7 Global Surgery and Healthy Cities: Adopting a Global Surgery Perspective to Harmonize SDGs and Enhance Urban Health in Africa

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Abstract

While the Sustainable Development Goals (SDGs) may present a holistic and universal framework that acknowledges the varied and interlinking dimensions of development, practical implementation strategies to achieve the goals are often sub-optimally aligned with contextual realities and particularities. Global Surgery is an emerging discipline, a mode of inquiry, an applied science, and a highly participatory global social movement which sits at the interface of health and sustainable development. As such, this chapter argues that Global Surgery represents a crucial perspective to illustrate the cross-cutting nature of the SDGs and foreground the importance of comprehensive urban health interventions for vulnerable and marginalized populations in low- and middle-income countries (LMICs), particularly in the African context. We draw on key trends in surgical systems and empirical knowledge about healthy cities and urban slums in Africa to provide a practical framework to rethink and improve surgical healthcare, build healthier cities, and advance the SDGs in African cities.

Keywords

Global Surgery · Urban health · Surgical healthcare · African cities · Sustainable cities

7.1 Overview of Global Surgery, Urban Health Systems, and Sustainable Development

The SDGs aim to create a better and sustainable future for all people by addressing global inequities and interdependent challenges. Substantial emphasis is placed on improving population health outcomes by addressing the social determinants of health (UN 2015). It is widely accepted that health is the absence of disease and the product of dynamic interactions between the human being and their environment. The state of health is therefore multifactorial and influenced by myriad of factors: genetic, behavioral, and contextual factors, including political, social, ecological, and economic ones all playing a crucial role (Sartorius 2006). As an emerging global health subdiscipline and mode of critical inquiry, Global Surgery as a discipline provides a unique opportunity to examine sustainable urban development priorities by emphasizing different links

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and interplays between the patient, urban environment, health system, and broader context. Such a perspective necessitates a multi-sectoral and inclusive approach to surgical healthcare, a cross-cutting theme of the SDGs.

Modern shifts in healthcare, particularly observed in Low- and Middle-Income Countries (LMICs) and urban settings, where the rate of change is rapid, the demand for surgical healthcare far outstrips its supply. This trend is expected to continue with significant implications for promoting sustainable development. The World Health Organization estimated in 2017 that half of the world lacked access to essential health services (WHO 2017). The finding that "five billion people do not have access to safe, affordable surgical and anesthesia care when needed" by the Lancet Commission on Global Surgery (LCoGS) was critical for defining the magnitude and scale of the surgical deficit globally (Fig. 7.1). Historically, global health (with its emphasis on public health, preventative care, and infectious disease in LMICs) has tended to neglect surgical healthcare, which has a critical role to play in preserving and improving health and well-being throughout the lifespan in all societies (Meara et al. 2015). Surgical healthcare, which refers to all surgical subdisciplines, perioperative care, and the entire surgical ecosystem, is especially needed in LMICs: "of the 313 million procedures undertaken worldwide each year, only 6% occur in the poorest countries, where over a third of the population lives," reported by the LCoGS. By expanding access to effective surgical healthcare services, substantial death and disability from injuries, noncommunicable diseases, and complications related to pregnancy could be averted. It is estimated that LMICs which fail to invest in and expand access to effective surgical healthcare could suffer cumulative economic losses of

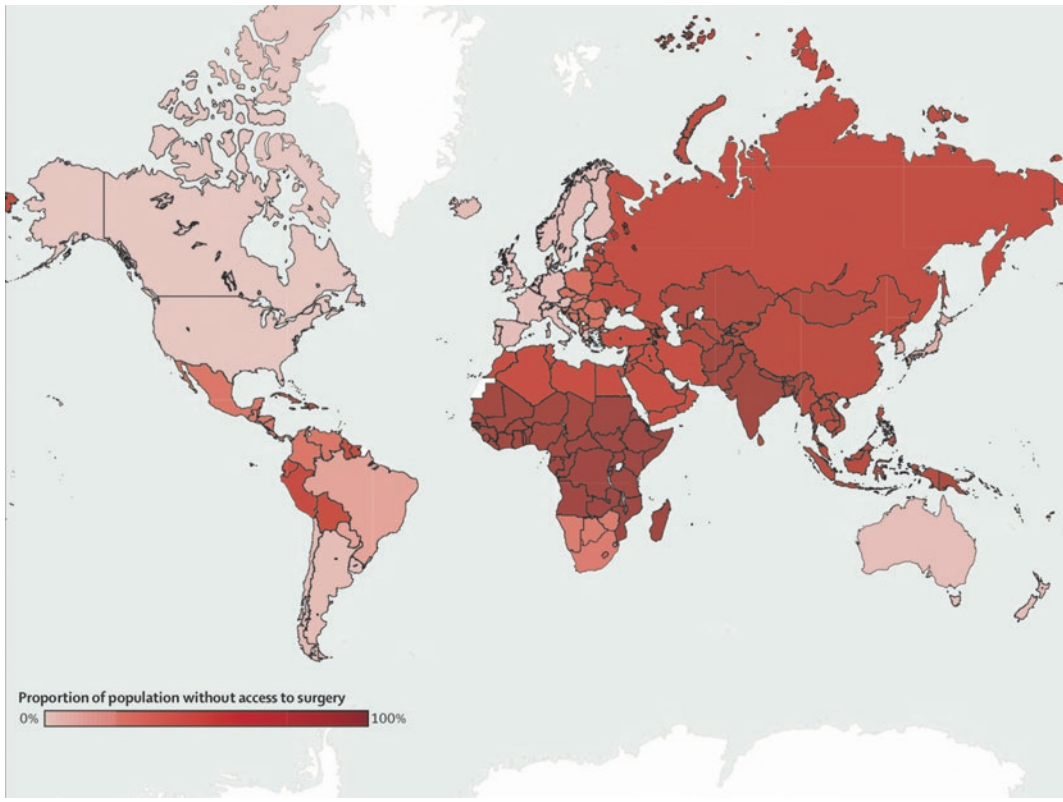

Fig. 7.1 Proportion of population without access to surgery, highlighting the surgery deficit in Africa (Meara et al. 2015)

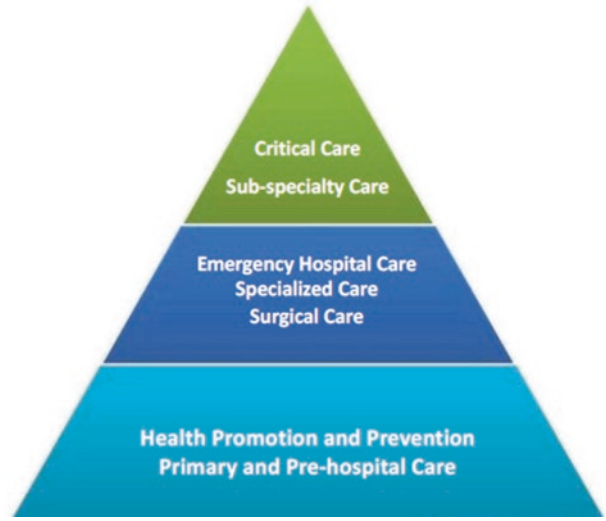

Fig. 7.2 Levels of healthcare including surgical care. (Source: authors)

up to US$ 12.3 trillion (2010 US$, purchasing power parity) from 2015 to 2030 (Meara et al. 2015).

Surgery is not a luxury. It is an essential component of comprehensive healthcare delivery of health systems and a foundational element for building and upholding a healthy urban environment. While the surgical burden of disease is important to measure population health, it is also crucial to assess the unmet need for surgical healthcare to capture the nature, extent, and scope of surgical disease. People may simply live with a surgical disease because they have no access to treatment. This empirical reality has been observed in global health through medical mission trips, where specialists travel into a city to perform surgeries. Surgical missions have provided a significant volume of surgical healthcare in many LMICs and are typically organized through universities, nongovernmental organizations, and religious organizations. Common surgical conditions treated during mission trips include cleft lip or palate, cataracts, complex fractures, and removal of benign head and neck solid tumors (Ginwala and Rickard 2015). Though well intentioned, recently the approach has gained attention for not adequately strengthening country health systems and building sustainable capabilities to deliver surgical healthcare, which has led to more concrete efforts to translate such vertical models into sustainable systems.

The health system is the principal structure involved in the delivery of healthcare within a country and is consequently the major mediator of population health. However, there are significant differences in health system performance between nations, leading to varying levels of population health between nations. People in many African nations have among the lowest life expectancy compared to people living in other continents, often suffer catastrophic and impoverishing health expenditures, and experience significant challenges accessing healthcare services. The life expectancy in sub-Saharan Africa in 2019 was 62 years, compared to the United States (78 years), Canada (82 years), or the United Kingdom (81 years) (World Bank n.d.). There are myriad reasons to explain causal mechanisms of health systems' underperformance, including insufficient financing, suboptimal governance organization, and inadequate resources such as workforce, hospitals, intelligence, and supplies. Surgical healthcare services are provided at all levels of the health systems and range from primary and prehospital healthcare to highly specialized and advanced surgical services and critical care at the tertiary level (Fig. 7.2). Due to the cross-cutting nature of surgical healthcare, strengthening surgical healthcare provides a unique opportunity to strengthen health systems in delivering effective surgical services and enhance demand-side factors, such as the social

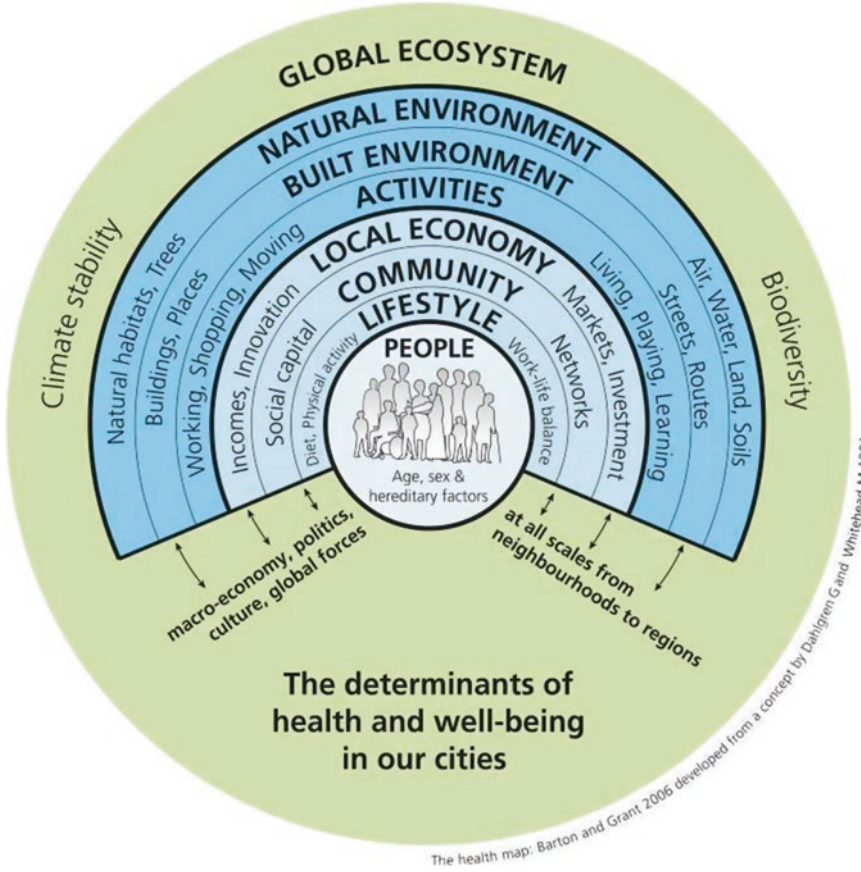

Fig. 7.3 The determinants of health and well-being in our cities (Barton and Grant 2013)

determinants of health in urban settings (Fig. 7.3). The rapid shifts in life and space that characterize the urban African landscape in epidemiology and demography make interdisciplinary efforts to bolster the health system a crucial facet for achieving the SDGs.

7.2 Interlinkages Between the Sustainable Development Goals: Opportunities and Synergies

The overarching aim of the SDGs is to achieve peace and prosperity for people on the planet now and in the future, with the recognition that strategies, which aim, for example, to improve health and education must align with strategies to eradicate poverty and global inequality (UN 2015). An approach that focuses on SDG 3 (health and well-being) in isolation is restrictive and has several limitations, especially in complex environments such as the African city. A comprehensive approach is crucial and entails exploring the interlinkages between all the SDGs as part of an intentional and holistic strategy to achieve specific sustainability objectives (Griggs et al. 2017). Cogent leadership, state capability, and civil assertiveness are prerequisites for any sustained plan to develop, implement, and scale an ambitious development agenda. Eradicating poverty and hunger is undoubtedly critical for good health and well-being but is not sufficient. For all people to flourish and participate meaningfully in society, quality education, gender equality, clean water and sanitation, affordable and clean energy, and purposeful work, driven by a growing and inclusive economy and participatory political environment, are all crucial ingredients.

These need to be addressed as part of a unified strategy for sustainable development.

Recognition of the links between health and environment has opened up spaces of dialogue, knowledge, and translation for the medical professions to contribute to public health and sustainable development policy and practice. Surgery, typically seen as a pure biomedical domain of medical practice, is one such area. Global Surgery also breaks new ground as it looks at issues that lie beyond the traditional remit of other medical fields that have contributed to public health such as primary healthcare. Global Surgery which is founded on principles of equity and social justice, with the aim of ensuring that people from vulnerable and underserved populations are able to receive safe and timely surgery when needed, aligns naturally with the basic principles and tenets of SDGs. The integrated nature of the SDGs and the empirical reality that some SDGs depend on access to surgical healthcare highlight the importance of reinforcing the value of joined up local and global action across silos.

The cross-cutting nature of surgical disease and surgical healthcare creates new synergies and opportunities between the SDGs. Achieving collective targets between SDG 3 (health and well-being), SDG 11 (sustainable cities and communities), and Global Surgery will require specific interventions that take a holistic and system approach to making measurable progress in both realms. For example, when electricity or oxygen supplies are not reliably provided, surgical operations are disrupted. Collaboration with urban planners and engineers to design and introduce interventions that make provisions for sustainable energy and the provision of oxygen with rigorous supply chain management to target hospital sites could make measurable progress in sustaining well-functioning operating theaters (Roa et al. 2019).

7.3 Global Surgery: An Evolving Priority in Global Health

Global Surgery may be described as an area of study, research, practice, and advocacy that seeks to improve health outcomes and achieve health equity for all people who need surgical, obstetrics, and anesthesia healthcare. Though Global Surgery has a special focus on LMICs and underserved populations or populations in crisis (Meara et al. 2015), marginalized groups in high-income countries (HICs) are also a major focus. It is perhaps this all-encompassing and inclusive spirit of Global Surgery, together with the fascination that clinical surgical discipline brings, that has ignited the highly participatory and vibrant Global Surgery movement over the years. Though the surgery discipline has evolved dramatically over the past century in terms of the level of sophistication in applying modern technologies to deliver more effective surgical healthcare, a significant surgical access gulf exists between high- and low-income countries, rural and urban areas, and racial and socio-economic groups, with some of the worst health outcomes occurring on the African continent (Table 7.1). Despite some of the greatest advances in surgery stemming from LMICs or LMIC surgeons that practice in HICs, such as the first heart transplant in South Africa, for instance, people in HICs benefit from these advances more than people in LMICs, where these diseases are often leading causes of death (Brink and Hassoulas 2009). Global Surgery uses partnerships with stakeholders and a multi-disciplinary approach to address healthcare challenges.

When Global Surgery first emerged in the past decade, it was described as the "neglected stepchild of Global Health" (Farmer and Kim 2008), emphasizing the need to strengthen surgical healthcare.

While Global Surgery as a process has gained substantial support since then, within the academic surgical community in HICs, and more recently in LMICs, it remains low to moderate priority within global health. However, tremendous progress has been made in terms of the governance and organization of the Global Surgery community, dispelling myths about surgical cost and complexity, and aligning global surgical objectives with those of sustainable development and Universal Health Coverage (UHC). While surgery is rarely discussed explicitly in the emerging urban health agenda (Harpham 2009;

Table 7.1 Core indicators for monitoring of universal access to safe, affordable surgical and anesthesia when needed (Adapted from Meara et al. 2015)

	Indicator	Definition	Target
1	Access to timely essential surgery	Proportion of the population that can access, within 2 h, a facility that can do cesarean delivery, laparotomy, and treatment of open fracture (the Bellwether procedures)	A minimum of 80% coverage of essential surgical and anesthesia services per country by 2030
2	Specialist surgical workforce density	Number of specialist surgical, anesthetic, and obstetric physicians who are working, per 100,000 population	100% of countries with at least 20 surgical, anesthetic, and obstetric physicians per 100,000 population by 2030
3	Surgical volume	Minimum procedures per 100,000 population	80% of countries by 2020 and 100% of countries by 2030 tracking surgical volume; minimum of 5000 procedures per 100,000 population by 2030
4	Perioperative mortality	All-cause death rate before discharge in patients who have undergone a procedure in an operating theatre divided by the total number of procedures, presented as a percentage	80% of countries by 2020 and 100% of countries by 2030 tracking perioperative mortality; in 2020, assess global data and set national targets for 2030
5	Protection against impoverishing expenditure	Proportion of households protected against impoverishment from direct out-of-pocket payments for surgical and anesthesia care	100% protection against impoverishment from out-of-pocket payments for surgical and anesthesia care by 2030
6	Protection against catastrophic expenditure	Proportion of households protected against catastrophic expenditure from direct out-of-pocket payments for surgical and anesthesia care	100% protection against catastrophic expenditure from out-of-pocket payments for surgical and anesthesia care by 2030

Galea and Vlahov 2006; Vlahov et al. 2007), a Global Surgery approach makes clear why this omission is problematic in the battle for improved health and well-being in the city context.

Despite the huge unmet need for surgery, health systems do not adequately provide surgical healthcare services and do not address the underlying determinants of surgical disease at a population level. Recent data from the African Surgical Outcomes Study (Biccard et al. 2018), which affirmed the unmet need for surgical healthcare in African cities, also highlighted the poor quality of care provided. Patients in Africa, the study showed, were twice more likely to die after a surgical operation than patients in high-income countries, and African women were 50 times more likely to die after a cesarean section than women in high-income countries (Bishop et al. 2019). Over 90% of deaths occurred within the first 24 h from anesthetic complications, bleeding, and failure to rescue. The avertible mortality due to unsafe cesarean sections in African countries is thought to be associated with a shortage of blood banks, critical care units, ventilators, essential drugs, and skilled anesthesiologists and surgeons (Bishop et al. 2019; Maswime and Buchmann 2017a).

In our research on bleeding during and after cesarean sections in Johannesburg, South Africa, one of the most populous urban environments in Africa, we found that women were more likely to survive in a functional health system with a multidisciplinary team (Maswime and Buchmann 2017a, 2017b) One of the study objectives was to identify feasible and evidenced-based interventions that could reduce bleeding in the surgical theatre. However, despite the implementation and strengthening of such interventions to reduce bleeding in the surgical theatre, the geographical location where the cesarean section took place was a far more significant explanatory factor in determining which patients would survive or die

from bleeding complications during or post-cesarean section. We concluded that bleeding during a cesarean section occurs in all parts of the world; however women in particular regions of the world and certain areas within thecity are less likely to survive bleeding complications during cesarean section. This is mainly because of deficiencies in their health systems, notably prehospital care, prolonged and ineffective referrals, and system-related theatre inefficiencies (Maswime and Buchmann 2017b). Bleeding women, even under the care of the best doctors, may not have access to blood products, an intensive care bed, oxygen, or even a ventilator. In well-resourced settings, a patient who has lost small amounts of blood may have access to an intensive care unit and receive the superior care that is available when needed. This case, though specific to obstetrics, occurs to varying levels in other areas of priority in global health, including oncology, trauma, and congenital anomalies, where weak health systems compromise the delivery of surgical healthcare. More recently, studies have demonstrated the importance of a strong surgical ecosystem in responding to COVID-19. Surgical resources—workforce, infrastructure, and supplies—all proved critical assets to managing COVID-19 globally (Chu et al. 2020a; Ma et al. 2020).

7.4 Healthy Cities and Global Surgery

A healthy city is defined as a city that is continually creating and improving physical and social environments and expanding community resources which enable people to mutually support each other in performing all functions of life while developing to their maximum potential (Duhl and Sanchez 1999). Healthy cities are indispensable assets to ensure that people live healthy lives. "A state of complete physical, mental and social well-being" was how the World Health Organization (WHO) defined health in 1948 and "not merely the absence of disease or infirmity." The Ottawa Charter in 1986, a landmark public health document, in turn highlighted the critical importance of creating "supportive environments" to enable the flourishing of human health (WHO 1987). Two fundamental concepts in the pursuit of healthy cities include (1) social justice and (2) spatial justice, which interact and align with Global Surgery goals, aspirations, and activities. Social justice lies at the heart of Global Surgery and is central to its mission. Social justice affects the way people live, chances of illness, and the risk of premature death. The inequities in health arise because of the circumstances in which people live, grow, work, and age and are also shaped by economic, political, and social forces. The life chances of children depend on where they are born (WHO 2008). Spatial justice is used often in urban studies discourse and critical geography and is based on the notion of the interrelationship between social inequalities and geographic space, which creates social advantages for some and disadvantages for others. What may be missing from this mode of analysis is a critical examination of how power, ideology, and the creation of subaltern subject identity establish and nourish those social and institutional formations to produce and perpetuate pervasive inequalities in the first place. South Africa is a good example of such a system, where inequalities have risen in the post-democratic dispensation. Such empirical realities highlight the need to critically examine the fundamental drivers of an unfair social order.

The idea of a healthy city aims to protect and advance human health (Duhl and Sanchez 1999; Barton and Grant 2013). Healthy cities promote healthy living and create spaces that enable healthy choices, promote healthcare of vulnerable groups (providing dignified housing, education, job opportunities), and address environmental hazards. The healthy cities framework intersects with Global Surgery along two dimensions: (1) reducing the need for surgery (spatial justice) and (2) improving access to surgery (social justice). There is growing evidence that there are patterns of health associated with inequalities. Higher socio-economic status and street connectivity, for example, have been associated with lower risk for disability and improved mental health (Greenfield 2018). Creating a

healthy city has as much to do with city planning and infrastructure, as it does with providing access to hospitals and healthcare facilities. Specifically, it also has to do with how well city planning and health planning interact and intersect to achieve collective objectives. In this regard, local governments are a crucial stakeholder to improve urban healthcare, but many health service providers do not adequately engage urban stakeholders, targeting national governments and ministries of health instead.

7.4.1 Spatial Justice: Addressing the Social Determinants and Drivers of Diseases and Injuries

The unequal conditions we live in explain why certain people develop diseases and injuries that necessitate surgery or suffer the complications related to surgery while others don't. The social determinants of health are based on the principle that health starts in our homes, schools, workplaces, neighborhoods, and communities—and the political and economic structures that underpin these social institutions (Table 7.2). This implies that cities and communities should aim to create social and physical environments that promote health for all, including the access to essential resources we need to function in political and economic life, such as clean air and water, nutritious food, and even high-speed Internet (Artiga and Hinton 2018). Global Surgery addresses surgery not through biomedical but through a public health lens to address health system failures, human behavior, infrastructure, finance, town planning, and the built environment, as possible enablers and barriers to surgical healthcare. This approach has special traction in poor African settlements.

African urban residents require surgery at least as much as any other urban resident. How the context is understood and how delivery of these health services is conceived will determine health outcomes. Africa is one of the least urbanized continents, with less than 40% of the urban population living in urban areas, though the rate of urbanization is rapidly growing (Simos et al. 2017). Globally, there is rapid migration to urban areas. The majority of the worldwide population (4.2 billion) already lives in urban areas, which is expected to expand considerably to 6.5 billion people by 2050. In 2018, the World Bank estimated that 29% of the urban population lived in urban slums, but this number may be as high as 54% in sub-Saharan Africa. There are wide disparities between countries ranging from 0% of the urban population living in slums in Sweden to 88% in Sudan (World Bank 2018). There are striking similarities across slums in different countries with certain key features and characteristics that need urgent rectification, including overcrowding, limited access to basic services (water, sanitation, electricity, transportation), material instability (physical, legal, economic, political), and unhealthy living conditions. As a corollary, people living in urban slums across different countries often have more in common with each other in terms of their living material conditions than they have with fellow citizens who live in wealthier neighborhoods in the same country. These characteristics are important for population health because they create unsafe living conditions, which impact on population-level health, independent of health system capabilities. It is estimated that by 2050 more than 70% of the population in Africa will live in an urban area, the majority of which is likely to live in urban slums characterized by these conditions (Simos et al. 2017).

Table 7.2 The social determinants of health and underlying key factors

Economy	Environment	Security	Policy	People
Employment	Electricity	Food	Regulations	Crime
Poverty	Housing	Health	Laws	Violence
Income	Air quality	Education	Health plans	Culture
Health cover	Infrastructure	Water	Equity	Discrimination

Using a healthy cities framework for a global surgery approach compels us to look beyond the healthcare sector to the broader environment to address the key drivers of surgical disease in the first place. By improving transportation and road infrastructure, fewer motor vehicle accidents and deaths due to trauma could follow. Creating purposeful work and critically examining the drivers of alcohol abuse could help to reduce violence, a major distal cause of the surgical trauma burden. Ensuring that people have access to nutritious food and information available on the Internet could empower people to make behavioral choices that diminish noncommunicable disease risk, including cancer and cardiovascular diseases that require surgery. In a city with appropriate health infrastructure, there is timely access to healthcare and services required such as surgery. Municipalities can become drivers and champions of healthcare by creating an environment that promotes healthy lives.

7.4.2 Social Justice: The Imperative to Improve Surgical Systems

Weak and unstable health systems, which lead to poor service coverage and utilization of surgical healthcare, constitute a major driver of suboptimal surgical outcomes. The quality, or rather the effectiveness of surgical health services, is increasingly becoming an important theme in national policy efforts to improve surgery. The three-delay model is often used to classify preventable causes of maternal deaths and is increasingly being used in Global Surgery to identify health system failures. The model describes three barriers to receiving timely and appropriate healthcare (Thaddeus and Maine 1994).

- Delay in decision to seek care (the patient)
- Delay in arrival at the healthcare facility (the transport system)
- Delay in the provision of adequate care (the healthcare facility)

The first delay relates to whether a patient decides to access care or not. Such a decision is not always straightforward and depends on numerous factors, including socio-cultural elements and beliefs about health and well-being, levels of health education and awareness, and concerns about the ability to pay or receive quality care. Once the decision to seek care has been made, paramedic and transport systems are needed to assess, acutely manage, and transport patients in a timely manner to the appropriate level of care. Ambulances are required for patients with severe injuries, and helicopters are often necessary to airlift patients who require urgent transfers or over large distances. In some countries, animal carts or wheelbarrows are still being used to transfer patients with life-threatening complications. The third delay refers to the delay in accessing appropriate care. Receiving appropriate care requires well-trained healthcare workers, adequately resourced facilities, and information systems to capture important data that will inform clinical management. Finally, patients should receive care that is affordable and which does not require substantial out-of-pocket payment, which could further cause catastrophic or impoverishing expenses.

The real-life impact of these delays can be illustrated through hypothetical scenarios that show the outcomes of unequal levels of access to timely and appropriate healthcare (Table 7.3).

Finally, an insufficient surgical workforce represents a significant barrier to safe surgical care, and Africa has the lowest number of surgeons per capita, and critical care specialists, globally. According to Holmer et al. (2015), while low- and lower-middle income countries represent 48% of the global population, they only possess 20% of the surgical workforce (Holmer et al. 2015). The COVID-19 pandemic has further disrupted surgical healthcare and is likely to increase the unmet need for surgery in Africa. During the lockdown in South Africa, deaths in maternal health increased by 30%, because women were not able to access care (Pattinson et al. 2020). As health facilities adapted to provide care to the large number of patients with COVID-19, elective surgeries were cancelled in numerous African countries (Chu et al. 2020b; COVIDSurg Collaborative 2020). The pandemic has made the

Table 7.3 Hypothetical scenarios depicting the interrelationship between spatial and social justice in Global Surgery

Scenario 1: A pregnant women in a remote area (which may be in a part of the city that is cut off from health and transport service access) is not able to access antenatal care; she delivers a baby with a birth defect that requires surgical correction at birth. The condition is missed throughout the pregnancy because she does have an ultrasound done. The baby is born with the large intestines protruding through the baby's belly. It takes 6 h after a home delivery for her to get to a hospital that offers pediatric surgery. The baby might survive but might miss the opportunity to have corrective surgery within the first few hours of life, which will impact their quality of life. As a result, the child might not reach their full potential.
Scenario 2: A road traffic accident occurs between two cities. One person has health insurance and the other does not. The person with health insurance has severe injuries, but a private ambulance arrives within 15 min and transports them to the nearest hospital where they are immediately assessed and taken to the operating room for surgery. They are admitted to the high care unit for observation, and they recover well. They spend the next 6 months consulting with both the physiotherapist and an occupational therapist and return to work fully recovered and rehabilitated. The person without health insurance has less severe injuries but waits longer for the ambulance to get them to the nearest public hospital. They have sustained internal injuries, but this is missed by the junior doctor who is running a busy casualty. They are admitted to the inpatient's ward for observation. After a few hours, their blood pressure becomes unstable, and they are immediately wheeled into an ambulance and transferred to a hospital with specialists for further management. They die on the way to the hospital. On postmortem, it is discovered that their abdomen is filled with blood because of sustaining an injury that could have been repaired had they been sent immediately for a laparotomy. Both examples illustrate the failure to access timely, affordable, and appropriate care. In the first example, the pregnant woman did not attend an antenatal clinic, even though she may have known that pregnant women should seek routine care. There may have been many reasons for this. Perhaps they were financial, resulting from a lack of education and insight, or perhaps even fear or anxiety. What she did not know is that her baby would be born with a congenital defect that could have been detected during pregnancy. As a result, her baby was born at home instead of in a health facility. On discovering that her baby has a defect, she is rushed to the nearest hospital, but the local district hospital does not have pediatric surgeons. In this case, the time it will take for her to access appropriate care might result in the condition becoming inoperable, further compromising the chances of survival in the baby.
In the second example, comparing two individuals who are involved in the same road accident, at the same time, with perhaps similar injuries. The difference between them is that one has medical insurance, and one doesn't. This results in one arriving sooner at a healthcare facility and immediately receiving appropriate healthcare. The person who is relying on public healthcare does not get timely prehospital care and does not get appropriate care, resulting in a death that is related to poor management. On postmortem, it is clear that the patient needed an exploratory laparotomy, which they didn't have either because they were poorly managed or because they didn't have access to emergency surgical care.

need for global surgery more important than ever. This is especially true in Africa and even more so in African cities that are dense in areas where there is a concentration of poorer households and where communities are under-serviced and poorly planned. Efforts to improve surgical care will need to accelerate.

7.5 Global Surgery: An Interface Between Surgical Care, Public Health, and Public Policy

Since the launch of the LCoGS, several countries in Africa, Asia, and Latin America, including the small island states of the Pacific, are engaging in national planning processes to improve surgical healthcare. The LCoGS provided a flexible framework to catalyze such national efforts, with Zambia and Tanzania among the first nations to develop National Surgical, Obstetric and Anesthesia Plans (NSOAPs). In 2020, the United Nations Institute for Training and Research published the NSOAP Planning manual as a toolkit to further assist countries develop and implement NSOAPs within broader national health strategies. At the global level, the World Health Assembly passed Resolution 68.15, calling for emergency and essential surgery inclusion in UHC (UNITAR 2020), and more recently at a regional level, the Southern African Development Community passed an intergovernmental resolution to pri-

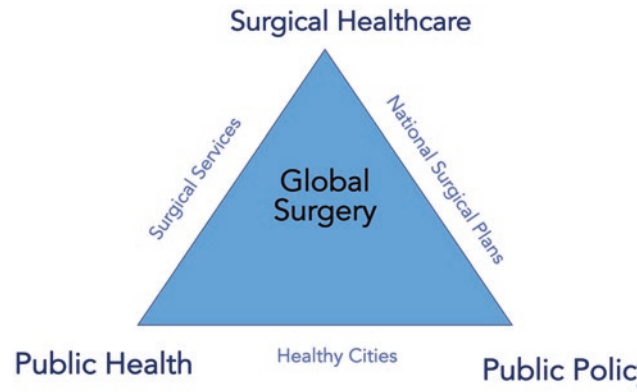

Fig. 7.4 A proposed framework for Global Surgery as the interface between surgical healthcare, public health, and public policy. (Source: authors)

oritize surgical healthcare within broader efforts to achieve UHC, regional health security, and economic development.

Efforts to improve surgical healthcare in African cities need to be driven collaboratively by the Global Surgery community, public health community, and policy makers, with the aim of improving service delivery and healthier cities (Fig. 7.4). The Global Surgery process allows for the creation of partnerships and for engaging with key stakeholders to improve surgical healthcare. The following recommendations were made by the Lancet Commission on Global Surgery to achieve universal coverage:

- Governments in LMICs to strengthen surgical services and the national health systems
- Global health and development organizations to include indicators of surgical care within existing health goals and monitoring systems
- Funding agencies to invest in surgical care as a tool for poverty alleviation and general welfare gains
- International partners to support local leaders in their efforts to provide equitable surgical care
- The general public to lobby for access to surgical services for all

7.6 Conclusion

The SDGs set out a vision of universal affordable healthcare and cities that work for all.

This creates a unique opportunity for health promoting policies across different sectors and at different scales—including, crucially, cities where the majority of the global poor now live. Healthy cities are also the foundation for effective primary health and successful global surgery delivery but will require enhanced dialogue between stakeholders in global surgery, public health, and public policy. We need to address poverty, unemployment, lack of education, and inequality while also striving to create healthy cities that advance health. Achieving the SDGs for health in African cities will become possible when governments, both local and national, recognize the thread between all the SDGs and the varied environments that people live in.

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