Health Taxes in the Polycrisis Era

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ABSTRACT

In 2019, the high level Task Force on Fiscal Policy for Health concluded that taxes on tobacco, alcohol, and sugar-sweetened beverages (SSBs) were a highly effective but greatly underutilized policy tool to reduce consumption, save lives, and raise domestic resources. The Task Force estimated that, if all countries increased their excise taxes to raise prices by 50 percent, over 50 million premature deaths could be averted worldwide over the next 50 years while raising over US$20 trillion of additional revenue. Since the Task Force report was launched, the world has experienced a "polycrisis", including a global pandemic, an economic recession, and the outbreak of wars in Europe and the Middle East. Within this broader context, the world has also entered prolonged health and fiscal crises. Health systems remain weakened by the COVID-19 pandemic, and lack sufficient health financing to rebuild, nor adequately respond to the surging NCD epidemic caused by uncontrolled risk factors such as tobacco, alcohol, and sugar consumption. Opportunities to raise domestic resources are limited, and debt burdens are further reducing fiscal space. The period from 2019 to 2027 may become a "lost decade" for health and social policies, with 110 countries facing little prospect of any ability to raise government revenues beyond current levels. In this paper we describe the current health crises and fiscal crises and review the contribution health taxes could make to turning around this dire situation. We conclude that taxes on tobacco, alcohol, and sugar-sweetened beverages (SSBs) are an ideal policy solution - good for the budget and good for health. These taxes are relatively quick to implement, and, unlike other taxes, do not put economic growth at risk, a vital benefit in the current era.

Abbreviations

BMI	Body Mass Index
DALYs	Disability-Adjusted Life Years
GDP	Gross Domestic Product
HIC	High-Income Country
IDA	International Development Association
IHME	Institute for Health Metrics and Evaluation
IMF	International Monetary Fund
MIC	Middle-Income Country
LIC	Low-Income Country
LMICs	Low and Middle-Income Countries
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-Pocket
NCD	Non-Communicable Disease
SDG	Sustainable Development Goal
UHC	Universal Health Coverage
UMIC	Upper Middle-Income Country
VAT	Value Added Tax
WHO	World Health Organization

1. Introduction

The post-COVID polycrisis era

In 2019, the first Task Force on Fiscal Policy for Health was launched. Since then, the world has entered into a "polycrisis era" – where "disparate crises interact such that the overall impact far exceeds the sum of each part" (Whiting & Park, 2023). These crises include both health and fiscal shocks.

The most dramatic health crisis was the COVID-19 pandemic, which directly resulted in significant mortality and morbidity, especially for those living with obesity or other non-communicable diseases (NCDs). Additionally, the pandemic led to substantial health system disruptions, including missed vaccinations, diagnoses, and treatments, which will have lasting consequences for the health of populations. In the face of the immediate COVID threat, countries reduced their focus on other health challenges. The UN has stated that, halfway to the deadline for achieving the SDGs, we are "woefully off track" (UN News, 2023) – especially on those goals related to hunger, sustainable diets, and health outcomes (*The SDG Index and Dashboards*, n.d.). Increased resources will be needed to get back on track with health goals as well as fund increased pandemic preparedness. However, COVID-19 is not the only health crisis countries have been facing: this short-term crisis came on top of, and exacerbated, a longer running crisis of rising NCDs, especially in low and middle-income countries (LMICs). Indeed, by 2030, it is predicted that NCDs will account for 75 percent of all deaths (European Commission, 2018). This is imposing a sizable (and rapidly rising) financial burden on countries, both in terms of treatment cost and lost economic productivity.

Concurrent economic and fiscal crises have restricted LMICs' ability to raise the resources to tackle these health crises. The post-COVID economy is marked by low growth rates and high inflation. For example, middle-income countries are expected to see lower GDP growth in 2024-2028 than in all five-year periods since 2009 (Gourinchas, 2023); and the global economy is set for the slowest half-decade of GDP growth for 30 years (World Bank, 2024). This lack of growth means it is more challenging to raise sufficient government revenue, squeezing the fiscal space for government health spending. The economic situation has been worsened by the war in Ukraine which has had widespread economic effects through triggering higher food and fuel prices and exacerbating the post-COVID high inflation. The conflict in the Middle East may put yet further pressures on inflation. High inflation has resulted in central banks in high-income countries increasing interest rates. These rising interest rates are particularly problematic given that the high levels of borrowing undertaken by LMICs in response to the COVID pandemic has left a legacy of large debts. The proportion of low-income countries experiencing or at high risk of "debt distress" has doubled to 60 percent since 2015 (IMF, 2022).

Relative to the situation in 2019, when the first Task Force Report was launched, these crises, in combination, have significantly worsened population health and fiscal space. This paper seeks to describe the current health and fiscal crises, and reviews to what extent health taxes may offer a policy solution. Complementary papers will follow later this year to provide a review of progress on health tax policy since 2019, to estimate the short-term revenue raising potential of expanding these taxes, and to explore opportunities to expand them beyond SSBs to ultra-processed foods. These will be integrated into a 2024 Task Force report.

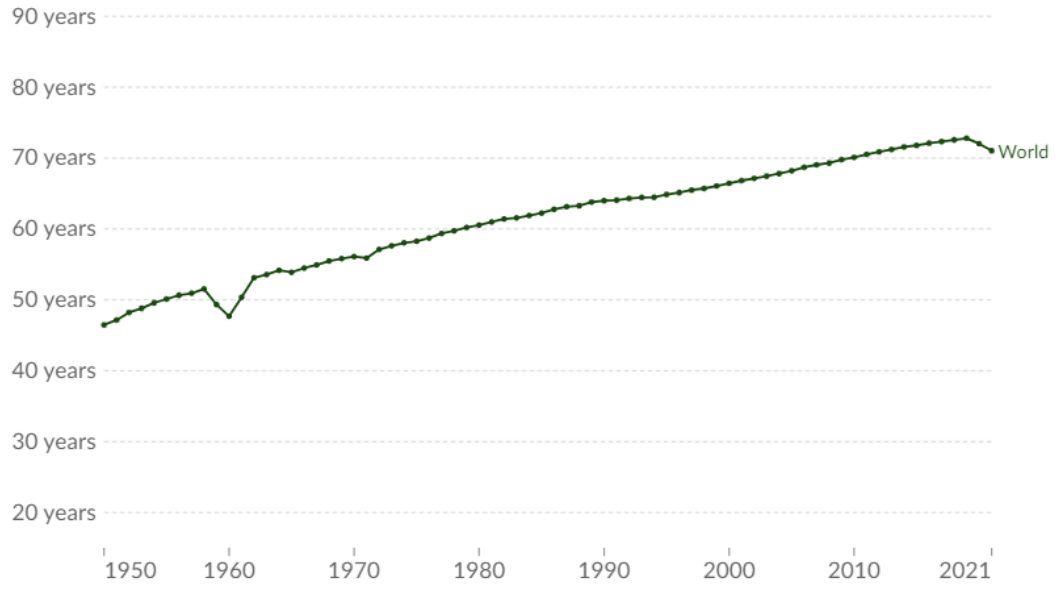
2. The current health crisis

Health systems around the world are currently struggling with a dual crisis: a slow recovery from the shock of COVID-19, and a long-term crisis of rising non-communicable diseases. In this section we will explore how COVID-19 exacerbated the NCD crises, increasing mortality and disrupting NCD care. We then conclude with a review of deteriorating NCD trends that countries must now tackle if they are to make progress on their health system goals.

COVID-19 – a devastating shock to global health, particularly for those with NCDs

Before COVID-19, there had been decades of progress in life expectancy, with life expectancy increasing from 46.5 in 1950 to a high of 72.8 in 2019 (Dattani et al., 2023; see Figure 1). This progress was especially significant in low- and middle-income countries (LMICs). However, COVID-19 reversed this trend, triggering a decline in life expectancies in most countries. 184 countries saw their life expectancy at birth decrease between 2019 and 2021: of these, 25 countries saw a decrease of more than 3 years, 24 saw a decrease of 2-3 years, 58 saw a decrease of 1-2 years, and 77 saw a decrease of less than one year (Cao et al., 2023). Only very few high-income countries (HICs) did not see life expectancy declines in 2020: many continued to see declines in 2021 and as of 2022, the mortality shock from COVID was still ongoing (Schöley et al., 2022).

Figure 1: Global average life expectancy at birth in a given year, 1950 -2021



Source: Dattani et al., 2023

COVID-19 was particularly severe for people living with NCDs and those with high alcohol and tobacco consumption. For example, current and former smokers have 30 – 50percent excess risk of COVID-19 progression, compared to never-smokers, and are significantly more likely to die from COVID-19 than non-smokers (Gallus et al., 2023). Severe outcomes from COVID-19 were more likely with increased body mass index (even within the healthy range) (Gao et al., 2021), and obesity increases the risk of COVID-19 related hospitalisation and death (Sawadogo et al., 2022). The overall result was higher COVID-19 mortality rates in countries with higher NCDs (Azarpazhooh et al., 2020; Bollyky et al., 2021; Oshakbayev et al., 2022). People with NCDs are also more at risk of other respiratory infections, such as Middle East respiratory syndrome, suggesting that controlling NCDs is necessary both for population health and as a key element of future pandemic preparedness (He et al., 2021).

COVID-19 disrupted health systems and interrupted NCD care

Beyond the immediate loss of life, COVID-19 worsened health through widespread disruption on health system functioning, from which countries are still recovering. For example, it led to the worst backsliding in vaccination coverage in 30 years. There was a nearly 40 percent increase in the global number of unvaccinated children between 2019 and 2021, with coverage dropping to 2005 levels (World Health Organization et al., 2023). 25 million children under 5 missed at least one routine immunization in 2021, 75 percent of whom lived in one of 20 LMICs (*Global Partners Announce a New Effort – "The Big Catch-up" – to Vaccinate Millions of Children and Restore Immunization Progress Lost during the Pandemic*, 2023). This is more than missed vaccines in either 2019 or 2020 – demonstrating the lasting disruptions to healthcare systems. Already the impact of the millions of missed measles vaccines is evident from the 43 percent increase in global measles deaths between 2021 and 2022 (Minta et al., 2023).

Essential services, routine procedures and attendance at medical clinics were also disrupted. In 2021, the WHO reports essential services were disrupted in 92% of countries; in 2022, there were still disruptions in 84% of countries (World Health Organization, 2023e). Elective treatment and outpatient attendance remains below pre-pandemic levels in many countries, and many people had referrals cancelled during the pandemic (van Ginneken et al., 2022). A review of the impacts in Africa found extremely high numbers of people missing out on healthcare during the pandemic – some of which, such as services to prevent mother-to-child transmission of HIV, will have long-lasting effects (Tessema et al., 2021). For example, in Ethiopia, there were substantial declines in tuberculosis diagnosis and management services, and a decline in service utilisation of up to 50 percent for antenatal care attendance; in South Africa, there was a 36 – 50 percent reduction in the rate of child healthcare visits.

Those with NCDs were some of the most vulnerable to secondary disruptions of care due to COVID-19. In Brazil, Ecuador, Mexico, and Peru, hospitalisation for conditions amenable to healthcare declined by 28 percent between March 2020 and December 2021, as compared to pre-pandemic years (Bernal Lara et al., 2023). This was not due to reduced disease burden, since mortality for these conditions increased by 28 percent in the same period – with non-communicable diseases accounting for 89 percent of the mortality increase (Bernal Lara et al., 2023). Despite this, insufficient consideration was made for NCD patients, especially in LMICs. While 72 percent of high-income countries included NCD programs in their readiness and response plans for COVID, only 42 percent of low-income countries did (Okereke et al., 2021) – the resulting missed treatment may have serious implications for long-term health outcomes for NCD patients in LICs. Therefore, we expect many more problems to occur in the future – a "hidden backlog".

The relationship between COVID-19 harms and NCD harms was bi-directional, in that, as discussed, the COVID-19 pandemic worsened NCD outcomes, but also, the underlying NCD burden worsened the outcome of the pandemic. This was both through individual-level effects, with NCDs increasing COVID-19 risk, and through population level-effects, as significant burden of chronic conditions reduced available healthcare capacity, compounding the pandemic's burden on health systems (Kostova et al., 2021).

NCDs – uncontrolled and continuing to rise

COVID-19 has thus brought renewed focus on, and urgency to correct, the global failure to control NCDs and their causative risk factors. NCDs, including cancer, heart disease, stroke, lung disease, and diabetes, have risen sharply in all regions of the world. NCDs are projected to account for 75 percent of all deaths in 2030 – up from 63 percent in 2013 (European Commission, 2018). Of the more than 15 million premature deaths among those aged 30-69 from NCDs, 85 percent occur in LMICs (World

Health Organization, 2023b). This is placing increasing pressure on health systems and creating significant economic costs – both for individuals and the wider healthcare system. The proportion of the population facing catastrophic or impoverishing out-of-pocket (OOP) health spending has increased continuously since 2000 (World Health Organization and the International Bank for Reconstruction and Development / The World Bank, 2023). Today, around two billion people are facing such catastrophic spending. The high costs of NCDs – which are often life-long conditions requiring expensive and long-term treatment – could worsen this situation. For example, renal dialysis alone could potentially consume between 15 and 55 percent of total domestic governmental health expenditure in some African countries (Crosby et al., 2020). NCDs also impose costs through negative impacts on human capital and productivity loss. Overall, the leading five NCDs (cardiovascular disease, chronic respiratory disease, cancer, diabetes, and mental health conditions) are estimated to cost more than USD 2 trillion per year, globally (*Financing NCDs*, 2015). LMICs will shoulder a significant part of this burden – for example, accounting for 50 percent of global chronic obstructive pulmonary disease costs and 45 percent of diabetes cases, and with the direct treatment of just diabetes cases in LMICs estimated to cost USD 300 billion by 2030 (Ndubuisi, 2021).

Given the well-known disease pathways leading to many NCDs, reducing risk factors is a reliable way to reduce future burden and healthcare costs. These risk factors are driven by the commercial determinants of health – the "systems, practices, and pathways through which commercial actors drive health and equity" (The Lancet, 2023). That is, ill health is being triggered by our own personal consumption behaviours, which are in turn encouraged by our environment, created by powerful industries in these sectors, and shaped by how we regulate the goods we trade and consume. However, despite this awareness, rates of obesity continue to rise, and levels of tobacco, alcohol and SSB consumption remain high.

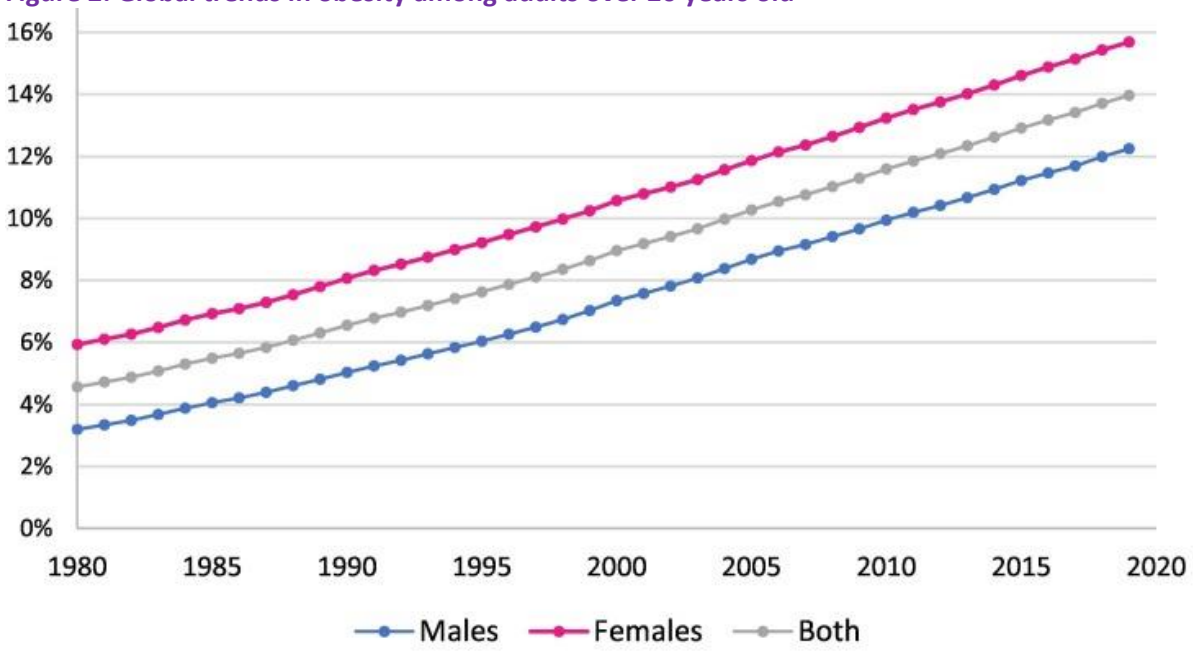
Tobacco alone, as a risk factor for many NCDs, leads to more than 8 million premature deaths each year (World Health Organization, 2023d). Tobacco use also imposes significant costs, both in terms of costs of treating tobacco-related illnesses and in terms of productivity losses. For example, in 2020 the United States (US) was estimated to have lost $436.7 billion (2.1 percent of US Gross Domestic Product (GDP)) as a result of cigarette use (Nargis et al., 2022). In 2017-2018, the cost of tobacco use in India amounted to 1% of its GDP; the direct medical costs alone accounted for 5.3% of total health expenditure (John et al., 2021). While the global prevalence of regular smoking has been decreasing steadily since 1990, there are still over 1.2 billion global tobacco users (World Health Organization, 2024). Moreover, six countries are still seeing increases in tobacco use prevalence, and population changes mean the absolute number of smokers in the African and Eastern Mediterranean regions have been, and are predicted to continue, increasing. Accordingly, the burden of tobacco use falls disproportionately in LMICs: around 80 percent of global smokers now live in these countries (World Health Organization, 2023d). Tackling tobacco use globally, but especially in these countries, could bring major health and economic benefits.

Similarly, harmful use of alcohol results in 2.6 million deaths each year (World Health Organization, 2019) and disabilities and poor health for millions more - equivalent to 4.6% of the global burden of disease as measured in Disability-Adjusted Life Years (DALYs). One paper estimated the economic cost of alcohol consumption as 2.6 percent of GDP, with around one third of these costs relating to direct costs and two thirds relating to productivity loss (Manthey et al., 2021). Another found that alcohol consumption resulted in additional healthcare costs equivalent to 2.4 percent of the total health care expenditure in OECD countries. Across 52 OECD, EU, and G20 countries, USD 138 billion will be spent annually to treat alcohol-related diseases – equivalent to the current health spending in Australia (Goryakin et al., 2021). While average global alcohol consumption decreased from 2015 to 2019 –

following an increase from 2005 to 2010 and then a plateau until 2015 (World Health Organization, 2023a) – the COVID pandemic may have led to increased consumption. For example, in the US, alcohol sales increased by nearly 3 percent in 2020, the largest increase in over 50 years (National Institutes of Health, 2023), and alcohol-related deaths increased by 25 percent from 2019 to 2020 (in comparison with all other causes of death which increased by 16 percent) (White et al., 2022). Additionally, global trends masked regional differences: while alcohol use decreased in Europe and Africa, South East Asia and the Western Pacific regions saw substantial increased in alcohol consumption between 2000 and 2019. Clearly, more needs to be done to tackle harmful alcohol use – and reducing this could have a substantial impact on reducing both mortality and healthcare costs.

Another concerning trend is the rising levels of obesity in LMICs. Global overweight and obesity rates have nearly tripled since 1975 and are predicted to continue to increase – from 38 percent of the population aged 5 or over in 2020 to 51 percent in 2035 (World Obesity Federation, 2023; See Figure 2). While the increase has been slowing in HICs, the rise in obesity rates has been greater in LMICs (Abay et al., 2022). Today, around 70 percent of overweight or obese people live in LMICs – this equates to nearly 2 billion people (Shekar & Popkin, 2020). Being overweight or obese is a key risk factor for many diseases – indeed, body mass index (BMI) is a strong predictor for overall mortality (Djalalinia et al., 2015), and being overweight reduces life expectancy by an average of 2.7 years in OECD countries ("Overweight and Obesity among Adults," 2021). In 2017, 4.7 million people were estimated to have died prematurely due to high BMI (Powell & Blecher, 2024). In line with increasing rates of obesity, the number of high-BMI-related disability-adjusted life years (DALYs) lost more than doubled between 1990 and 2019 (Dai et al., 2020). This imposes significant medical costs for both individuals and the healthcare system. As of 2020, high BMI accounted for 13 percent of global healthcare expenditure (Lobstein & Brinsden, 2020). In the next 15 years, the overall annual cost of overweight and obesity in LMICs is projected to reach about USD 7 trillion (Shekar & Popkin, 2020). Tackling drivers of obesity is therefore of paramount importance to public health strategies and for minimising healthcare costs.

Figure 2: Global trends in obesity among adults over 20 years old



Source: Boutari & Mantzoros, 2022, using data from the Global Burden of Disease Study. Reproduced with permission.

Recovery from COVID-19 requires focus on NCD prevention as well as greater health financing

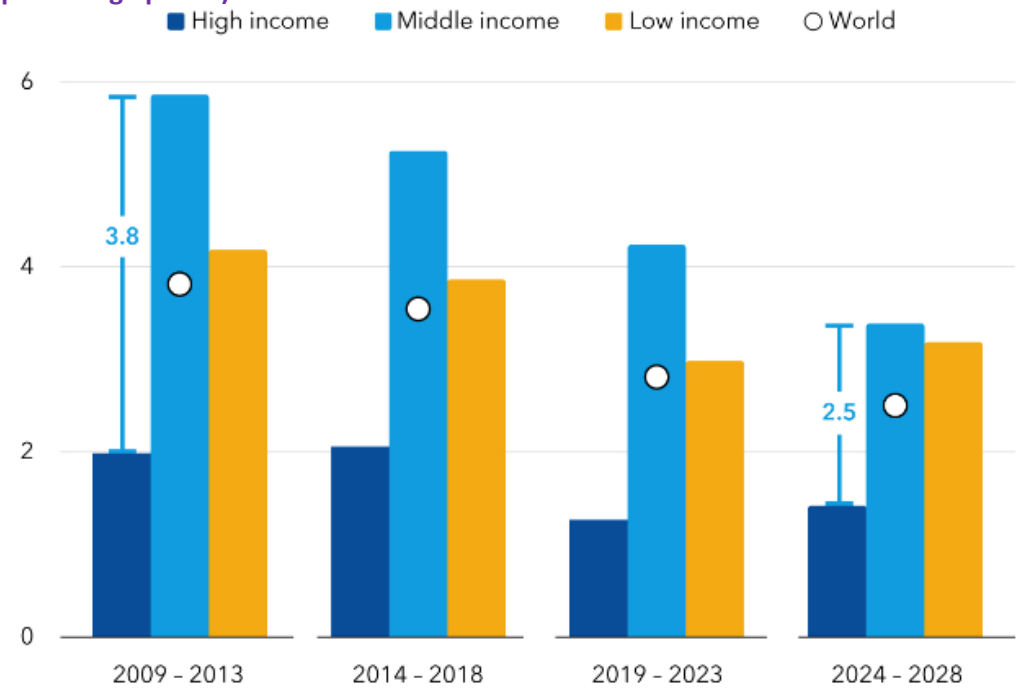
The interaction of the COVID pandemic with a longer-term NCD crisis has resulted in a significant burden on health systems. Given this context, all LMICs will need to reduce the pressure on health systems. This will require both a renewed effort to control NCD risk factors, and a commitment to increase levels of health financing and rebuild health systems in order to get back on track towards health goals. This is challenging, however, since the economic impacts of the polycrisis era have resulted in LMICs facing a simultaneous crisis in health financing, to which we now turn.

3. The current fiscal crisis and health financing trends

Low economic growth

In 2020, the COVID-19 pandemic and resultant economic disruptions led to the global GDP falling by 3.4 percent (Dyvik, 2023) – the deepest recession since the Second World War (World Bank, 2020). In 2022, the invasion of Ukraine led to dramatic spikes in food and oil prices and was one of the main factors which led to the decrease in global economic growth from the predicted 5 percent to just 3.1% in 2022 (Jenkins, 2023). Both of these shocks have left a lasting legacy on the economic outlook. The IMF's 2023 World Economic Outlook has predicted short-term growth for LMICs, but this is still less than would previously have been expected, and there are concerns about long-term trends (Gourinchas, 2023). GDP growth across middle-income countries is likely to be lower in 2024-2028 than in all five-year periods since 2009 (see Figure 3). In one third of LICs, per capita incomes in 2024 will be lower than in 2019 (World Bank, 2023a). For the third year in a row, global economic growth will continue to slow in 2024 – marking the slowest half-decade of GDP growth in 30 years (World Bank, 2024).

Figure 3: Five-year per capita GDP growth (Purchasing Power Parity-GDP weighted averages; percentage points)



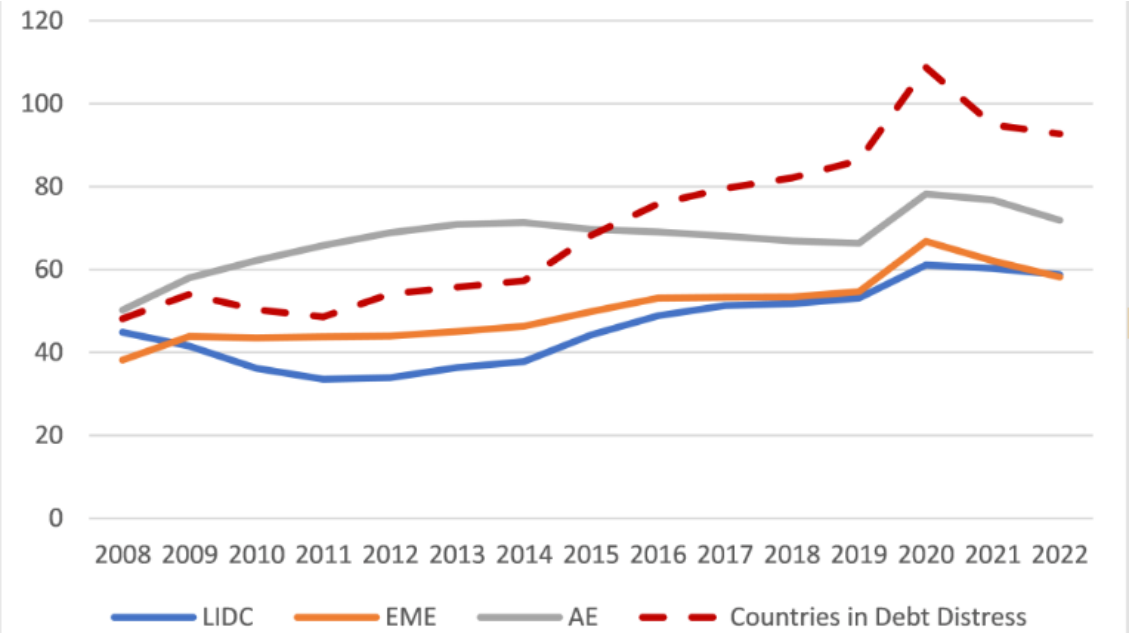
Source: Gourinchas, 2023

Low government expenditure

In accordance with low growth, estimates of general government expenditure trends are looking weak. In 41 countries, the World Bank projects general government expenditure may be lower in 2027 than it was in 2019 (Kurowski et al., 2022). In a further 69 countries, spending may stagnate, barely rising above 2019 levels. Only 67 "spending expansion" countries are expected to have increasing general government expenditure between now and 2027. This suggests we could be in the middle of a "lost decade" in government financing of social objectives in 110 countries (Kurowski et al., 2022).

Moreover, within government expenditure, debt repayments are further restricting fiscal space – for health and for other social sectors. After high levels of borrowing during the pandemic (with overall global borrowing jumping 28 percentage points to 256 percent of GDP in 2020 (IMF, 2022)), levels of government debt are now extremely high (see Figure 4). There was a sharp spike in deficits across all country income groups in 2020. Public debt has increased more than fourfold since 2000, in comparison to GDP increasing threefold, and now averages about 70 percent of GDP (UNCTAD, 2023; World Bank, 2023d). African countries alone owed US$644.9 billion to external creditors as of 2021 (Harcourt et al., 2023).

Figure 4: General government gross debt (percentage of GDP)

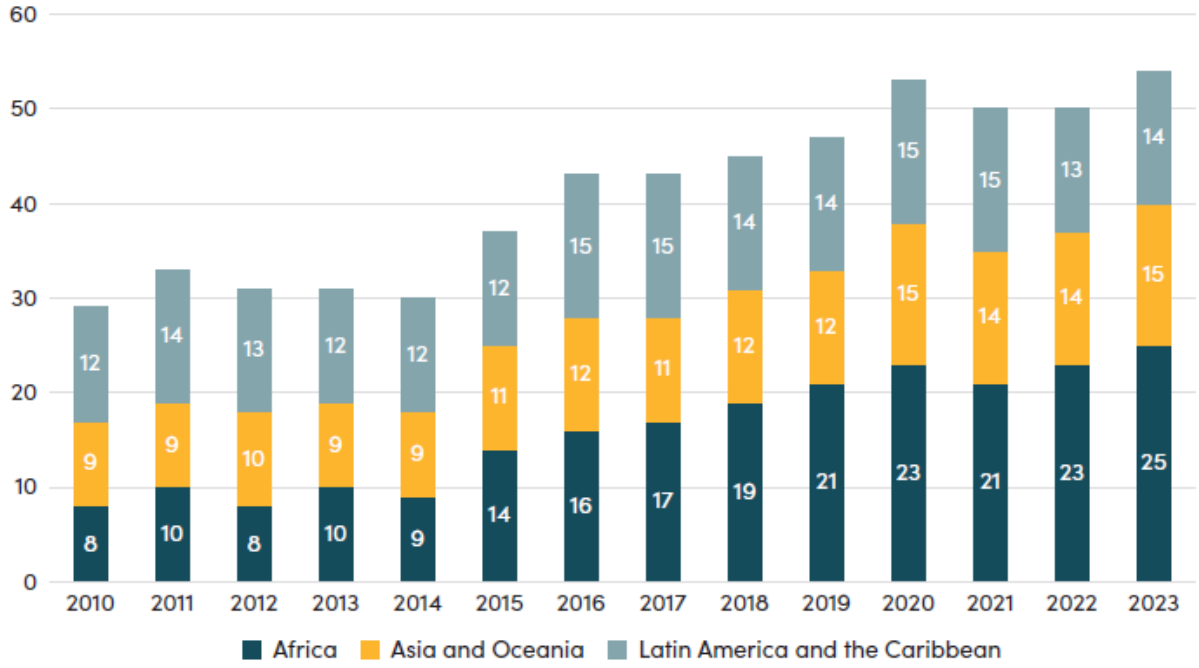


Note: Countries are aggregated by income level, where LIDC = low income developing countries, EME = emerging market economies, and AE = advanced economies. Countries in debt distress = Republic of Congo, Ghana, Grenada, Lao P.D.R., Malawi, Mozambique, Somalia, Sudan, São Tomé and Príncipe, Zambia, and Zimbabwe.
Source: World Economic Outlook 2023, via Clemens, Gupta, and Khamidova 2023.

Repayments on these debts impose a significant burden, especially given recent jumps in interest rates – the biggest surge in interest rates in four decades (World Bank, 2023b). For example, interest payments on the total external debt stock of IDA-eligible countries have quadrupled since 2012, and, across all developing countries, debt-service payments on public and publicly guaranteed debt are estimated to increase by 10 percent over the 2023-24 period (World Bank, 2023b). For low-income countries, this increase is estimated at nearly 40 percent (World Bank, 2023b). Figure 5 shows the increasing number of countries with interest payments exceeding 10 percent of revenue. Many countries are in debt distress, meaning they are unable to fulfil their financial obligations and need debt restructuring. Since 2015, the proportion of low-income countries in, or at high risk of, debt distress has doubled to 60 percent, including 21 LICs in Africa (IMF, 2022). These debt repayments put

pressure on government spending, and the result is 3.3 billion people live in countries which spend more on interest payments than they do on health or education (UNCTAD, 2023). In the medium term, the situation may even get worse. Across all country income groups, interest payments per capita are projected to increase through 2027 (Kurowski et al., 2022).

Figure 5: Number of developing countries with interest expenditures exceeding 10% of revenues



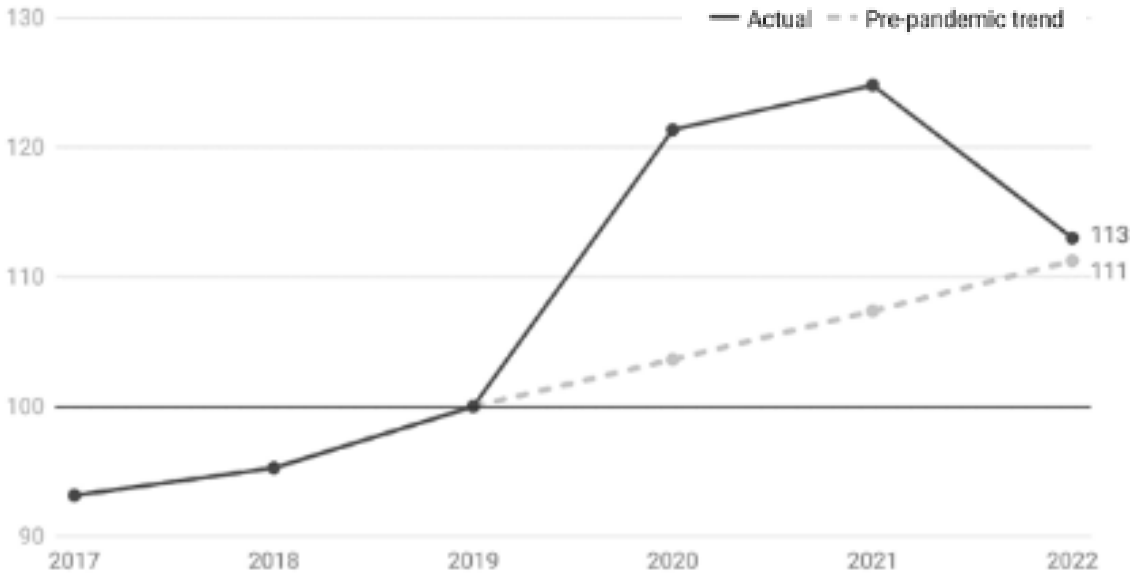
Note: Net interest payments of the general government refer to the total amount of domestic and external interest expenses incurred from loans and other forms of borrowing, minus any interest income received.
Source: UN Global Crisis Response Group—technical team calculations based on International Monetary Fund (IMF) World Economic Outlook (April 2024), via UNCTAD, 2024.

Low health expenditure – an "acute-on-chronic" crisis

Given that economic growth is weak, total government spending is projected to be stagnant or decreasing in 110 countries up until 2027, and the rise in debt repayments, we may expect to be facing an acute health financing crisis. Direct evidence on how health spending has been affected by the polycrisis era is limited, however, since the most robust database (the Global Health Expenditure Database compiled by the WHO) only goes up until 2021. This was the midst of the COVID-19 crisis, and most countries exhibited increased levels of health spending to manage this crisis, making it a misleading guide to future spend. The period that is most important for projecting the future of health financing is 2022 and 2023, which will provide insights on country priorities in a period of economic difficulties and without a high-profile health threat. The World Bank has produced more up to date estimates, using budgetary data from 78 countries, which show that by 2022, health financing had dropped back down to match the pre-pandemic trend (see Figure 6). This is indicative of the fact that government prioritisation of health[1] had dropped back down to pre-pandemic levels by 2022 (Kurowski et al., 2023).

[1] Defined as the percentage of government expenditure spent on health.

Figure 6: Average Central Government Health Spending (CGHS) Index, Actual and Pre-Pandemic Trend Counterfactual, 2017-2022



Note: 2019 is given an index of 100. The counterfactual assumes that pre-pandemic real per capita CGHS growth from 2017-2019 continued between 2019 and 2022.
Source: Kurowski et al., 2023

Given what we know about weak economic growth and rising debt repayments, these projections may seem optimistic. Indeed, individual country examples do suggest a more serious health financing crisis may well be underway. For example, in Kenya the health sector budget for 2023-2024 was cut by 5.6billion Kenyan shillings (over 36million USD) (Saya, 2023). In Nepal, the health sector allocation for 2023-2024 was nearly 20 percent less than for the previous fiscal year (Poudel, 2023).

This acute crisis is particularly challenging because it comes on top of a chronic crisis of underfunding of LMIC health services over the long term. For example, at 80 percent population coverage, the annual cost of a limited package of essential universal health coverage services has been estimated to be 87 USD per capita (in 2021 dollars) in LICs (Watkins et al., 2020). However, IHME predicts government health expenditure in LICs to reach only 15.8 USD per capita by 2050 (in 2021 dollars) (IHME, 2023). A similar package of essential UHC services in lower-MICs would require 143USD per capita, but IHME only predicts government health expenditure in these countries to reach 98.8USD by 2050. Other analysis suggests that countries should be aiming to spend at least 5 percent of GDP on health in order to progress towards UHC (Mcintyre et al., 2017; Savedoff, 2007) – again, LMIC health spending is not predicted to reach these levels even by 2050. Additionally, the COVID-19 crisis resulted in up to 95 million more people globally being in extreme poverty than expected prior to the pandemic (Gerszon Mahler et al., 2022), and hunger returning to 2005 levels (*Goal 2: Zero Hunger*, 2023). These challenges will also necessitate increased government funding.

In summary, the combination of stagnant general government expenditure and rising debt repayments means LMIC governments are struggling with insufficient fiscal space for spending on key government services. For health financing, in particular, the fact that health financing levels in LMICs have been chronically insufficient and there are no signs of an increase in prioritisation of health means an acute-on-chronic crisis is likely. Therefore, in the midst of the current economic and fiscal crisis, governments need to find ways to reduce healthcare costs and the strain on the healthcare system, and to raise additional revenue to fund key government services including healthcare. This is where health taxes can play a vital role.

4. Health Taxes as a solution

Excise taxes on tobacco, alcohol, and sugar-sweetened beverages (SSBs) offer an ideal win-win policy solution for this era of dual health and fiscal crises, both improving health (and thereby reducing future healthcare burden and costs) and raising vital revenues. With sufficient political will to overcome entrenched industry interests, they are relatively quick to implement; and, unlike other taxes, they do not put economic growth at risk. Moreover, when factoring in consumption changes, the impacts of these taxes are progressive, disproportionately benefiting lower-income groups (Chaloupka et al., 2019; Pan American Health Organization, n.d.). They are thus also a win from an equity point of view – and the WHO considers addressing health inequities to be one of the key motivators for increasing tobacco taxes (World Health Organization, 2021).

Impact of health taxes on health and health services

As discussed above, tobacco and alcohol consumption and unhealthy diets are significant drivers of the current NCD epidemic worldwide. Whilst tobacco, alcohol, and sugar are (to varying degrees) addictive, we also know that consumption is affected by price. Estimates suggest that, in LMICs, increasing price by 10 percent would lead to tobacco consumption decreasing by 5 percent (U.S. National Cancer Institute & World Health Organization, 2016), and alcohol consumption falling by 6 percent (Sornpaisarn et al., 2013). Sugary beverage consumption is found to be elastic and thus especially sensitive to price, with a price increase of 10 percent leading consumption to decline by 16 percent (Andreyeva et al., 2022). This makes taxes a powerful tool for health promotion. Indeed, increases in excise taxes such that prices on tobacco, alcohol, and SSBs increased by 50 percent would avert 27.2million, 21.9million, and 2.2million premature deaths, respectively, over the next 50 years (The Task Force on Fiscal Policy for Health, 2019). Reducing tobacco, alcohol, and sugar consumption and improving diets also improves the quality of life for people while they are alive, for example eliminating or reducing the years lived on oxygen tanks, coping with injuries from violence and accidents, or suffering amputations. Reductions in alcohol and tobacco consumption can also produce short term benefits for health services, for example reducing admissions due to harmful drinking, road traffic accidents, and heart attacks, thus freeing resources to restore services following the COVID-19 pandemic (Maharaj et al., 2023; Sims et al., 2010).

Impact of health taxes on government revenue and economic growth

LMIC governments currently spend 3% of GDP on health services (World Bank, 2023c), two percentage points lower than the estimated 5% of GDP needed to achieve UHC (Mcintyre et al., 2017). The short-term revenue raising potential of health taxes is estimated to be 0.6-0.7 percent of GDP (Lane et al., 2021)[2], meaning, if the revenue was channelled to this, health taxes could narrow the gap in UHC financing by a third.

Given the current economic crisis, policymakers will want to consider how health taxes compare against alternative mechanisms to raise revenue and pay for social goals. The IMF recently reviewed options available to countries and found a nine percentage-point increase in tax to GDP ratio is achievable, through increasing and optimising VAT, excises, personal and corporate income tax, modernizing taxation to include digital services, and improving tax capacity and administration

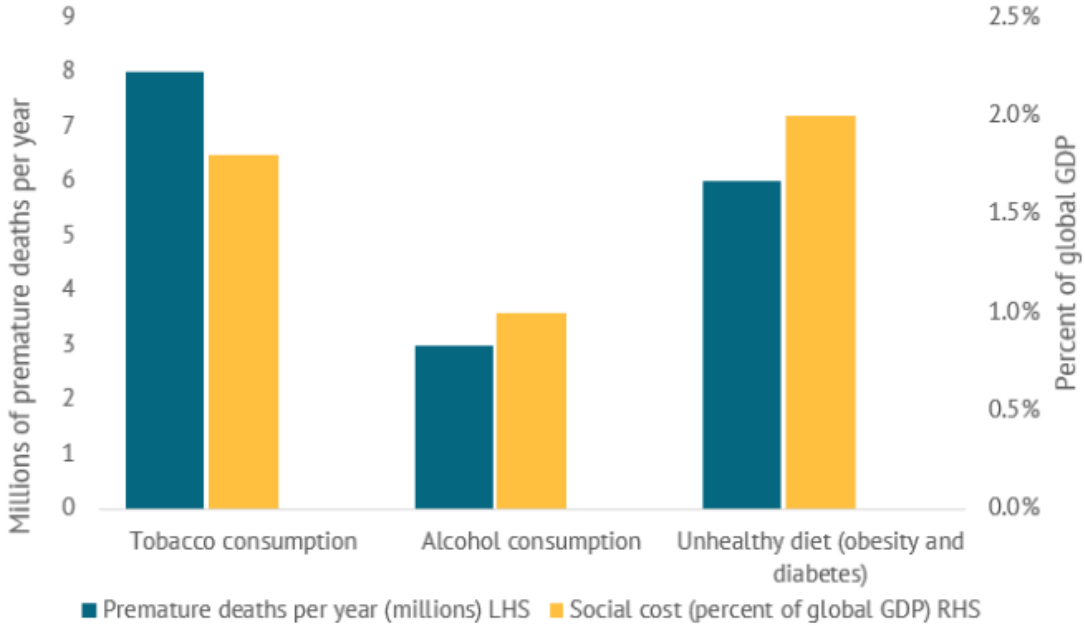
[2] The revenue potential of tobacco taxes was estimated as the revenue from raising tobacco excise taxes to the WHO-recommended level of 70 percent of retail price, capped at a 50 percent price increase. The revenue potential of alcohol taxes was estimated as the revenue for a country moving from the 25th percentile of alcohol excise revenue to GDP to the 75th percentile. The revenue potential of SSB taxes was estimated based off case studies in four countries.

(Benitez et al., 2023). Policymakers may see this as an opportunity to raise resources to achieve social objectives, but they may also be reluctant to implement them due to concerns that they could be distortionary, prevent growth, or be administratively challenging and slow to implement (Abdel-Kader & de Mooij, 2020). With current post-Covid weak growth rates, and the substantial increase in extreme poverty world-wide, these arguments currently have additional political salience.

The advantage of health taxes is that, compared to other taxes, the economic case for them is clear, they are non-distortionary (on the supply side), and, on aggregate, they do not negatively impact labour markets or growth. This was noted even back in 1776 when Adam Smith wrote that "*sugar, rum, and tobacco are commodities which are nowhere necessaries of life, which have become objects of almost universal consumption, and which are therefore extremely proper subjects of taxation."*(Cited in Paraje et al., 2023). The economic case for health taxes is based on the view that the prices of alcohol, sugar, and tobacco are too low, and do not fully represent their true social costs. This is because they cause additional costs – in the form of "internalities" on consumers themselves and "externalities" borne by others in society – that are not captured in their price. Externalities arise, for example, through second hand smoke, road traffic accidents, and large publicly funded healthcare costs; internalities arise due to the inappropriate assessment by consumers of the long-term risk of consumption against the perceived short-term benefits. Thus, taxes on these items may be corrective in a Pigouvian sense, bringing consumption and thus the economy closer to a social welfare optimum (Allcott et al., 2019).

Indeed, the wider social costs of non-communicable diseases such as heart disease, cancer, obesity, and diabetes, are very large – they are estimated at over 5 percent of global GDP (The Task Force on Fiscal Policy for Health, 2019, p8; see Figure 7). This is in part because they cause premature deaths in the working age population, leading to significant economic productivity losses. The economic costs of smoking and alcohol alone have been estimated as 1.8 percent of global GDP (i.e., USD 2 trillion in 2024) and 2.6 percent of global GDP (i.e., USD 2.8 trillion in 2024), respectively (Manthey et al., 2021; Vulovic, 2019). In a study of 25 LMICs, it was estimated that health taxes could be three times higher than they currently are and would still be considered corrective (Lane & Bhardwaj, 2021). Studies have also shown that health taxes do not harm labour markets in aggregate. For instance, evaluations in north America, Europe, Africa, and Asia have shown that whilst tobacco tax rises do result in job losses specific to that industry, consumer spending moves to other sectors which are often more labour intensive. The result is either no impact or a slight gain in overall aggregate employment (Chaloupka et al., 2019). Thus, for politicians who wish to keep taxes low, it may be better to tax "bads" such as tobacco, alcohol, and sugary beverages, and not "goods" such as labour and overall consumption (Summers, 2018).

Figure 7: Global estimates of premature deaths and social costs of tobacco, alcohol, and unhealthy diets



Source: The Task Force on Fiscal Policy for Health, 2019, via Lane & Smitham, 2021

A rapid solution for a fast-changing era

The current polycrisis era means countries need urgently to prepare for future health threats and reduce the rising burden of chronic diseases. Doing this, as well as rebuilding their economies, requires simple and fast sources of revenue. Compared to other tax options health taxes can be implemented quickly and easily in most countries. Almost all countries have an excise tax system, and thus the systems and experience to include health taxes. 87 percent of the world's population lives in a country which already has tobacco taxes, even though they are often too low, suggesting considerable room and capabilities to broaden this to include alcohol and sugar-sweetened beverages and increase existing tax rates (Ghebreyesus & Clark, 2023). Clear guidance is available from the WHO, World Bank, and IMF, and technical assistance providers are available to support interested countries optimise their tax design. These taxes should be part of a coherent multi-sectoral policy approach to reducing consumption, and, in the case of tobacco, aligned with the principles of the WHO Framework Convention on Tobacco Control (World Health Organization, 2003). This includes demand and supply side measures, for example, restricting availability, banning advertising, eliminating subsidies, promoting public awareness and restricting and increasing transparency of all interaction between government and industry.

Health tax policy has stalled in the polycrisis era

The arguments in favour of health taxes are very convincing. However, there has been insufficient progress on them since the start of the COVID-19 pandemic. For example, while there was significant improvement in tobacco taxation policies between 2018 and 2020, as measured by Tobacconomics (Chaloupka et al., 2021), progress between 2020 and 2022 was uneven, with a significant number of countries backsliding. Insufficient action is likely due to fierce industry opposition and the tactics of these companies. Many companies in these industries are large, powerful, multi-national corporations – for example, just five firms account for nearly 80 percent of cigarettes sold (Collin & Hill, 2019). The recent inflationary environment has made this limited policy progress worse, and reduced the efficacy of most existing health taxes. More than 70 percent of countries have specific excises on cigarettes,

and 58% of the countries with SSB taxes have specific taxes. These taxes take a nominal value, meaning their impact would be reduced by inflation if not indexed to a measure of income or the consumer price index (Lane, 2022). While automatic indexation could address the risk of tax erosion, only 26 percent of countries have such a system for tobacco taxes. Therefore, renewed and more strategic progress on health taxes is an urgent priority in the current context.

The challenge is not administrative or technical, nor is it public support which is broadly in favour (World Health Organization, 2023c); the challenge is leadership and developing the political coalitions that can confront industrial interests and lobbying. Policymakers would be wise to harness the imperative of the current economic crises, and the dire need to raise revenue wisely, to overcome this pressure and deliver a win-win for the budget and for health in the form of optimised health taxes.

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REFERENCES

Abay, K. A., Ibrahim, H., & Breisinger, C. (2022). Food policies and obesity in low- and middle-income countries. *World Development*, *151*, 105775. https://doi.org/10.1016/j.worlddev.2021.105775

Abdel-Kader, K., & de Mooij, R. (2020). *Tax Policy and Inclusive Growth* (2020/271; IMF Working Papers). IMF. https://www.imf.org/en/Publications/WP/Issues/2020/12/04/Tax-Policy-and-Inclusive-Growth-49902

Allcott, H., Lockwood, B. B., & Taubinsky, D. (2019). Should We Tax Sugar-Sweetened Beverages? An Overview of Theory and Evidence. *Journal of Economic Perspectives*, *33*(3), 202–227. https://doi.org/10.1257/jep.33.3.202

Andreyeva, T., Marple, K., Marinello, S., Moore, T. E., & Powell, L. M. (2022). Outcomes Following Taxation of Sugar-Sweetened Beverages: A Systematic Review and Meta-analysis. *JAMA Network Open*, *5*(6), e2215276. https://doi.org/10.1001/jamanetworkopen.2022.15276

Azarpazhooh, M. R., Morovatdar, N., Avan, A., Phan, T. G., Divani, A. A., Yassi, N., Stranges, S., Silver, B., Biller, J., Tokazebani Belasi, M., Kazemi Neya, S., Khorram, B., Frydman, A., Nilanont, Y., Onorati, E., & Di Napoli, M. (2020). COVID-19 Pandemic and Burden of Non-Communicable Diseases: An Ecological Study on Data of 185 Countries. *Journal of Stroke and Cerebrovascular Diseases*, *29*(9), 105089. https://doi.org/10.1016/j.jstrokecerebrovasdis.2020.105089

Benitez, J. C., Mansour, M., Pecho, M., & Vellutini, C. (2023). *Building Tax Capacity in Developing Countries* (Staff Discussion Notes). IMF. https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2023/09/15/Building-Tax-Capacity-in-Developing-Countries-535449

Bernal Lara, P., Savedoff, W. D., García Agudelo, M. F., Bernal, C., Goyeneche, L., Sorio, R., Pérez-Cuevas, R., Da Rocha, M. G., Shibata, L. G., San Roman Vucetich, C., & Bauhoff, S. (2023). Disruption Of Non-COVID-19 Health Care In Latin America During The Pandemic: Effects On Health, Lessons For Policy: Study examines the disruption of non-COVID-19 health care in Latin America. *Health Affairs*, *42*(12), 1657–1666. https://doi.org/10.1377/hlthaff.2023.00720

Bollyky, T. J., Tohme, S., & Kiernan, S. (2021, September 10). *Noncommunicable Diseases Kill Slowly in Normal Times and Quickly in COVID-19 Times*. Council on Foreign Relations. https://www.cfr.org/article/noncommunicable-diseases-kill-slowly-normal-times-and-quickly-covid-19-times

Boutari, C., & Mantzoros, C. S. (2022). A 2022 update on the epidemiology of obesity and a call to action: As its twin COVID-19 pandemic appears to be receding, the obesity and dysmetabolism pandemic continues to rage on. *Metabolism*, *133*, 155217. https://doi.org/10.1016/j.metabol.2022.155217

Cao, G., Liu, J., Liu, M., & Liang, W. (2023). Effects of the COVID-19 pandemic on life expectancy at birth at the global, regional, and national levels: A joinpoint time-series analysis. *Journal of Global Health*, *13*, 06042. https://doi.org/10.7189/jogh.13.06042

Chaloupka, F. J., Drope, J., Siu, E., Vulovic, V., Mirza, M., Rodriguez-Iglesias, G., Ngo, A., Laternser, C., Lee, H. M., Dorokhina, M., & Smith, M. (2021). *Cigarette Tax Scorecard (2nd Edition)*. Tobacconomics. https://tobacconomics.org/files/research/738/tobacco-scorecard-report-2nd-ed-eng-v5.0-final-1.pdf

Chaloupka, F. J., Powell, L. M., & Warner, K. E. (2019). The Use of Excise Taxes to Reduce Tobacco, Alcohol, and Sugary Beverage Consumption. *Annual Review of Public Health*, *40*(1), 187–201. https://doi.org/10.1146/annurev-publhealth-040218-043816

Clemens, B., Gupta, S., & Khamidova, S. (2023, August 2). A Fiscal Straitjacket is Stifling Health Spending in Developing Countries. *Center For Global Development | Ideas to Action*. https://www.cgdev.org/blog/fiscal-straitjacket-stifling-health-spending-developing-countries

Collin, J., & Hill, S. (2019). *Structure and Tactics of the Tobacco, Alcohol, and Sugary Beverage Industries*. https://data.bloomberglp.com/dotorg/sites/2/2019/04/Structure-and-Tactics-of-the-Tobacco-Alcohol-and-Sugary-Beverage-Industries.pdf

Crosby, L., Baker, P., Hangoma, P., Barasa, E., Hamidi, V., & Chalkidou, K. (2020). Dialysis in Africa: The need for evidence-informed decision making. *The Lancet Global Health*, *8*(4), e476–e477. https://doi.org/10.1016/S2214-109X(20)30058-9

Dai, H., Alsalhe, T. A., Chalghaf, N., Riccò, M., Bragazzi, N. L., & Wu, J. (2020). The global burden of disease attributable to high body mass index in 195 countries and territories, 1990–2017: An analysis of the Global Burden of Disease Study. *PLoS Medicine*, *17*(7), e1003198. https://doi.org/10.1371/journal.pmed.1003198

Dattani, S., Rodés-Guirao, L., Ritchie, H., Ortiz-Ospina, E., & Roser, M. (2023). Life Expectancy. *Our World in Data*. https://ourworldindata.org/life-expectancy

Djalalinia, S., Qorbani, M., Peykari, N., & Kelishadi, R. (2015). Health impacts of Obesity. *Pakistan Journal of Medical Sciences*, *31*(1), 239–242. https://doi.org/10.12669/pjms.311.7033

Dyvik, E. H. (2023, September 19). *Impact of the coronavirus pandemic on the global economy—Statistics & Facts*. Statista. https://www.statista.com/topics/6139/covid-19-impact-on-the-global-economy/

European Commission. (2018, October 23). *Noncommunicable Diseases—NCDs*. https://knowledge4policy.ec.europa.eu/foresight/topic/shifting-health-challenges/non-communicable-diseases-ncds_en

Financing NCDs. (2015, March 2). NCD Alliance. https://ncdalliance.org/why-ncds/financing-ncds

Gallus, S., Scala, M., Possenti, I., Jarach, C. M., Clancy, L., Fernandez, E., Gorini, G., Carreras, G., Malevolti, M. C., Commar, A., Fayokun, R., Gouda, H. N., Prasad, V. M., & Lugo, A. (2023). The role of smoking in COVID-19 progression: A comprehensive meta-analysis. *European Respiratory Review*, *32*(167). https://doi.org/10.1183/16000617.0191-2022

Gao, M., Piernas, C., Astbury, N. M., Hippisley-Cox, J., O'Rahilly, S., Aveyard, P., & Jebb, S. A. (2021). Associations between body-mass index and COVID-19 severity in 6.9 million people in England: A prospective, community-based, cohort study. *The Lancet Diabetes & Endocrinology*, *9*(6), 350–359. https://doi.org/10.1016/S2213-8587(21)00089-9

Gerszon Mahler, D., Yonzan, N., Hill, R., Lakner, C., Wu, H., & Yoshida, N. (2022, April 13). Pandemic, prices, and poverty. *World Bank Blogs*. https://blogs.worldbank.org/opendata/pandemic-prices-and-poverty

Ghebreyesus, T. A., & Clark, H. (2023). Health taxes for healthier lives: An opportunity for all governments. *BMJ Global Health*, *8*(Suppl 8), e013761. https://doi.org/10.1136/bmjgh-2023-013761

Ginneken, E. van, Reed, S., Siciliani, L., Eriksen, A., Schlepper, L., Tille, F., & Zapata, T. (2022). POLICY BRIEF. In *Addressing backlogs and managing waiting lists during and beyond the COVID-19 pandemic [Internet]*. European Observatory on Health Systems and Policies. https://www.ncbi.nlm.nih.gov/books/NBK589256/

Global partners announce a new effort – "The Big Catch-up" – to vaccinate millions of children and restore immunization progress lost during the pandemic. (2023, April 24). https://www.who.int/news/item/24-04-2023-global-partners-announce-a-new-effort-the-big-catch-up-to-vaccinate-millions-of-children-and-restore-immunization-progress-lost-during-the-pandemic

Goal 2: Zero Hunger. (2023). United Nations Sustainable Development. https://www.un.org/sustainabledevelopment/hunger/

Goryakin, Y., Aldea, A., Devaux, M., Guillemette, Y., Feigl, A., Vuik, S., & Lerouge, A. (2021). The health and economic burden of alcohol consumption. In *Preventing Harmful Alcohol Use*. OECD. https://doi.org/10.1787/6e4b4ffb-en

Gourinchas, P.-O. (2023, July 25). Global Economy on Track but Not Yet Out of the Woods. *IMF Blog*. https://www.imf.org/en/Blogs/Articles/2023/07/25/global-economy-on-track-but-not-yet-out-of-the-woods

Harcourt, S., Robertson, F., & Rivera, J. (2023). *African Debt*. ONE Data & Analysis. https://data.one.org/topics/african-debt/

He, Y., Sun, J., Ding, X., & Wang, Q. (2021). Mechanisms in Which Smoking Increases the Risk of COVID-19 Infection: A Narrative Review. *Iranian Journal of Public Health*, *50*(3), 431–437. https://doi.org/10.18502/ijph.v50i3.5582

IHME. (2023). *Financing Global Health*. Institute for Health Metrics and Evaluation. http://vizhub.healthdata.org/fgh/

IMF. (2022). *Debt Dynamics*. https://www.imf.org/external/pubs/ft/ar/2022/in-focus/debt-dynamics/

Jenkins, B. M. (2023, March 7). Consequences of the War in Ukraine: The Economic Fallout. *The RAND Blog*. https://www.rand.org/pubs/commentary/2023/03/consequences-of-the-war-in-ukraine-the-economic-fallout.html

John, R. M., Sinha, P., Munish, V. G., & Tullu, F. T. (2021). Economic Costs of Diseases and Deaths Attributable to Tobacco Use in India, 2017-2018. *Nicotine & Tobacco Research: Official Journal of the Society for Research on Nicotine and Tobacco*, *23*(2), 294–301. https://doi.org/10.1093/ntr/ntaa154

Kostova, D. A., Moolenaar, R. L., Van Vliet, G., Lasu, A., Mahar, M., & Richter, P. (2021). Strengthening Pandemic Preparedness Through Noncommunicable Disease Strategies. *Preventing Chronic Disease*, *18*, 210237. https://doi.org/10.5888/pcd18.210237

Kurowski, C., Evans, D. B., Tandon, A., Eozenou, P. H.-V., Schmidt, M., Cain, J. S., Pambudi, E. S., & Postolovska, I. (2022). *From Double Shock to Double Recovery – Implications and Options for Health Financing in the Time of COVID-19* (From Double Shock to Double Recovery). World Bank. https://openknowledge.worldbank.org/server/api/core/bitstreams/76d5786b-9501-5235-922a-caa71f99f0fc/content

Kurowski, C., Kumar, A., Mieses Ramirez, J. C., Schmidt, M., & Silfverberg, D. V. (2023). *Health Financing in a Time of Global Shocks: Strong Advance, Early Retreat*. World Bank. https://openknowledge.worldbank.org/handle/10986/39864

Lane, C. (2022, July 20). Protecting Health Taxes in an Inflationary World. *Center For Global Development*. https://www.cgdev.org/blog/protecting-health-taxes-inflationary-world

Lane, C., & Bhardwaj, V. (2021). *Meeting the Global Health Challenge to Reduce Death and Disability from Alcohol, Tobacco, and Sugar-Sweetened Beverage Consumption with Corrective Taxes*

(CGD Policy Papers). Center for Global Development. https://www.cgdev.org/publication/meeting-global-health-challenge-reduce-death-and-disability-alcohol-tobacco-and-sugar

Lane, C., Glassman, A., & Smitham, E. (2021). *Using Health Taxes to Support Revenue: An Action Agenda for the IMF and World Bank. CGD Policy Paper 203.* CGD.

Lane, C., & Smitham, E. (2021, March 1). Supporting COVID-19 Recovery and Improving Health Outcomes: The Case for Health Taxes. *Center For Global Development | Ideas to Action*. https://www.cgdev.org/blog/supporting-covid-19-recovery-and-improving-health-outcomes-case-health-taxes

Lobstein, T., & Brinsden, H. (2020). *Obesity: Missing the 2025 global targets*. World Obesity Federation. https://www.worldobesity.org/resources/resource-library/world-obesity-day-missing-the-targets-report

Maharaj, T., Angus, C., Fitzgerald, N., Allen, K., Stewart, S., MacHale, S., & Ryan, J. D. (2023). Impact of minimum unit pricing on alcohol-related hospital outcomes: Systematic review. *BMJ Open*, *13*(2), e065220. https://doi.org/10.1136/bmjopen-2022-065220

Manthey, J., Hassan, S. A., Carr, S., Kilian, C., Kuitunen-Paul, S., & Rehm, J. (2021). What are the Economic Costs to Society Attributable to Alcohol Use? A Systematic Review and Modelling Study. *Pharmacoeconomics*, *39*(7), 809–822. https://doi.org/10.1007/s40273-021-01031-8

Mcintyre, D., Meheus, F., & Røttingen, J.-A. (2017). What level of domestic government health expenditure should we aspire to for universal health coverage? *Health Economics, Policy, and Law*, *12*(2), 125–137. https://doi.org/10.1017/S1744133116000414

Minta, A. A., Ferrari, M., Antoni, S., Portnoy, A., Sbarra, A., Lambert, B., Hatcher, C., Hsu, C. H., Ho, L. L., Steulet, C., Gacic-Dobo, M., Rota, P. A., Mulders, M. N., Bose, A. S., Caro, W. P., O'Connor, P., & Crowcroft, N. S. (2023). Progress Toward Measles Elimination—Worldwide, 2000–2022. *MMWR. Morbidity and Mortality Weekly Report*, *72*(46), 1262–1268. https://doi.org/10.15585/mmwr.mm7246a3

Nargis, N., Hussain, A. K. M. G., Asare, S., Xue, Z., Majmundar, A., Bandi, P., Islami, F., Yabroff, K. R., & Jemal, A. (2022). Economic loss attributable to cigarette smoking in the USA: An economic modelling study. *The Lancet Public Health*, *7*(10), e834–e843. https://doi.org/10.1016/S2468-2667(22)00202-X

National Institutes of Health. (2023, July 28). *Risky Alcohol Use: An Epidemic Inside the COVID-19 Pandemic*. https://covid19.nih.gov/news-and-stories/risky-drinking-alcohol-use-epidemic-inside-covid-19-pandemic

Ndubuisi, N. E. (2021). Noncommunicable Diseases Prevention In Low- and Middle-Income Countries: An Overview of Health in All Policies (HiAP). *Inquiry: A Journal of Medical Care Organization, Provision and Financing*, *58*, 0046958020927885. https://doi.org/10.1177/0046958020927885

Okereke, M., Ukor, N. A., Adebisi, Y. A., Ogunkola, I. O., Favour Iyagbaye, E., Adiela Owhor, G., & Lucero-Prisno, D. E. (2021). Impact of COVID-19 on access to healthcare in low- and middle-income countries: Current evidence and future recommendations. *The International Journal of Health Planning and Management*, *36*(1), 13–17. https://doi.org/10.1002/hpm.3067

Oshakbayev, K., Zhankalova, Z., Gazaliyeva, M., Mustafin, K., Bedelbayeva, G., Dukenbayeva, B., Otarbayev, N., & Tordai, A. (2022). Association between COVID-19 morbidity, mortality, and gross domestic product, overweight/ obesity, non-communicable diseases, vaccination rate: A cross-sectional study. *Journal of Infection and Public Health*, *15*(2), 255–260. https://doi.org/10.1016/j.jiph.2022.01.009

Overweight and obesity among adults. (2021). In OECD, *Health at a Glance 2021*. OECD. https://doi.org/10.1787/0f705cf8-en

Pan American Health Organization. (n.d.). *Health Taxes*. Retrieved April 5, 2024, from https://www.paho.org/en/topics/health-taxes

Paraje, G. R., Jha, P., Savedoff, W., & Fuchs, A. (2023). Taxation of tobacco, alcohol, and sugar-sweetened beverages: Reviewing the evidence and dispelling the myths. *BMJ Global Health*, *8*(Suppl 8), e011866. https://doi.org/10.1136/bmjgh-2023-011866

Poudel, A. (2023, June 23). Budget cut set to hit crucial nutrition programmes. *The Kathmandu Post*. https://kathmandupost.com/health/2023/06/23/budget-cut-set-to-hit-crucial-nutrition-programmes

Powell, L. M., & Blecher, E. (2024). *Sugar-Sweetened Beverage Taxes: Rationale, Evidence and Design for Improving Health* (Global Tax Program Health Taxes Knowledge Note Series). World Bank. https://documents1.worldbank.org/curated/en/099131211272311932/pdf/IDU1cfb4595b12992145e81b7891c9a38bcac3b8.pdf

Savedoff, W. D. (2007). What Should A Country Spend On Health Care? *Health Affairs*, *26*(4), 962–970. https://doi.org/10.1377/hlthaff.26.4.962

Sawadogo, W., Tsegaye, M., Gizaw, A., & Adera, T. (2022). Overweight and obesity as risk factors for COVID-19-associated hospitalisations and death: Systematic review and meta-analysis. *BMJ Nutrition, Prevention & Health*, e000375. https://doi.org/10.1136/bmjnph-2021-000375

Saya, M. (2023, June 15). Health sector gets Sh5.6bn funding cut in 2023-24 Budget. *The Star*. https://www.the-star.co.ke/news/realtime/2023-06-15-health-sector-receives-sh56bn-funding-cut-in-2023-24-budget/

Schöley, J., Aburto, J. M., Kashnitsky, I., Kniffka, M. S., Zhang, L., Jaadla, H., Dowd, J. B., & Kashyap, R. (2022). Life expectancy changes since COVID-19. *Nature Human Behaviour*, *6*(12), Article 12. https://doi.org/10.1038/s41562-022-01450-3

Shekar, M., & Popkin, B. (Eds.). (2020). *Obesity: Health and Economic Consequences of an Impending Global Challenge*. The World Bank. https://doi.org/10.1596/978-1-4648-1491-4

Sims, M., Maxwell, R., Bauld, L., & Gilmore, A. (2010). Short term impact of smoke-free legislation in England: Retrospective analysis of hospital admissions for myocardial infarction. *BMJ*, *340*, c2161. https://doi.org/10.1136/bmj.c2161

Sornpaisarn, B., Shield, K., Cohen, J., Schwartz, R., & Rehm, J. (2013). Elasticity of alcohol consumption, alcohol-related harms, and drinking initiation in low- and middle-income countries: A systematic review and meta-analysis. *The International Journal of Alcohol and Drug Research*, *2*(1), 45–58. https://doi.org/10.7895/ijadr.v2i1.50

Summers, L. (2018, January 18). To improve global health, tax the things that are killing us. *Financial Times*. https://www.ft.com/content/73436fb2-0115-3943-8f05-593b2254093b

Tessema, G. A., Kinfu, Y., Dachew, B. A., Tesema, A. G., Assefa, Y., Alene, K. A., Aregay, A. F., Ayalew, M. B., Bezabhe, W. M., Bali, A. G., Dadi, A. F., Duko, B., Erku, D., Gebrekidan, K., Gebremariam, K. T., Gebremichael, L. G., Gebreyohannes, E. A., Gelaw, Y. A., Gesesew, H. A., … Tesfay, F. H. (2021). The COVID-19 pandemic and healthcare systems in Africa: A scoping review of preparedness, impact and response. *BMJ Global Health*, *6*(12), e007179. https://doi.org/10.1136/bmjgh-2021-007179

The Lancet. (2023). Unravelling the commercial determinants of health. *The Lancet*, *401*(10383), 1131. https://doi.org/10.1016/S0140-6736(23)00590-1

The SDG Index and Dashboards. (n.d.). Sustainable Development Report. Retrieved November 28, 2023, from https://dashboards.sdgindex.org/chapters/part-2-the-sdg-index-and-dashboards

The Task Force on Fiscal Policy for Health. (2019). *Health Taxes to Save Lives | Employing Effective Excise Taxes on Tobacco, Alcohol, and Sugary Beverages*. Bloomberg Philanthropies. https://www.bloomberg.org/program/public-health/task-force-fiscal-policy-health/

UN News. (2023, July 17). *Halfway to 2030, world 'nowhere near' reaching Global Goals, UN warns*. United Nations. https://news.un.org/en/story/2023/07/1138777

UNCTAD. (2023). *A world of debt*. https://unctad.org/publication/world-of-debt

U.S. National Cancer Institute & World Health Organization. (2016). *The Economics of Tobacco and Tobacco Control* (National Cancer Institute Tobacco Control Monograph 21, p. 688). U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute and World Health Organization. https://www.who.int/publications/m/item/nci-tobacco-control-monograph-series-21-the-economics-of-tobacco-and-tobacco-control

Vulovic, V. (2019). *Economic Costs of Tobacco Use. A Tobacconomics Policy Brief*. Tobacconomics, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago.

Watkins, D. A., Qi, J., Kawakatsu, Y., Pickersgill, S. J., Horton, S. E., & Jamison, D. T. (2020). Resource requirements for essential universal health coverage: A modelling study based on findings from Disease Control Priorities, 3rd edition. *The Lancet Global Health*, *8*(6), e829–e839. https://doi.org/10.1016/S2214-109X(20)30121-2

White, A. M., Castle, I.-J. P., Powell, P. A., Hingson, R. W., & Koob, G. F. (2022). Alcohol-Related Deaths During the COVID-19 Pandemic. *JAMA*, *327*(17), 1704–1706. https://doi.org/10.1001/jama.2022.4308

Whiting, K., & Park, H. (2023, March 7). *This is why "polycrisis" is a useful way of looking at the world right now*. World Economic Forum. https://www.weforum.org/agenda/2023/03/polycrisis-adam-tooze-historian-explains/

World Bank. (2020, June 8). *COVID-19 to Plunge Global Economy into Worst Recession since World War II*. World Bank. https://www.worldbank.org/en/news/press-release/2020/06/08/covid-19-to-plunge-global-economy-into-worst-recession-since-world-war-ii

World Bank. (2023a). *Global Economic Prospects, June 2023*. The World Bank. https://doi.org/10.1596/978-1-4648-1951-3

World Bank. (2023b). *International Debt Report 2023*. The World Bank. https://doi.org/10.1596/978-1-4648-2032-8

World Bank. (2023c, April 7). *Domestic general government health expenditure (% of GDP)—Low & middle income*. World Bank Open Data. https://data.worldbank.org

World Bank. (2023d, June 6). *Global Economy on Precarious Footing Amid High Interest Rates*. World Bank. https://www.worldbank.org/en/news/press-release/2023/06/06/global-economy-on-precarious-footing-amid-high-interest-rates

World Bank. (2024). *Global Economic Prospects, January 2024*. The World Bank. https://doi.org/10.1596/978-1-4648-2017-5

World Health Organization. (2003). *WHO Framework Convention on Tobacco Control*. 36.

World Health Organization. (2019). *SDG Target 3.5 Substance abuse*. https://www.who.int/data/gho/data/themes/topics/sdg-target-3_5-substance-abuse

World Health Organization. (2021). *WHO technical manual on tobacco tax policy and administration*. https://iris.who.int/bitstream/handle/10665/340659/9789240019188-eng.pdf?sequence=1

World Health Organization. (2023a). *Global report on the use of alcohol taxes, 2023*. https://iris.who.int/bitstream/handle/10665/374614/9789240086104-eng.pdf?sequence=1

World Health Organization. (2023b). *Noncommunicable diseases: Mortality*. World Health Organization. https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/ncd-mortality

World Health Organization. (2023c, June 14). *Public perceptions of noncommunicable diseases: Awareness and understanding*. https://www.who.int/news-room/feature-stories/detail/public-perceptions-of-noncommunicable-diseases--awareness-and-understanding

World Health Organization. (2023d, July 31). *Tobacco*. https://www.who.int/news-room/fact-sheets/detail/tobacco

World Health Organization. (2023e, October 5). *Universal health coverage (UHC)*. https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc)

World Health Organization. (2024). *WHO global report on trends in prevalence of tobacco use 2000–2030*. https://iris.who.int/bitstream/handle/10665/375711/9789240088283-eng.pdf?sequence=1

World Health Organization and the International Bank for Reconstruction and Development / The World Bank. (2023). *Tracking Universal Health Coverage: 2023 Global monitoring report*. World Health Organization and the International Bank for Reconstruction and Development / The World Bank. https://www.who.int/publications-detail-redirect/9789240080379

World Health Organization, United Nations Children's Fund (UNICEF), & Gavi, the Vaccine Alliance. (2023). *The Big Catch-Up: An Essential Immunization Recovery Plan for 2023 and Beyond*. WHO, UNICEF and Gavi, The Vaccine Alliance. https://www.who.int/publications-detail-redirect/9789240075511

World Obesity Federation. (2023). *World Obesity Atlas 2023*. World Obesity Federation. https://data.worldobesity.org/publications/?cat=19