>83</sup> The policy approach known as “housing first” recognizes the importance of providing a safe, secure dwelling before tackling health and other challenges of homeless people. Several European and North American cities have adopted this policy with initiatives to provide rapid housing but, importantly, not requiring abstinence from substance use. Findings suggest that this approach may improve health in the short term.<sup>84</sup> Compared to the control group, participants in housing first programmes had

fewer emergency department visits and were more likely to be housed at 18–24 months; it remains unclear whether the improved health outcomes will be sustained over the longer term. It is also vital to develop integrated initiatives that extend beyond improving housing and healthcare access to support mental health, access to social services and combat the stigma surrounding homelessness.



“Housing first” recognizes the importance of providing a safe, secure dwelling before tackling health and other challenges of homeless people

Urban safety is another social determinant of health. In Cape Town, South Africa, the Violence Prevention through Urban Upgrading (VPUU) initiative has helped de-escalate violence in the township of Khayelitsha. VPUU has prioritized youth employment, vigorous community participation and social inclusion; it also utilized urban design strategies to promote passive surveillance and create integrated community centres.<sup>85</sup> By combining improvements in infrastructure with social programmes and strong local participation, this holistic initiative led to a 34 per cent reduction in exposure to interpersonal violence from 2013–2015.<sup>86</sup>

Reliable street lighting can generate several gains in health, safety and livelihoods by extending the amount of time that local businesses can operate in the evening, with particular benefits for women working from home and others working within informal settlements.<sup>87</sup> In over 40 cities in Brazil, the Efficient Community Programme has enhanced access to fluorescent lamps and energy-efficient refrigerators, as well as supporting behavioural change using local youth as agents to enhance outreach and uptake in low-income areas.<sup>88</sup> Chilean cities and Santo Domingo, Dominican Republic, have supported climate resilience through low-carbon building designs (including incremental construction that supports affordability), and selective relocation away from flood-prone areas.<sup>89</sup>

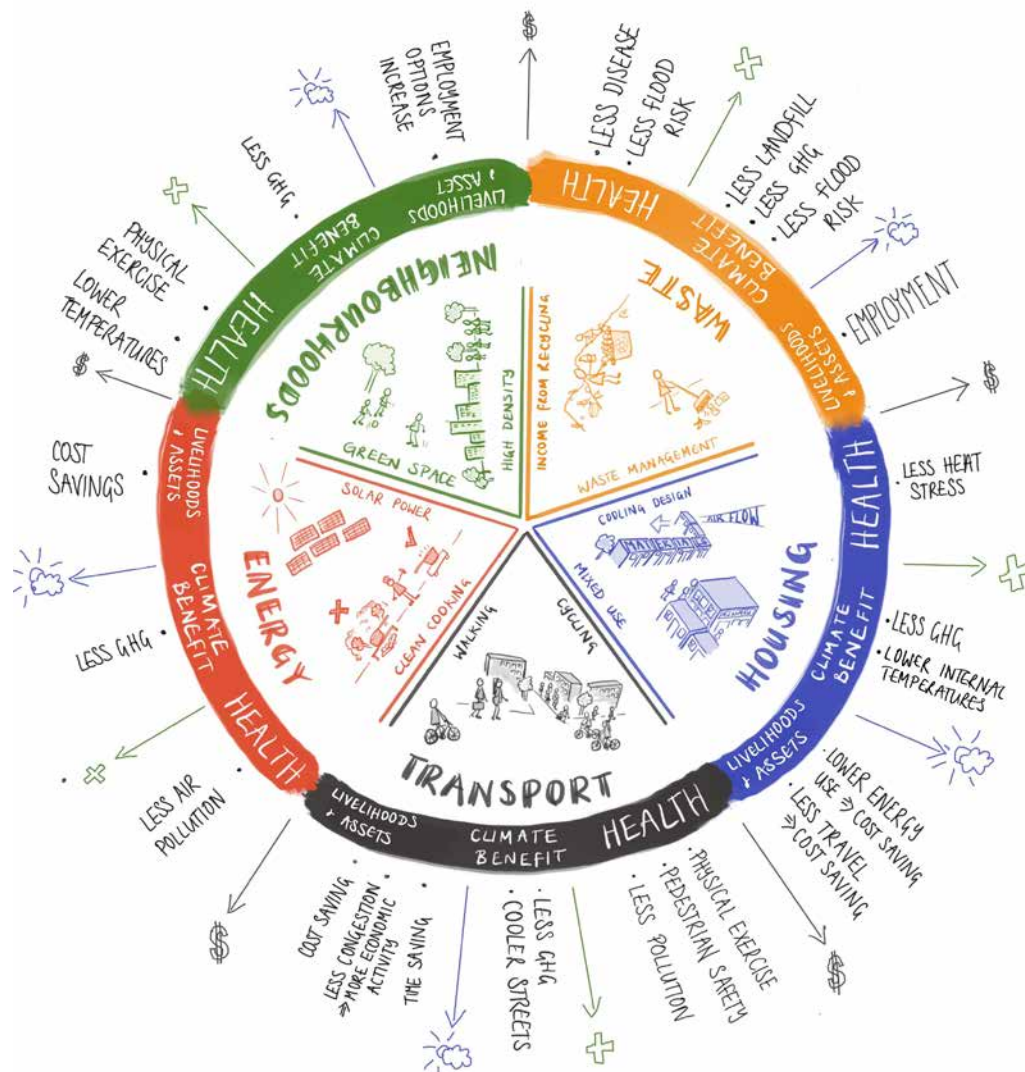
Climate change mitigation schemes can improve the social determinants of health. Cape Town retrofitted 2,300 houses with solar water heating and roof insulation as part of a low-income housing project funded by the Clean Development Mechanism, a United Nations carbon offset scheme.<sup>90</sup> In addition to lowering emissions, this project has reduced poverty by lowering heating expenditures, improved respiratory health outcomes by adding home insulation and provided on-the-job

training to local residents who implemented the retrofits.<sup>91</sup> In Richmond, US, the city's climate action plan provided free or subsidized solar power and home energy efficiency programmes; the related programme RichmondBUILD trained young people (often ex-offenders) in building trade skills to install the new solar and home energy equipment.<sup>92</sup> More generally, cooler housing designs can reduce heat stress and lower energy consumption, with particular benefits for older persons, children, people with pre-existing health conditions and other vulnerable groups.<sup>93</sup>

Meanwhile, efforts to promote cycling and pedestrianization can support access to work or education, improve local economies due to enhanced footfall, and may enhance

disaster resilience by providing all-weather paths in informal settlements (Figure 7.10). For instance, Nairobi's large-scale upgrading programme in Mukuru known as a Special Planning Area (SPA) has created inclusive transport solutions thanks to strong collaborations between local officials, academics, civil society and community residents.<sup>94</sup> For the upgraded transport network, the widest road will be 12 meters rather than 48 meters (as per Kenyan planning standards for roads), thus displacing far fewer residents than would have occurred if using conventional roads. At the same time, the SPA has prioritized improving non-motorized transport (an appropriate choice as most Mukuru residents are pedestrians), which also fosters healthy and low-carbon mobility patterns.

**Figure 7.10: Health, climate and livelihood/asset benefits of upgrading informal settlements**



Source: Diagram by S. Ray in Sverdluk et al, 2019, C40/Cities Alliance.

### 7.2.5 Holistic age-friendly strategies

Age-friendly strategies are increasingly important in cities with sizable populations of older persons, and integrated approaches can offer meaningful improvements in health, mental wellness and inclusion. WHO's Age-Friendly Cities programme has highlighted the importance of changing perceptions of older persons, involving a wide range of stakeholders (e.g. community organizations, universities and businesses) and developing multisectoral approaches.<sup>95</sup>

For instance, the Age-Friendly Manchester Culture Programme brought together 19 cultural organizations (including museums, orchestras and theatres) to ensure these activities are more accessible to older persons. The UK city sought to address social isolation and racial exclusion by partnering with organizations representing older people from black, Asian, and minority ethnic groups. Manchester also established an Age-Friendly Assembly and Older People's Board that promotes participation and inclusive decision-making.<sup>96</sup>

In the Turkish municipality of Besiktas (population of 181,000, with 20 per cent age 60 and above), integrated social centres have helped enhance older persons' cognitive skills and social integration, as well as offering group therapy and counselling services.<sup>97</sup> The centres provided several opportunities to join cultural activities such as concerts and seminars, as well as gardening, games and various crafts. Individuals participating in Besiktas' centres had lower levels of depression and higher social support levels than those receiving home-based assistance.

Finally, in Valencia, Spain, the city council worked with the Older People's Association to create eight "bio-healthy parks" that simultaneously promote healthy exercise, access to green spaces and enhanced socialization.<sup>98</sup> Each Park has several types of exercise equipment tailored to older people's needs (e.g. to maintain agility and balance), and the initiative

also benefited from cross-sectoral collaboration within the city council.

### 7.2.6 Health as a catalyst for social and environmental justice

Health can catalyse interventions that generate far-reaching gains in social and environmental justice. Air quality is strongly linked to climate change, environmental injustices and multiple shortfalls in urban planning. The health burden disproportionately falls upon low-income residents and neighbourhoods who have typically contributed the least to greenhouse gas emissions but often lack the capacities to adapt effectively and require additional support (Box 7.4).<sup>99</sup> As discussed in Chapters 5 and 6, building infrastructure to support non-motorized transport and planning for 15-, 20- and 30-minute cities are among the ways that cities can achieve

#### Health can catalyse interventions that generate far-reaching gains in social and environmental justice



#### Box 7.4: Inequitable impact of air pollution in Greater Accra, Ghana

In Greater Accra recent findings highlighted the inequitable, far-reaching impacts of air pollution. Amongst patients hospitalized due to air pollution or road traffic injuries, the poorest two quintiles were over-represented, accounting for 45 per cent of admissions. The majority were informal workers and the associated medical costs, most of which they bore out of pocket, represented up to double their annual earnings. Furthermore, indirect costs of air pollution were often extremely high for lung cancer, ischemic heart disease and road traffic (due to lost incomes), making the impacts of air pollution even more unmanageable for the poorest residents.

Source: Lampert et al, 2021.

simultaneous co-benefits, such as reducing greenhouse gas emissions, creating healthier neighbourhoods and reducing per capita expenditures on public infrastructure maintenance.

How cities respond to endemics like HIV/AIDS are also health catalysts for social justice. In 2014, UNAIDS launched the 90-90-90 Initiative with the following targets: 1) 90 per cent of people living with HIV know their HIV status, 2) 90 per cent of people who know their HIV-positive status are accessing treatment, and 3) 90 per cent of people on treatment have suppressed viral loads. In making strides to achieve these goals, cities and municipalities are increasingly adopting a social justice approach to design initiatives tackling exclusions and intersectional inequalities.<sup>100</sup>

Over 300 cities and municipalities have joined UNAIDS in this effort. Collectively they are known as Fast-Track Cities and have achieved impressive results. Kigali, nearly reaching the global treatment targets (currently 91-94-89),<sup>101</sup> has prioritized reducing HIV infections among adolescents, supports female sex workers (e.g. with condoms and access to information), and is developing coordination mechanisms with stakeholders such as faith-based organizations, the judiciary, and civil society groups focused on gender-based violence and human rights. In Amsterdam, a broad consortium of stakeholders involved in HIV prevention and care developed an integrated strategy that successfully helped to reduce transmission. Amsterdam's highest-risk groups are migrants and men who have sex with men (MSM); the HIV Transmission Elimination Amsterdam initiative targeted these groups to help reduce new diagnoses, while also including affected communities and interdisciplinary specialists on the project's team.<sup>102</sup> Key interventions in Amsterdam include same-day testing and treatment, focused awareness-raising campaigns and enhanced access to preexposure prophylaxis (PrEP). New York City's "status neutral" approach has sought to tackle HIV-related stigma and offers social marketing for PrEP, anti-stigma programmes targeting LGBTQI youth and enhanced HIV surveillance.<sup>103</sup>

## 7.3 Envisaging Health for Sustainable Urban Futures

This forward-looking section will highlight initiatives that can foster several gains in health, reduce intersectional inequalities, promote climate resilience and advance other SDGs in urban areas, thus avoiding the high damage or pessimistic scenarios for urban futures and instead, chart a course toward the optimistic scenario. While health-

promoting initiatives are necessarily place-specific, this section will identify an overarching vision for action towards healthy urban futures focusing on nine interrelated priorities: 1) the "health in all policies" (HiAP) approach; 2) ongoing, disaggregated data collection 3) developing holistic, place-based strategies; 4) pursuing climate and health co-benefits; 5) enhancing universal health coverage and complementary social programmes; 6) strengthening health system preparedness 7) supporting healthy diets and active lifestyles; 8) enhancing health at the workplace; and 9) promoting mental health.

### 7.3.1 The "health in all policies" (HiAP) approach

Recognizing the need to promote health across all urban interventions, cities are increasingly adopting a "health in all policies" (HiAP) approach to mainstream health in decision-making across all sectors and levels.<sup>104</sup>

#### Cities are increasingly adopting a "health in all policies" (HiAP) approach to mainstream health in decision-making across all sectors and levels

HiAP is the governance mechanism seeking to add a health perspective across all policies and embed health literacy into the city planning system, land-use decisions and other relevant sectoral interventions.<sup>105</sup> Past examples of HiAP-informed interventions include the provision of urban greenspaces in Barcelona and open street initiatives in several Latin American cities to provide low-carbon and active transport alongside health-promoting behaviour changes.<sup>106</sup> Factors that can support HiAP uptake are stable funding, long-term political support, open communication, clear mechanisms for public engagement, established taskforces and legal obligations that compel policymakers to apply the HiAP approach.<sup>107</sup>

One way of implementing the HiAP approach is through the preparation of a health impact assessment (HIA), a tool that can facilitate intersectoral action and analyse a proposed intervention's impacts on population health and the distribution of such effects. HIAs have been used in a range of regions including Canada, New Zealand, Thailand and across the WHO's European Healthy Cities Network.<sup>108</sup> HIAs are useful mechanisms to support decision-making and can be used collaboratively across stakeholders, with successful examples benefiting from local political support, HIA trainings and collaborations with academic or public health institutions. However, some HIAs may be too narrowly defined, and it may be useful to develop other strategies that can mainstream

### **Box 7.5: Lessons from the health in all policies approach in Richmond, US to foster health equity and climate resilience, reduce violence and discrimination, and promote social justice**

The local government in Richmond adopted a comprehensive HiAP approach to reduce violence and health inequalities while supporting inclusive economic development and climate resilience. In this working-class community of 115,000 in the San Francisco Bay Area of California, many residents faced elevated levels of morbidity and mortality due to hazardous exposures from a nearby oil refinery, rampant gun violence and systemic racism.

Following mobilizations by local environmental justice advocates, officials in Richmond approved the United States' first HiAP ordinance in 2014 focused on addressing toxic stresses and building upon three years of collaborative discussions amongst community organizations, academics, health officers and other local officials.

Subsequently, health indicators in Richmond markedly improved and an array of initiatives helped promote multiple benefits for health and social inclusion. For instance, three neighbourhood-specific action plans were developed with low-cost but health-promoting actions such as urban gardens, mobile clinics, slowing traffic and creating sports courts. Underscoring the multi-sectoral strategies needed to support well-being, the city adopted a living wage ordinance of US\$15 per hour, prepared a climate action plan and pursued activities to reduce violence via mentorship with ex-offenders and employment promotion. Key lessons include 1) the importance of institutionalizing health equity goals, 2) focusing on underlying causes of poor health, 3) working collaboratively with racial/ethnic minorities, ex-offenders, and other marginalized groups, 4) supporting inclusive economic development, and 5) flexible, learning-by-doing strategies.

*Source: Corburn, J., 2020; City of Richmond, 2022.*

health into decision-making across all sectors.<sup>109</sup> Richmond illustrates how an ambitious, multisectoral HiAP approach can meaningfully address multiple inequalities while promoting health and social justice (Box 7.5).

#### **7.3.2 Ongoing, disaggregated data collection**

Since urban health risks are multilayered and change rapidly, policymakers require ongoing data collection with attention to emerging inequalities and the diversity of health challenges in urban areas. Using disaggregated data to inform inclusive interventions, policymakers can develop holistic initiatives that address complex urban health inequalities and support locally rooted solutions. Disaggregated data is needed to uncover health disadvantages in cities, which may be based on factors such as age, disability, gender, occupation, race/ethnicity, migration status and/or sexuality as well as residence in marginalized neighbourhoods.

City authorities can leverage digital technology such as telemedicine platforms and drones to generate data in locations that are inaccessible using other data collection methods. Citizen science, through which communities lead in data collection, offers a useful tool for producing localized data and fostering participation among marginalized and hard-to-reach

groups thus enhancing effectiveness of place-based health interventions. A complementary mechanism that is expanding across world regions is the urban health observatory model that collates disaggregated data to reveal and analyse health inequalities and support effective place-based interventions as well as build capacity with interdisciplinary researchers.

#### **7.3.3 Developing holistic, place-based strategies**

Rather than merely prioritizing a single disease or vulnerable group of city dwellers, policymakers will need to recognize that health outcomes are deeply rooted in social, economic, environmental and political factors across several scales.

Urban health inequities are often stubborn and pervasive, yet such concerns are not immune to change. Challenges linked to the built environment—themselves often tied to political and socioeconomic exclusion—can be tackled via place-based initiatives and complementary strategies produced in alignment with marginalized residents and local organizations.

Action on the underlying causes of differential health outcomes and tackling the pathways through which they influence urban health can substantially help to promote well-being in cities.<sup>110</sup> Some of the very same sources of urban



risk can be transformed into opportunities for well-being. To take one example, urban form itself can “either promote or hinder healthy behaviours” via the provision (or absence) of infrastructure, healthy food options and neighbourhood connectivity amongst other factors.<sup>111</sup>

Holistic, participatory upgrading interventions can offer a potent mechanism and an inclusive process for enhancing residents’ well-being, with extensive possibilities to support healthy, equitable, and sustainable transformations.<sup>112</sup> By improving WASH, durable housing, all-weather roads and other vital infrastructure, upgrading can significantly help to reduce the risks of disasters and communicable disease transmission, while also enhancing access to healthcare and emergency services. Furthermore, equitable upgrading partnerships with strong grassroots participation can promote the social determinants of health such as safety, social inclusion and empowerment. Prior upgrading partnerships in cities including Medellín, Ahmedabad and Nairobi indicate that upgrading can also enhance equitable governance and accountability between

### Health outcomes are deeply rooted in social, economic, environmental and political factors across several scales

formerly marginalized residents, local governments and service providers.<sup>113</sup> Achieving such gains will require multisectoral action and the development of inclusive, contextually rooted strategies that can address cities’ complex health inequalities. Holistic approaches are inevitably complex, and efforts to support the underlying determinants of health will not be rapid or easy to achieve. But placing health equity at the core of urban policy (as in HiAP and related approaches) can create unparalleled opportunities for urban transformations and unify multiple progressive agendas, thus generating far-reaching gains in social and environmental justice.

#### 7.3.4 Pursuing climate and health co-benefits

Leading researchers argue that the climate and ecological emergencies present the most urgent contemporary health challenges. As an Aga Khan University expert argues: “The greatest threat to global public health is the continued failure [to] keep the global temperature rise below 1.5°C and to restore nature.”<sup>114</sup> In turn, there is a pressing need for sizeable investments in climate-resilient infrastructure and related health-promoting interventions, whose benefits would far exceed their costs. As the expert notes: “Better

### Holistic approaches are inevitably complex, and efforts to support the underlying determinants of health will not be rapid or easy to achieve

air quality alone would realize health benefits that easily offset the global costs of emissions reductions.”<sup>115</sup> Alongside massive gains in air quality, there are important opportunities to promote physical activity, improve the built environment and foster dietary changes that can simultaneously support urban health and climate resilience.<sup>116</sup>

There is a wide array of climate-related interventions with strong potential to improve health including via shelter initiatives, compact city planning and nature-based solutions (Chapters 5 and 6). Improving access to low-carbon, resilient infrastructure and other climate-friendly strategies can help to advance several SDGs in addition to creating major health benefits. Enhanced access to clean energy and climate-resilient infrastructure (SDGs 7 and 9) can simultaneously improve health, (SDG 3), tackle poverty (SDG 1) and foster gender equality (SDG 5) by overturning the gender-inequitable impacts of inadequate infrastructure.

There are also multiple health benefits from pursuing holistic strategies such as access to green spaces and active transport (i.e., improving cycling lanes, supporting pedestrianization) because such initiatives can enhance air quality, lower risks of obesity and NCDs, and improve mental health thanks to improved environmental quality and activity levels.<sup>117</sup> Parks and other green spaces can reduce urban temperatures and flood risks (by slowing runoff and retaining excess water), while also enhancing air quality and encouraging greater physical activity.<sup>118</sup> Entry points for interventions can range from the building and neighbourhood levels up to the district, city and regional scales. Figure 7.11 illustrates how supporting health at several interventions goes hand-in-hand with inclusive, equitable and sustainable urban development. Another model can be found in a framework called Towards Health uRbanism: Inclusive Equitable Sustainable (THRIVES), which advances health beyond the individual to the community, ecosystem and planetary levels (Figure 7.12). It highlights the layers of interconnected benefits when health is placed at the centre of

### Enhanced access to clean energy and climate-resilient infrastructure (SDGs 7 and 9) can simultaneously improve health, (SDG 3), tackle poverty (SDG 1) and foster gender equality (SDG 5) by overturning the gender-inequitable impacts of inadequate infrastructure

**Figure 7.11: Potential benefits of urban climate actions for health, adaptation and mitigation**

Category	Adaptation action	Mitigation	Health co-benefit
Nature based solutions	Urban greening		
	Other nature based solutions		
Infrastructure	Maintain and upgrade water treatment, sewage and sanitation facilities		
	Transport infrastructure		
	Increasing bike/walk lanes		
	Upgrading health infrastructure	N/A	
Urban planning design	Compact cities		
	Passive urban design		
Housing and Building design	Passive building design		
	Air conditioning		
Policy and Government	Integrated approach across		
	Mainstreaming adaptation and mitigation into local development		
	Improve partnerships		
	Prioritizing equity in adaptation planning	N/A	
Knowledge perception & behavior	Communication of co-benefits and actions to protect health	N/A	
	Support social networks		
Monitoring, Evaluation & warning system	Early warning systems	N/A	
	Response plans to protect vulnerable groups	N/A	
	Improved local monitoring of climate parameters	N/A	N/A

Source: Sharifi et al, 2021.

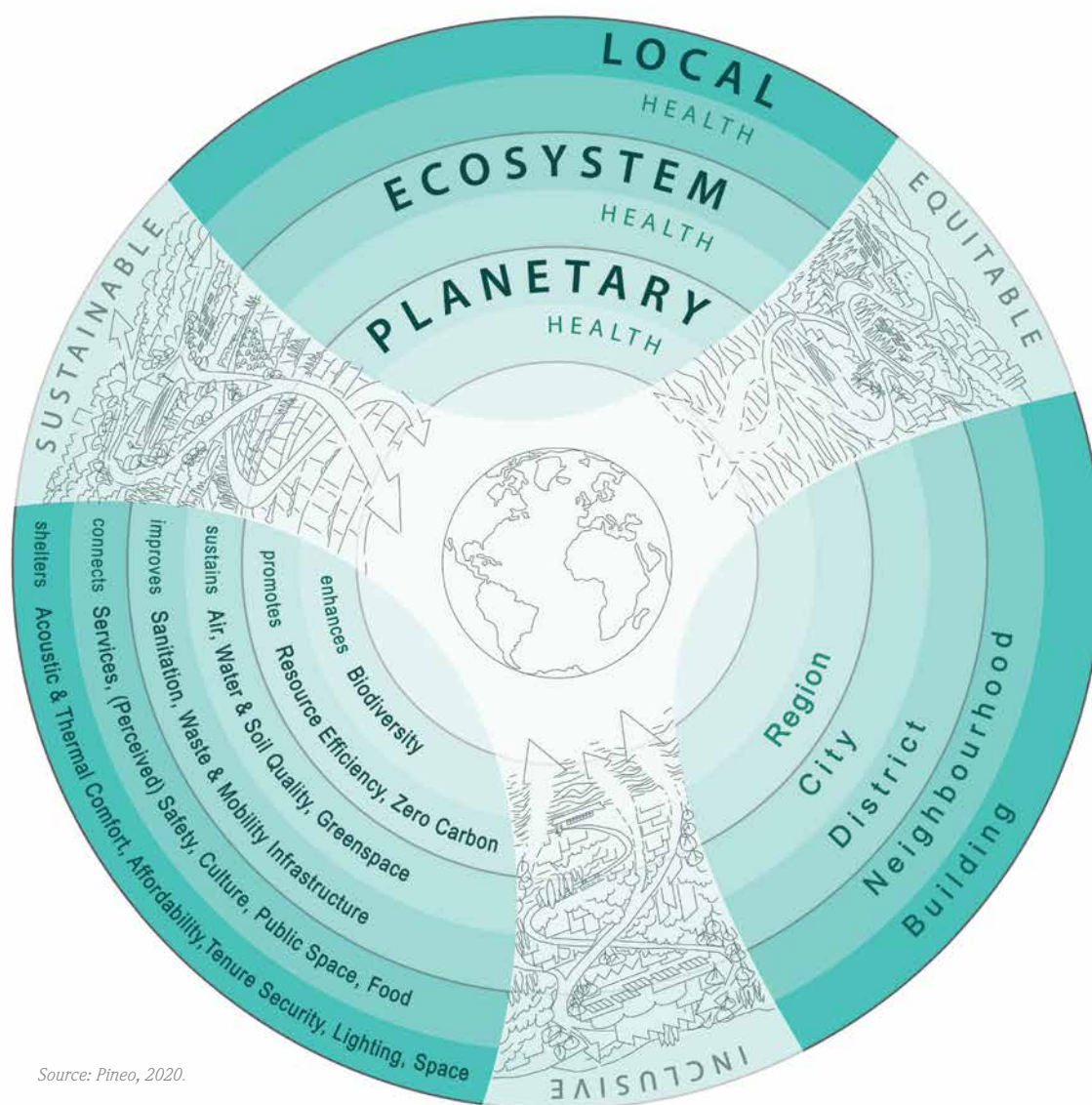
Note: Shades of green represent co-benefits, while those in orange represent trade-offs; darker colours represent the greater confidence attached to the association. Blank boxes currently have insufficient evidence.

urban planning and design to secure inclusive, equitable and sustainable urban futures.

### 7.3.5 Enhancing universal health coverage

“Leave no one behind” is the central transformative principle underpinning the SDGs and the New Urban Agenda. It represents the unequivocal global commitment by leaders to ensure that sustainable development is experienced by all. In the urban health context, consequently, there is growing consensus of the urgency to provide universal health coverage

(UHC) for the 4 billion people who currently lack such guaranteed care.<sup>119,120</sup> Universal health coverage means that “everyone receives quality health services, when and where they need them, without incurring financial hardship.” This social policy represents a key element of resilient, inclusive societies, as it can simultaneously support social justice, equitable economic development and the realization of human rights (Box 7.6).<sup>121</sup> Although important advances toward universal health coverage have been achieved since 2000, stubborn challenges remain in many settings.<sup>122</sup>

**Figure 7.12 Towards Health Urbanism: Inclusive Equitable Sustainable (THRIVES) framework**

In the wake of COVID-19 pandemic, the value of social protection systems was demonstrated in not only supporting the most vulnerable but also reinforcing the collective health and well-being for all.

Even before COVID-19, countries struggled in expanding access to universal health coverage; there were already rising levels of catastrophic health expenditure (i.e., when households spend over 10 per cent of their budgets on health).<sup>123</sup> From 2015–2017, households with catastrophic health expenditures rose from 940 million to 996 million. The elderly and people with intergenerational households typically have the highest incidence of catastrophic health

spending; medicines are usually a key driver of out-of-pocket spending and financial hardship.

Although strategies to expand universal health coverage will depend on local contexts, politics and financial considerations, a range of promising approaches have demonstrated how to leave no one behind including strong political commitment and the use of general tax revenue in Thailand and Mexico; making pregnant women universally eligible in Ghana; leveraging co-operative societies as intermediaries for informal workers in India; and providing subsidies to informal workers, schoolchildren, ethnic minorities and other vulnerable groups in Viet Nam.<sup>124</sup>

### Box 7.6: Pro-poor strategies to expand universal health coverage

While universal health coverage is a key policy concern and may be achieved via several mechanisms, local initiatives and policy incentives to reach marginalized city dwellers will also be necessary. Pro-poor strategies to expand universal health coverage include:

- Reducing administrative obstacles by eliminating documentation requirements and/or enrolment fees and establishing automatic enrolment in universal health coverage as is the case in the Vajpayee Arogyashree scheme of Karnataka state (India).<sup>125</sup>
- Reducing or eliminating co-payments, such as in Thailand's UHC schemes.
- Addressing other barriers facing marginalized groups such as migrants/refugees (Chile and Thailand), informal workers (Viet Nam) and those with less education<sup>126</sup>

To support equitable improvements in provision, it is also crucial to offer comprehensive benefit packages for both inpatient and outpatient services and to fund universal health coverage with public sources. If universal access is not financially viable at first, policymakers can pursue "progressive universalism" such as prioritizing vulnerable groups and expanding coverage of high-priority health services to all.

#### 7.3.6 Strengthening health system preparedness

COVID-19 is not the first nor will it be the last pandemic that cities will face; new outbreaks of other pandemics and major health emergencies are likely to occur.<sup>127</sup> In this reality, policymakers must reinvigorate health systems to address future shocks via an equitable, coordinated approach from the local to global levels.

The Independent Panel for Pandemic Preparedness and Response has identified several interrelated priorities such as investing in preparedness; enhancing surveillance and alert systems; and strengthening leadership and collaboration across the health sector and all levels of government, including at the highest levels. Expanding access to long-term funding streams will be essential both for preparedness and early response capacity.<sup>128</sup>

The WHO has found that preparedness is affordable,<sup>129</sup> which can help to spark cost-effective interventions to avoid future pandemics. To address emerging zoonotic diseases, there is a need for jointly tackling animal and environmental health surveillance, as proposed by the One Health Commission, with further collaborations across several sectors including transport, migration and WASH.

While global monitoring is generally the purview of national and international health agencies, adequate funding, human resources and trainings for local governments and municipal health providers in emergency response and preparedness will be crucial to support effective urban preparedness and

response. Strong collaboration with community organizations and community health workers can play a key role in reaching residents, engendering trust in health systems during health emergencies and disseminating communication clearly, regularly, and transparently including in local languages and tailored to grassroots needs to help tackle misinformation and support health literacy.<sup>130</sup>

Local and national governments will need to continue expanding universal health care, which must be recognized as a crucial aspect of health systems preparedness. As underscored by COVID-19, barriers to healthcare provision may have catastrophic, persisting knock-on effects during emergencies.

#### 7.3.7 Supporting healthy diets and active lifestyles

Alongside health-promoting policy interventions, policymakers will need to promote behaviour change and technological transformations to foster healthy, sustainable urbanization.<sup>131</sup> Such behaviour change interventions also



Local and national governments will need to continue expanding universal health care, which must be recognized as a crucial aspect of health systems preparedness

need to recognize social, cultural and other factors that may strongly shape behaviours such as consumer preferences.

Urban diets and food systems represent critical priorities for intervention, as efforts to support healthy diets may generate a wealth of benefits for urban health, climate resilience and environmental sustainability more generally. Recent findings indicate that “unhealthy diets pose a greater risk to morbidity and mortality than does unsafe sex, and alcohol, drug, and tobacco use combined,” while food systems are already pushing beyond safe ecological boundaries.<sup>132</sup>

Based on findings from cities in the United States, expanding access to grocery stores or limiting the growth of fast-food outlets may be necessary but insufficient; there is also a need to promote demand for healthy foods. South Los Angeles instituted a yearlong ban on new fast-food restaurants, but no changes in consumption were found over five years, likely

due to longstanding norms and preferences. Complementary outreach strategies are therefore needed to support the desirability and affordability of healthy foods.<sup>133</sup>

Further health benefits may be achieved by combining dietary initiatives with holistic strategies like to access to green spaces as well as promotion of active lifestyles and active transport (i.e., improving cycling lanes, supporting pedestrianization). Such initiatives portend co-benefits that enhance air quality, lower risks of obesity and NCDs, and improve mental health thanks to better environmental quality and activity levels.<sup>134</sup>

### 7.3.8 Promoting occupational health in the “future of work”

There is vigorous discussion of the “future of work” following COVID-19 but further consideration is needed of health, climate resilience, and co-benefit interventions



Bikers in Placetas, Cuba © UN-Habitat/Hector Bayona

with greater attention to multiple exclusions and the need to develop inclusive strategies. The pandemic's health and economic outcomes have markedly differed amongst wealthier urban knowledge workers (who can work from home with access to food and services) and those with heightened exposures like frontline health workers, factory workers and essential service providers.<sup>135</sup> Workers' access to insurance, healthcare and other benefits have also proved decisive in the pandemic's outcomes, with many precarious workers lacking social protections beyond (at best) short-term emergency relief measures.<sup>136</sup>

COVID-19 has demonstrated that occupational health risks are often gendered and racialized, with many of these disadvantages overlapping to heighten risks and entrenching ill health amongst racial/ethnic minorities, migrant workers or along other intersectional axes of difference.<sup>137</sup> Additionally, low-income women have overwhelmingly shouldered caring burdens while facing rising risks of gender-based violence and heightened job losses, as they were overrepresented in hospitality and other hard-hit sectors during COVID-19.<sup>138</sup> Many occupational health risks predate the pandemic and are especially acute amongst informal workers in cities in lower- and middle-income countries. Globally, an estimated 2 billion people work in the informal economy,<sup>139</sup> which is defined as all livelihoods lacking legal recognition or social protections.<sup>140</sup> As a result of their unregistered and unrecognized status, informal workers often remain invisible in official data and are neglected by health-promoting interventions.<sup>141</sup>

Future interventions are needed to develop holistic strategies to foster health and livelihoods of precarious workers, including migrants and youth. This could also explore how recent forms of equitable engagements can be built upon to enhance health and well-being at the workplace. For instance, during the initial phases of COVID-19, some cities created inclusive partnerships and enhanced recognition for informal workers. Food vendors in Kenya, Zimbabwe and other African nations were declared "essential" service providers during the health crisis, which sometimes stemmed from mobilizations by informal trader organizations.<sup>142</sup>

### 7.3.9 Promoting mental health

Improving access to mental health programmes and developing holistic strategies to address mental illness remain a key concern globally, especially in the wake of COVID-19. Without robust action, mental health problems will "contribute to human suffering, premature mortality,

and social breakdown, and will slow down economic recovery,"<sup>143</sup> making this field an urgent priority not only for supporting health and dignity but also for continued economic and social development.

Key priorities for equitable, inclusive mental health initiatives are additional investments in mental healthcare providers, ensuring that mental health is covered under universal health coverage and primary healthcare interventions, offering additional capacity-building to health providers, and providing tailored, inclusive support to help meet service users' needs.<sup>144</sup>

There are often contextual specificities requiring locally rooted strategies to support mental health in urban areas. For instance, low-income migrants in cities may face heightened challenges in accessing mental health services. A review of Chinese rural-urban migrants' mental health indicated that migrant children averaged poorer mental health scores than urban children, which may reflect migrants' lower incomes, limited social networks and reduced access to services as compared to urban residents.<sup>145</sup> A focus on children and young people, as well as creating broader coalitions and countering stigma facing those with mental illness will again be vital to ensure healthier urban futures.

More broadly, it will be essential to move beyond biomedical approaches to mental healthcare and instead seek to address the social determinants of health; interventions also need to actively engage people with mental illnesses, including to provide peer support, foster empowerment and inform future strategies.<sup>146</sup>

## 7.4 Concluding Remarks and Lessons for Policy

The optimistic scenario for urban futures envisions brave commitments to make transformative progress for achieving the SDGs in the decade of action by tackling structural inequalities and creating conditions that foster social, economic and spatial inclusion to ensure that no one is left behind. Chapter 7 proposes that health can serve as a catalyst that unifies several SDGs and generates multiple far-reaching benefits beyond the absence of disease.

The multilayered, rapidly changing nature of urban health risks necessitates holistic multisectoral strategies that are complementary and additive. To be effective these strategies need to be informed and progressively refined by ongoing,

disaggregated data collection to reveal gendered as well as intersectional disparities for timely place-based interventions that will ensure no one is left behind. By mainstreaming the health in all policies approach with a focus on health equity throughout urban interventions, policymakers can help to address the underlying sources of health disadvantages and create unparalleled opportunities for inclusive, equitable and sustainable urban futures.

The facts and arguments presented in this chapter generate five key lessons for securing healthy urban futures:

- Urban policymakers should undertake multi-sectoral approaches (extending far beyond the health sector) to effectively address the social, economic political and environmental factors influencing health in cities. By mainstreaming health across all urban interventions (a HiAP approach), cities can realize multiple benefits and unlock synergies between health and sustainable development pathways.
- Ongoing, disaggregated data collection with attention to intersectional disparities and emerging health challenges in urban areas is essential for timely and effective interventions to address the multilayered, rapidly changing nature of urban health risks. City governments can leverage on technology and partnership with grassroots organizations to help fill data gaps while also amplifying the voice of marginalized groups in decision making.
- To effectively promote and secure health for inclusive, resilient, and sustainable urban futures, policymakers urgently need to address the root of urban health inequities entrenched in racial divides, gendered discrimination, xenophobia and other sources of disadvantage. Action to address these underlying causes and tackle the pathways through which they influence health outcomes can substantially help to promote equitable well-being in cities and arrive at the optimistic scenario for urban futures.
- Local and national governments need to prioritize achieving universal health coverage as a pathway of strengthening health systems preparedness. Additionally, policymakers need to work with and strengthen a diverse array of urban health providers—including community health workers—to enhance healthcare options especially for marginalized and vulnerable groups. As underscored by COVID-19, barriers to healthcare provision may have catastrophic, persistent knock-on effects during emergencies.
- Responsive, accountable local authorities are pivotal in actualizing the optimistic scenario for urban futures through investing in urban services that improve the social determinants of health including fostering safety, promoting social cohesion, enhancing living conditions and creating access to decent work and address urban health inequities. To achieve this, cities need sufficient technical capacities and financial resources to develop and implement these holistic, place - based strategies.



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