



Health and WaSH

Sub-Saharan Africa's epidemiological transition and its approaching double burden of disease

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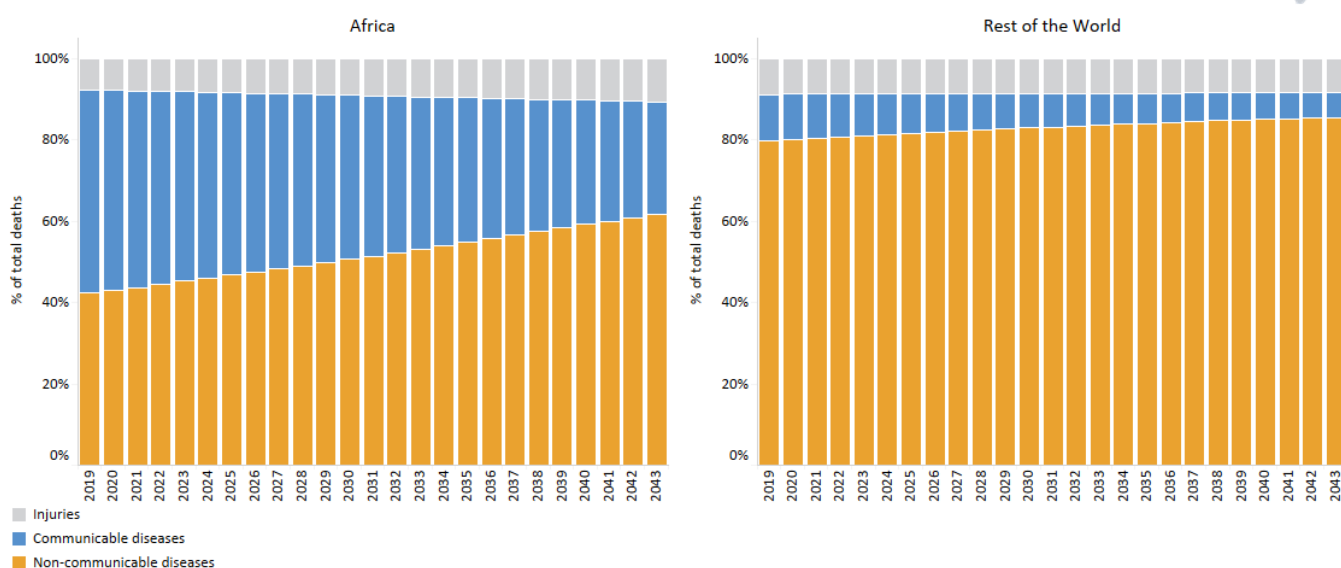
Sub-Saharan Africa's epidemiological transition and its approaching double burden of disease

The typical evolution of the disease burden over time is that countries first experience a declining burden of infectious diseases and later experience an increased incidence of non-communicable diseases. That is, lifestyle diseases typical of older, sedentary population cohorts and those who consume processed foods inevitably increase as populations age. The change in the typical prevalence has important cost implications since treating and preventing infectious diseases, such as influenza and mumps, is less expensive than treating non-communicable diseases, such as heart disease and diabetes, common among older populations.

The so-called epidemiological transition occurs when improved food security and innovations in public health and medicine result in infectious (or communicable) diseases being replaced as the dominant cause of death by chronic conditions, such as cancer.

Chart 7 presents death rates in Africa as a percentage of total deaths for the three major categories used in the [Global Burden of Disease database](#), namely communicable diseases,[1] non-communicable diseases[2] and injuries,[3] compared to the rates for the rest of the world for the period 2019 to 2043. The data reflects Africa's high but declining communicable disease burden and the rapid increase in the continent's death rates from non-communicable diseases.

Chart 7: Deaths by major ICD categories, per cent of total: 2019 to 2043



Source: IFs 7.84 initialising from IHME GBE data

In 2019, Africa accounted for 47% of all infectious disease deaths worldwide, despite making up only 17% of the global population. It is partly because of this high (but declining) communicable disease burden that the current average life expectancy at birth in Africa (66 years) is much lower than that in the rest of the world (75 years). The 8.8-year gap in average life expectancy in 2019 between Africa and the rest of the world will decline to a six-year gap in life expectancy in 2043, largely because improvements in the prevention and treatment of communicable diseases are cheaper and easier to achieve.

Africa's much higher infectious (communicable) disease burden reflects that it has a median age below 19 years compared to 33 years in the world without Africa. The effect of the median age is also reflected within the continent where the median age in North Africa is ten years higher than in sub-Saharan Africa, which inevitably experiences a much higher communicable disease burden. Infants and children, who are much more numerous in sub-Saharan Africa, are especially

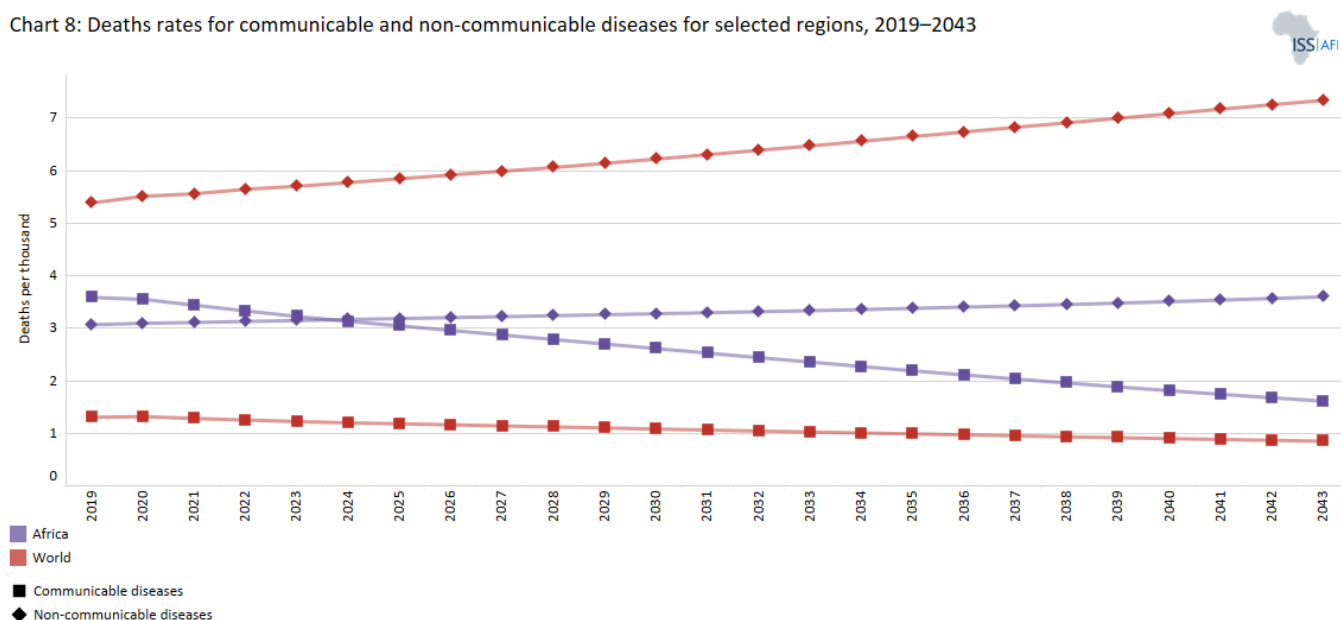
susceptible to communicable diseases. Poor living conditions, including unsafe water, poor housing and inadequate sanitation in sub-Saharan Africa, all create an environment conducive to the spread of communicable diseases. For example, in 2019 the Central African Republic (CAR) and Lesotho both recorded more than seven deaths per 1 000 people from communicable diseases, while Tunisia and Libya had rates below 0.3.

Two infectious diseases are particularly prevalent in Africa: in 2019, the continent experienced almost 90% of malaria deaths and about 75% of HIV/AIDS deaths worldwide.

The Current Path forecast is that annual fatalities from malaria and HIV/AIDS will decline due to better prevention and treatment, even as global populations grow. Compared to 556 000 deaths from malaria globally in 2019, fatalities in 2043 will halve. By 2043, deaths from HIV/AIDS globally will likely also be less than half that in 2019, but Africa will continue to bear a disproportionate higher burden.

At some point, as populations age and the nature of illnesses change, deaths from infectious diseases are overtaken by deaths from non-communicable diseases. The transition occurred more than a century ago in Europe and North America. In Latin America and the Caribbean, it happened in South Asia around the start of the current century. It is currently happening in North Africa and will only occur in 2030 in sub-Saharan Africa with its very young population.

Chart 8: Deaths rates for communicable and non-communicable diseases for selected regions, 2019–2043



Source: IFs 7.84 initialising from IHME GBE data

In sub-Saharan Africa, the transition to deaths due to ‘diseases of affluence’ is happening at lower levels of income and urbanisation than elsewhere. The transition will present health systems with higher costs as they navigate increasingly complex public health landscapes. Africa’s low average incomes translate into limited state budgets and capacity to provide the necessary healthcare to treat non-communicable diseases. Hence, Africa’s epidemiological transition will occur at a point when incomes are still quite low compared to the point at which the transition occurred elsewhere.

The increasing prevalence of chronic non-communicable diseases such as obesity, hypertension, diabetes and heart diseases, on top of the battle to deal with infectious diseases such flu, has come to be termed a ‘double burden of disease’.

The result of sub-Saharan Africa’s approaching double burden of disease will be more sick adults, requiring more resources to prevent and treat than non-communicable conditions, as well as present a more complex problem. Pollution and tobacco are also proving to be a challenge, as tobacco companies are now actively targeting the next generation of

smokers, all of whom are in the developing world. Health expenditure per person in North Africa is already almost four times that in sub-Saharan Africa, and Europe, with its much older population, spends several times more still per capita on health compared to North Africa.

Finally, an important underlying cause of child deaths in low- and middle-income countries can be attributed to macro- and micronutrient undernutrition; whereas excessive intake of calories is one of the main common factors causing cardiovascular diseases, diabetes, high blood pressure, etc. Thus, undernutrition of children and over (and wrong) nutrition of adults is resulting in high rates of obesity in countries such as South Africa, establishing a link in some countries between poverty and obesity. Africa's approaching double burden of disease is therefore compounded by a double burden of [malnutrition](#). According to Ivana Koli:

A driving force behind the shift from undernutrition in childhood to overnutrition in adulthood in low- and middle-income countries (LMIC) was the rapid increase in economic development, globalisation, and urbanisation, leading to tremendous changes in lifestyle marked predominantly by changes in diet and physical activity and [under- and overnutrition](#) occurring simultaneously among different population groups.

Endnotes

1. Includes HIV/AIDS, malaria and tuberculosis together with maternal deaths, neonatal deaths and deaths from malnutrition.
2. These are often chronic, long-term illnesses and include cardiovascular diseases (including stroke), cancers, diabetes and chronic respiratory diseases (such as chronic pulmonary disease and asthma, but excluding infectious respiratory diseases such as tuberculosis and influenza).
3. Injuries are caused by road accidents, homicides, conflict deaths, drowning, fire-related accidents, natural disasters and suicides.

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Dr Jakkie Cilliers is the ISS's founder and former executive director of the ISS. He currently serves as chair of the ISS Board of Trustees and head of the African Futures and Innovation (AFI) programme at the Pretoria office of the ISS. His 2017 best-seller *Fate of the Nation* addresses South Africa's futures from political, economic and social perspectives. His three most recent books, *Africa First! Igniting a Growth Revolution* (March 2020), *The Future of Africa: Challenges and Opportunities* (April 2021), and *Africa Tomorrow: Pathways to Prosperity* (June 2022) take a rigorous look at the continent as a whole.

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