Inequalities, Pandemics and Social Protection: Evidence review for the Global Council on Inequality, AIDS and Pandemics

GLOBAL COUNCIL ON INEQUALITY AIDS AND PANDEMICS

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Contents

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Chapter 1
Introduction

1.1 Background and aims of this report

The Global Council on Inequality, AIDS and Pandemics — hereafter, the Council — is convened by UNAIDS and comprised of global experts from academia, government, civil society and international development, who propose evidence-based solutions for addressing inequalities linked to AIDS and pandemics. The Council commissioned the UCL Institute of Health Equity (IHE), led by Professor Michael Marmot, to conduct an evidence review on the links between social determinants of health and health inequities and pandemics and the role of social protection in mitigating inequities. The aim of this review is to understand how social and economic inequalities affect the course of pandemics, to document the unequal socioeconomic and health impacts of pandemics, and to show how policies shape the prospects for a fair recovery in their aftermath. This review has informed the Council's findings and recommendations, which are presented in the report *Breaking the inequality–pandemic cycle: building true health security in a global age*.

1.2 Scope

As instructed by the Council, the review set out to answer three main questions:

- Do societies with poorer social determinants of health experience worse pandemics? (Question 1)
- Do pandemics exacerbate societal and health inequalities? (Question 2)
- To what extent does social protection mitigate the negative impact of pandemics? (Question 3)

The principles guiding the scope of the review stem from IHE's expertise in the field of the social determinants of health, which are the conditions in which people are born, grow, live, work, and age and people's access to power, money and resources (1). The social determinants are the major drivers of health inequities, which are defined as the differences in health between social groups which are unfair, avoidable and remediable by reasonable means (2). Some of IHE'S previous work includes international commissions on social determinants of health for the Eastern Mediterranean (2021), American (2019) and European (2013) World Health Organization (WHO) regions (3–5), as well as national reviews in England in 2010, 2020 and during the COVID-19 pandemic (6,7) (8). This work, including that on the Commission on Social Determinants of Health (2005-2008), chaired by Professor Michael Marmot, provides a framework to understand the determinants of health inequities rooted in the social determinants (9).

The "Marmot 8 principles", based on evidence of the social determinants of health inequities, arose from IHE's work in England. They were, in turn, based on the evidence synthesised by the WHO Commission on Social Determinants of Health and have wider applicability,

including for this report. They set out the policy objectives that need to be incorporated to reduce health inequities:

1. Give every child the best start in life.
2. Enable all children, young people and adults to maximise their capabilities and have control over their lives.
3. Create fair employment and good work for all.
4. Ensure a healthy standard of living for all.
5. Create and develop healthy and sustainable places and communities.
6. Strengthen the role and impact of ill health prevention.
7. Tackle racism, discrimination and their outcomes.
8. Pursue environmental sustainability and health equity together.

Both the Marmot 8 and the international WHO frameworks oriented the searches, which incorporated a range of terms to cover all the different dimensions of inequalities that are exacerbated during pandemics and can also aggravate their impact, including: poverty; gender; LGBTQ+; race/ethnicity; disability; power imbalances; income/wages/social class/ socioeconomic status or position; food security; job security; inequalities between countries; colonialism and globalisation.

The inclusion of social protection was requested by the Council and is coherent with IHE's view that health inequities are avoidable and that national and local actions have important impacts on the social determinants of health and the extent of health inequities. Action in all the "Marmot 8" areas including a strong social protection system, is the fabric of a healthy, equitable and resilient society.

Social protection, also known as social security, is "the set of policies and programmes designed to reduce and prevent poverty and vulnerability across the life cycle" (10). It includes nine main areas: child and family benefits; maternity protection; unemployment support; employment injury benefits; sickness benefits; health protection; old-age benefits; disability benefits; survivors' benefits. The review attempted to assess all their impacts during pandemics.

Furthermore, while community organisations play a crucial role in preparing for and mitigating the impacts of pandemics, it was not within the scope of this work to research and highlight the multiple ways in which they strengthen societal resilience. This is addressed in the Council's final report.

1.3 Methods

To answer the questions outlined above, the team conducted searches of the scientific and grey literature and summarised the evidence in this report. As requested by the Council, the focus is on a selection of pandemics: COVID-19, HIV/ AIDS, SARS, Influenza and Ebola. Due to the interlinked nature of HIV/AIDS and TB, a specific search was performed to investigate inequalities around coinfection and its social determinants. There were also specific searches around the role that social protection interventions have in reducing inequalities both pre- and during pandemics.

Scientific literature searches were performed in PubMed, Scopus and Google Scholar and grey literature searches were conducted in Google, grey literature databases (BASE, ReliefWeb) and websites of relevant international organisations. In addition to this, snowballing provided a significant quantity of valid results.

Once the searches were made, the selection of results was based on their relevance for addressing the main questions of this review. The selected results were introduced in two databases, which contain 1,586 sources in total. Database 1 (1,229 sources) includes all the sources relevant to answer questions 1 and 2, while Database 2 (357 sources) contains all the sources related to social protection interventions (question 3). Database 1 has the following fields: publisher; title; pandemics covered; topics; type of study; study design/ methodology. Database 2 includes the following fields: publisher; title; pandemics covered; type of measures; type of social protection system; type of benefit; contingency; target group; type of study; study design/methodology. They are coproducts of this report, and it is our hope that they will be a useful tool for researchers to continue to investigate these topics.

While this was not intended to be a systematic review, several things became clear when examining the selected results. First, SARS, Influenza and Ebola have been less studied compared with COVID-19 and HIV/AIDS. Also, while quantitative studies are predominant, in the case of Ebola most of the literature is qualitative. Also noticeable is that in certain areas there is a predominance of relatively older studies, such as regarding the impacts of HIV/AIDS orphanhood in Africa.

It is noticeable that most of the evidence on social protection interventions during pandemics focuses on social assistance measures, such as cash and in-kind transfers, with significantly less focus on social insurance, including unemployment insurance or parental leave. There is also a scarcity of social protection studies regarding Influenza, SARS and Ebola. Hopefully, future studies will tackle these gaps.

The team of researchers used their expertise and knowledge to select the most relevant sources to draft this report and could not perform an in-depth review of all the sources contained on the databases. Some criteria used included prioritising longitudinal over cross-sectional studies, or those focusing on larger geographical areas or with nationally-representative samples, while trying to include as much relevant evidence as possible from low- and middle-income countries. Given the time limitations, the review focuses on the most common topics found in the literature.

Finally, despite our efforts, North-South biases in the production of academic research are unavoidably mirrored in the evidence presented here, especially regarding COVID-19. As an example, among the 1,586 sources contained in the databases, 360 (23%) focus solely on the United States.

Chapter 2
Do societies with poorer social determinants of health experience worse pandemics?

2.1 Introduction

This chapter deals with the question of the social determinants of health as a driver of pandemics. Health inequities are closely linked to inequalities in “power, money and resources”, as set out in the landmark report of the WHO Commission on the Social Determinants of Health (11). These deep rooted inequalities are reflected in inequalities in the conditions of daily life which, in turn, give rise to health inequities (12). Inequalities in money, power and resources are present both between and within countries, and the evidence found in the review reflects this. Hence, this chapter is divided in two sections.

Section 2.2 focuses on the differences between countries – the global divide – and examines the evidence on inequalities in income, international debt, access to vaccines and treatments, as well as in resilience and pandemic preparedness and in response capacities between countries, as well as on the importance of trust.

Section 2.3, in turn, focuses on within-country inequalities based on the extensive evidence showing that more disadvantaged groups — by geographical area, socioeconomic position/status, poverty status, gender, race/ethnicity, disability and other dimensions — are more likely to be negatively impacted by pandemics. Key mechanisms in this link are the conditions of daily living, also addressed in Chapter 2. This chapter also outlines inequalities in access to health services, testing and treatments within countries. Taken together, the evidence summarised in this chapter shows that governments must ensure that reducing societal inequalities is at the forefront of pandemic preparedness and that addressing the social determinants of health before pandemics emerge can improve pandemic outcomes, reduce vulnerabilities and inequities as well as reduce the overall harm caused by pandemics, as was stated by the G20 Health Ministers during the Brazilian presidency in October 2024 (13).

2.2 The global divide

What makes countries more or less resilient during pandemics is closely related to longstanding global inequalities between countries. This section describes how these differences between countries relate to inequalities in experiences during pandemics. As will be shown throughout this report, a key driver of pandemic preparedness – understood as whole-of-society resilience against pandemics – is the extent of social equity. However, pandemic preparedness plans have in the past largely ignored social equity issues (14). These failings had been raised by civil society and academics in previous pandemics, in particular in relation to Influenza and its close association with factors such as discrimination and socioeconomic deprivation (15). The COVID-19 pandemic increased awareness among stakeholders of the need to integrate social equity considerations into planning for future pandemics (16).

This section sets out evidence showing that governments that are pressured into servicing international debt commitments are not able to spend the necessary resources on health or education and that the current intellectual property system prevents many low- and middle-income countries from accessing vaccines and treatments when they are most needed. Other factors are more related to internal governance and accountability, and the willingness of those in power to create a social infrastructure that can prevent or mitigate socioeconomic inequalities. All of this impacts trust, which affects pandemic preparedness and experiences during pandemics.

2.2.1 Debt, economic resilience and capacity to prepare for and manage pandemics

Public investment in the social determinants of health, such as in education, health and social protection policies, is key to prepare for and manage pandemics. This investment requires that countries have enough fiscal space. However, in a list of the 65 poorest world countries, excluding Mozambique, external debt as a percentage of GDP increased by 15 percentage points between 2011 and 2021, from nearly 22% to 37% (17). In 2019, a quarter of low- and middle-income countries (LMICs) were unable, or close to being unable to fulfil their financial obligations and required debt restructuring (18). Researchers have investigated associations between the debt burden and pandemic outcomes, finding for example that public debt is associated with increased HIV prevalence (19). In the past, the insistence by multilateral institutions — most prominently, the International Monetary Fund (IMF) — on subordinating support in debt servicing to cuts and privatisations of public services has been highlighted as an important barrier towards building poor countries' resilience against the HIV/AIDS pandemic (20).

The situation was no different during COVID-19: the 44 countries participating in the G20 Debt Service Suspension Initiative set up in 2020 directed 40% of public revenue to debt servicing on that year, while only 10% was invested in health (21). Initiatives such as this and others by multilateral institutions have been insufficient and not addressed tenacious inequalities arising from historical processes including colonialism and the fragility of states in the post-colonial period (22) (23) (24).

Some scholars have focused on the interlinked nature of poverty, extractionism, mismanagement and corruption and the resulting exacerbation of health inequities during the Ebola epidemic, for example in Sierra Leone (2013-2016) (25). During the Ebola epidemic communities with little control over their lives and environments, were unable to protect themselves from the disease (26). However, they were stigmatised by an international narrative that largely focused on cultural and ecological practices as drivers of the epidemic (27), ignoring the deep-rooted dynamics of poverty and global income inequality (28).

2.2.2. The link between income inequality and pandemics across countries

Countries with higher income inequality fared worse in the initial stages of the COVID-19 pandemic, before vaccines were introduced and social protection measures were put in place. In 22 OECD countries, disposable income inequality measured with the Gini coefficient was linked to higher COVID-19 mortality for all age groups, even after adjusting for relative poverty, median income, work from home differentials, long-term care beds for those aged 80 and over and survival rates from COVID-19. The effect was stronger for younger age groups (15-64) (29). In addition to higher mortality, COVID-19 cases-per-million were positively correlated with income inequality in a different analysis of OECD countries, adjusting for age, life expectancy, and stringency of governmental containment policies (30). Infection rates and death rates from COVID-19 were also correlated with income inequality in the findings of a study with data from 74 countries (31).

Income inequality is also linked to worse HIV/AIDS outcomes (32–35). Between 2000 and 2021, a 25% reduction in the Gini index of inequality was associated with a decline of 17.39 per 100,000 in AIDS mortality globally (excluding Africa) in the next year, and of 11.45 in a sample of African countries (32). This relationship is also evident in relation to incidence, with an increase in the Gini index correlating with an increase of the HIV incidence rate in the next year (32). Regional wealth inequality was consistently associated with higher adult HIV prevalence in 29 countries in Sub-Saharan Africa, Haiti and the Dominican Republic (2010-2016), adjusting for age, gender and other covariates (36).

The association between income inequality and higher rates of incidence and mortality for HIV is generally consistent across countries with different levels of wealth. However, caution is needed when comparing findings, since studies use different sources of data and different health measures, as well as covariates. Also, not all of them adjust for demographic variables like age structure or ethnic composition, or by socioeconomic factors.

2.2.3 Global access to vaccines, medical supplies and healthcare infrastructure

Globally, millions of lives could have been saved during the COVID-19 pandemic had there been more equitable access to vaccines. The Council has emphasised this point and called for radical change in the way that vaccines and treatments are produced and distributed (37). The COVID-19 crisis laid bare global inequalities in the production, access and distribution of vaccines across countries and resurfaced longstanding controversies around the North-South divide in access to crucial medicines and treatments (38). Data until June 2022 shows a clear positive relation between GDP per capita of countries and COVID-19 vaccination rates (39). Countries with higher life expectancy pre-pandemic achieved higher vaccination coverage (40). Even by the end of 2023, in 63 countries and territories less than 50% of the population had received at least one dose of a COVID-19 vaccine (41).

What happened during the COVID-19 pandemic replicated previous patterns of inequalities in access to vaccines and treatments related to seasonal influenza (42). In the 2009 H1N1 flu pandemic, even if most countries in the WHO European region had access to vaccines, poorer countries in the region obtained doses of the vaccines later and in insufficient quantities, likely due to the Advanced Purchase commitments (APAs) signed by richer countries to secure priority access (43). This mechanism was also widely used during the COVID-19 pandemic (44). The Mpox outbreak that began in May 2022 highlighted once again the inequities of a system in which African countries are forced to rely on vaccine donations from rich countries even if they are the ones being disproportionately affected by the disease (45). Organisations such as Oxfam have also denounced the unaffordable price of Mpox tests. In the Democratic Republic of Congo (DRC), the country with the highest number of cases and deaths — the majority of them occurring among children under five — Mpox tests were sold for around USD$20 in 2024, which is close to the total amount available per capita in the annual healthcare budget (46).

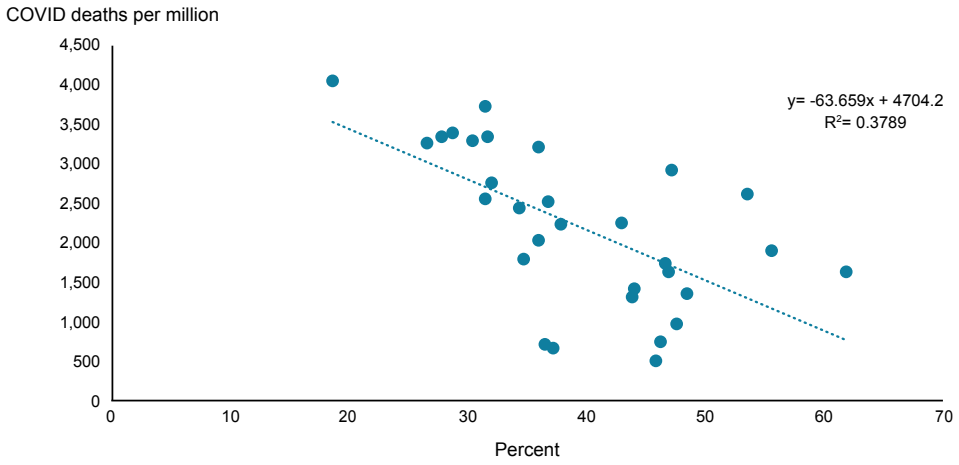
Global inequities also manifest in the healthcare infrastructure of many countries in the Global South, which are not always able to ensure timely and effective healthcare for all during pandemics and epidemics. The difficulties that Sub-Saharan African countries face in fighting Ebola outbreaks with insufficient numbers of healthcare workers and resources have been documented (47) (48). When the 2014-16 Ebola epidemic started in Sierra Leone, the country had around 13,000 community health workers, roughly two for every 10,000 people (49).

2.2.4 Trust and social cohesion

The importance of levels of societal trust and cohesion in shaping how effectively countries deal with pandemics and epidemics has been widely acknowledged (50), and the WHO has created an Initiative on Trust and Pandemic Preparedness (51). Trust has at least two main dimensions: one is institutional and political, defined by how much citizens trust the main institutions in their country; another one is social, based on how much people trust each other (52). Trust can be measured at the individual or the societal level and is strongly linked to social cohesion.

There are only a limited number of studies that make quantitative comparisons across countries on the effect of trust and social cohesion on pandemic outcomes. Confidence in state institutions and civic engagement were found to be protective factors during the early stages of the COVID-19 pandemic, while high levels of social trust – trust in most people; in your neighbourhood; in people you know, in those you meet for the first time and in people of another religion or nationality – and group affiliation were detrimental, possibly because they discouraged social distancing (53). Other authors made the point that democracies with high levels of public trust had lower COVID-19 infection rates than those with lower levels of trust (54). Worldwide, trust in government and interpersonal trust (the belief that most people can be trusted) were associated with lower infection rates (55). In 31 OECD countries, there was an inverse correlation between levels of trust in government and COVID-19 deaths per million (up to March 2023) (see Figure 1). Vaccine coverage also varied according to levels of trust in government as well as with government corruption levels among middle- and high-income countries, being higher in those countries with higher levels of trust and lower corruption levels (55).

Figure 1. COVID-19 deaths per million (up to 8th March 2023) and percent with high or moderately high trust in national government (2023), 31 OECD countries.



Source: OECD, 2024 (56) & Our World in Data, 2023 (57).

In Liberia during the 2014-15 Ebola epidemic, survey respondents that had low trust in government were much less likely to socially distance, to protect themselves against the disease in their homes and to conduct “safe burial” practices compared with those with higher levels of trust (58). Similarly, higher levels of interpersonal trust and trust in government facilitated greater compliance with hand washing and mask wearing in African countries and with stay-at-home measures in Europe (50).

Scholars of post-colonial Africa have dived into the historical construction of trust, tracing the lack of trust in the international response to the West African Ebola epidemic to colonialist practices of medicine, as well as to more contemporary inequalities in allocation of resources to provide treatments, such as the differential treatment that was given during the epidemic to foreign and local staff affected by the disease (59). Given this, some commentators suggest that focusing too much on the lack of trust as an explanatory mechanism for the Ebola epidemic risks obscuring the role of structural determinants (60).

2.3 Within country inequalities in incidence and mortality from pandemics

Pandemics lay bare the strong link between inequities in the social determinants of health and inequities in health outcomes between population groups. As important as they are, inequities in access to healthcare and treatments only offer a partial explanation for the widespread inequities in incidence and mortality from pandemics between and within countries. Structural inequities in power and resources and inequities in the conditions of daily life which result make individuals, groups and countries more or less resilient to pandemics. Structural inequities affect levels of income, living and employment conditions and environmental surroundings. Discrimination based on gender, sexual orientation, disability, ethnic group or migration status; economic inequities, classism and neighbourhood deprivation often compound structural inequities and make groups experiencing discrimination much more likely to be infected and suffer severe consequences from pandemics (61). Access to appropriate care and prevention, capacity to adhere to public health measures and pre-existing health are shaped by structural inequalities, inequalities in living conditions and levels of discrimination.

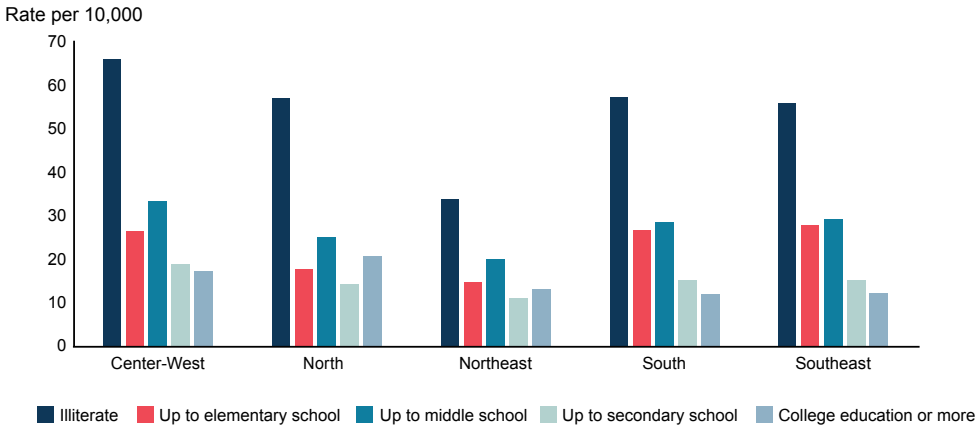
2.3.1. Inequalities between areas

The question of whether and how much inequality within countries drives pandemics has been widely examined. The evidence in this section is robust and points to a strong link between area level inequality and the effects of pandemics. Social deprivation, which is defined by lack of access to the basic resources and opportunities in society, is also associated with worse pandemic outcomes.

In Brazil, regions and municipalities with higher inequality – measured with the Gini coefficient – experienced worse COVID-19 outcomes, both regarding incidence rates and mortality (62–65), although one limitation of this evidence is that these studies only examined short periods of time and/or focused on the early stages of the pandemic. This is common to studies from other countries.

Looking at the five regions of Brazil (North, Northeast, Southeast, South, Centre-West), the mortality rate from COVID-19 in 2020 and 2021 was between 2.6 and 4.7 times higher among those with no education compared with those with college education, and this difference was greater in richer (South-East and South) than in poorer regions (66). Although none of the regions showed a consistent educational gradient in mortality across all groups, there was a persistent gap in all regions between those who had no education and the rest (see Figure 2) (66).

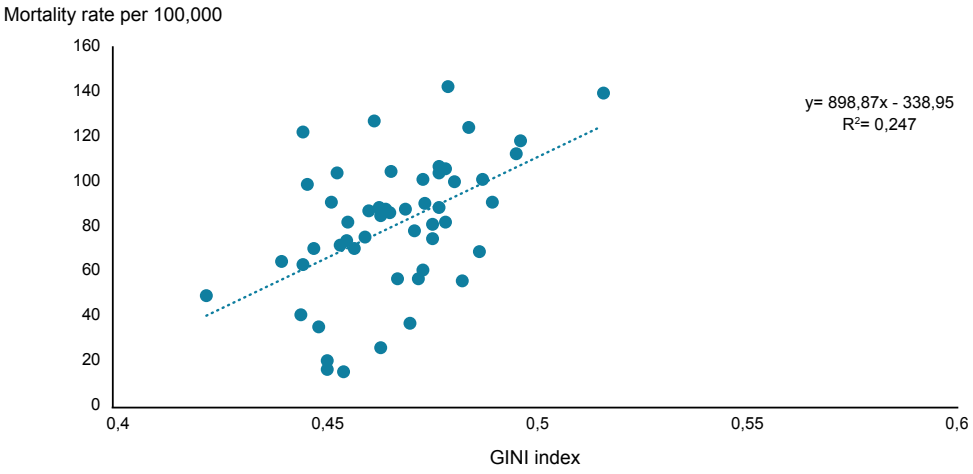
Figure 2. COVID-19 mortality among those aged 18 and over, by educational level, in all Brazilian regions, 2020–2021



Source: Szwarcwald et al. (67).

In the US, income inequality — measured again by the Gini — was directly related to the number of COVID-19 deaths at state level (68) (see also Figure 3); and incidence and mortality rates at the county level (69).

Figure 3. COVID-19 mortality and income inequality (GINI index), US states, 2020

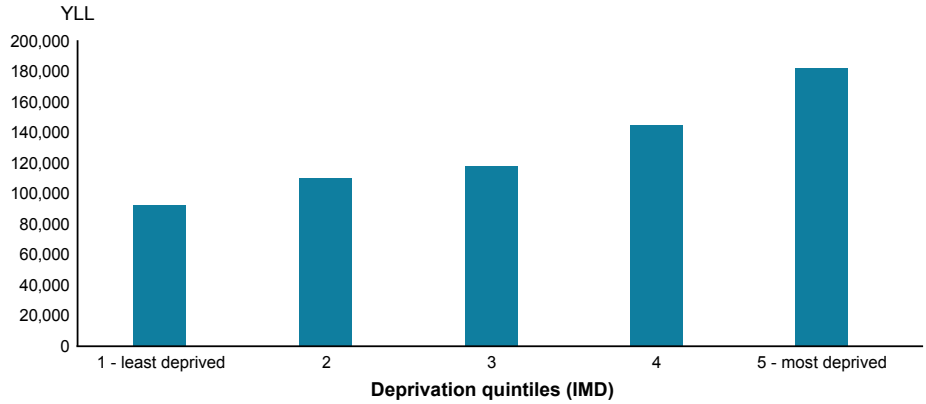


Source:United States Census Bureau (70) & National Center for Health Statistics (71).

Studies looking at smaller areas such as ZIP code areas are consistent that inequality worsens pandemic outcomes, using a range of inequality measures, such as the COVID-19 social vulnerability index – constructed with 16 US census variables on SES, household characteristics, racial and ethnic minority status, housing type and transportation from the five-year American Community Survey (72,73) (74).

In England and Wales, there were strong associations between socioeconomic and geographic deprivation and worse COVID-19-related outcomes (75–77). Excess years of life lost (YLL) due to COVID-19 and other underlying respiratory causes between March and December 2020 followed a steep deprivation gradient, measured by the official Index of Multiple Deprivation (IMD), a composite score that ranks areas according to seven domains: income, employment, health, education and skills, housing, crime, and environment (75) (see Figure 4).

Figure 4. Estimated excess Years of Life Lost (YLL) directly due to COVID-19 or other respiratory disease, by deprivation quintiles (IMD), England and Wales, 7 March 2020 to 25 December 2020.



Source:Kontopantelis et al., 2022 (75).

IMD was significantly associated with COVID-19 cases and deaths in all local authorities, while the Gini had an impact in fewer areas, adjusting for covariates including ethnicity, obesity rate, diabetes rate, the proportion of men in the population and others (78). It is important to note that the social gradient in COVID-19 mortality rates is similar to that for non-COVID-19 deaths. The gradient is slightly steeper for COVID-19, a likely result of exposure to front-line occupations and crowded households in the most deprived groups. It illustrates the general point that pandemics expose and amplify inequalities in society that lead to inequalities in health.

There were also significant inequalities in Influenza incidence (79) and in hospitalization rates by IMD areas between 2002-03 (80). Historical analyses of the impact of the 1918 Influenza in England find strikingly similar patterns with those seen during COVID-19, with the North and the Midlands experiencing higher death rates than the South (81). Socioeconomic inequalities in mortality were a feature of this pandemic in places as far apart from each other as Chicago (82) and Spain (83).

There is consistent evidence that area-level inequality is associated with worse HIV/AIDS outcomes based on data from Africa, North and South America. For example, in Malawi women in communities with the greatest income inequality are 1.85 times more likely to have HIV compared with women in communities of lowest income inequality (84). Based on HIV data from 2004 and economic data from 1997-98, another study in Malawi found a strong relationship between neighbourhood income inequality and risk of infection for young women, only partially mediated by factors such as risky sexual behaviour, gender violence, and levels of return migration from urban to rural areas. No such relationship was found with poverty indicators at the individual or community level (85).

2.3.2 Disadvantaged populations: lower socioeconomic groups; ethnic/race inequalities; gender inequalities; migrants and refugees; "key populations"; disabilities

Lower socioeconomic groups

Lower socioeconomic groups were at a higher risk of experiencing harm from COVID-19. The evidence clearly shows this, both when looking at area-level measures (as examined in the previous section) and at individual and household level measures, as done in this section. In Sweden, national registry data from 2020 shows that individuals with low education and households with low income faced relative higher risks of severe COVID (hospitalisation or death), although they had a lower risk of testing positive. The pandemic did not fundamentally alter pre-existing health inequalities, but mainly reproduced patterns which were there before the emergence of Sars-CoV-2 (86).

Inequalities in COVID-19 severity were not only reflected in a gap between those at the bottom and those at the top, but followed a social gradient, even in a country with comparatively lower relative and absolute inequalities such as Sweden. The relative risk of being hospitalised in an intensive care unit (ICU) between March 2020 and March 2022 followed an income gradient that was more pronounced in the third wave of the pandemic (between November 2021 and March 2022), and which was not totally mitigated when adjusting for vaccination status (87). Although the evidence on SARS is much scarcer than that on COVID-19, a negative relationship between individual and household income and SARS infection was found during the SARS epidemic in Hong Kong (2003) (88).

Establishing whether poverty or wealth have been a driving force behind the HIV/AIDS epidemic has been problematic. Some older research found positive relationships between HIV status and wealth in Zambia and Mozambique (89) (90). A multi-level study published in 2012 found that in wealthier regions/countries, individuals with less wealth were more likely to be infected with HIV, whereas in poorer regions/countries, individuals with more wealth were more likely to be infected (91).

More recently, a study which corrected for selection bias — the fact that wealthier individuals infected by HIV/AIDS live longer than poorer ones and, therefore, are overrepresented in the data — determined that low household wealth and area-level inequality are the main driving factors (92). In Brazil, individuals with lower wealth were 55% more likely to be infected and twice as likely to die from AIDS compared with those with higher wealth in a retrospective cohort study of 28.3 million people between 2007 and 2015. The cohort only comprised people who had applied for social benefits and hence, excluded the least deprived (93). Lower educational attainment was also associated with higher incidence and mortality (93). This report overviews access to anti-retroviral therapy in section 2.3.4, and how the rollout has impacted HIV/AIDS inequalities.

There were few results obtained in the evidence review which focused on the Ebola West Africa epidemic (2014-16) and individual or household socioeconomic characteristics, likely due to the overall lack of data in West Africa on exposure and risk factors (94). One study using data from the Afrobarometer survey (2014-15) determined that higher wealth households were more likely to be exposed to Ebola in Sierra Leone but not in Liberia (94). Other study using area-level measures was not conclusive regarding social vulnerability and transmission in rural areas in Liberia (95).

Ethnicity/race

Racism can affect health in three, interrelated ways (96). Firstly, experiencing racism directly damages physical and mental health. Secondly, it is often linked to socioeconomic disadvantage. Thirdly, it can damage health via discrimination in the health care system and in other services. In the case of HIV/AIDS, all three interrelated mechanisms are at play, creating inequalities related to ethnicity in who is most exposed and impacted, who has better access to treatment and, therefore, who is more likely to live longer lives free of impairment or disability.

The evidence is robust internationally and striking. In the US in 2022, Black adults and adolescents had an HIV diagnosis rate that was 7.8 times higher than in White individuals and almost double that of Latinos. Among all racial/ethnic groups and across genders, Black men had the highest diagnosis rate, followed by Latino men. Black women had the highest rate among women, at 19 per 100,000. Age-adjusted death rates attributed primarily to AIDS are 10 times higher among Black people, standing at 5.9 per 100,000 compared with 0.6 among Whites (97). In Brazil, where there also exist stark ethnic inequalities, Black people had a 53% higher incidence and a 69% higher mortality relative to those who self-identified as White or Asian heritage between 2007 and 2015, according to the cohort study mentioned above with 28.3 million individuals who had applied for social benefits (93).

Racism and discrimination are primary causes for inequities in HIV/AIDS outcomes in the US (98). In Florida, which is the state with the highest number of diagnosis among Black people (2022), White individuals with HIV had more than twice the odds of being virally suppressed compared with Blacks; Hispanics also had higher odds (99).

Studies focusing on inequalities based on ethnicity/race in the impact of the COVID-19 pandemic are abundant, in particular in the US, Brazil and the UK. In Brazil, excess deaths –number of deaths above the expected level based on previous years; a measure which captures not only the COVID-19 direct impacts, but also deaths occurring due to other conditions – reached 28.6% among East Asian individuals, and close to 23% among Black and Indigenous individuals, respectively, in 2020 (100). Self-identifying as belonging to another ethnicity than White was linked to a higher risk of suffering from long-COVID symptoms, based on the findings of a smaller study with data from all the COVID-19 reported positive cases in the Amazon basin (101). Multiple factors linked to structural racism put Black Brazilians

in a situation of higher vulnerability to COVID-19 compared with White Brazilians, including lower household incomes; the highest unemployment and informality rates; disproportionately high incarceration rates; higher rates of chronic diseases; higher food insecurity and lower access to medicines (102).

In the US, racial/ethnic inequalities in excess deaths were apparent in the first year of the pandemic. Between March and December 2020 there were 477,200 excess deaths in the country, with researchers attributing 74% to COVID-19 and the rest to other causes. Both COVID and non-COVID excess deaths per 100,000 persons were more than double for Black, American Indian/Alaska Native and Latino males and females than for Whites (103).

Gender

Pre-existing gender inequalities can make women particularly vulnerable during pandemics, due to increased work and caring responsibilities, reduced access to maternal and reproductive health services, increased exposure to gender-based violence, and their overrepresentation in the global health and care workforce, disproportionately exposing them to pathogens (104). Due to structural gender inequalities, women can also be excessively affected by the lockdowns (section 3.5) and economic shocks (section 3.2) that usually accompany pandemic emergencies (105).

Gender inequality continues to be a strong force fuelling the HIV/AIDS epidemic in Sub-Saharan Africa. According to UNAIDS data, the HIV incidence rate among adolescent girls and young women is more than three times that of adolescent boys and young men in at least 22 countries in the region, while only a few countries (including Eswatini, Kenya, Lesotho, Malawi, Zimbabwe) have been able to achieve a reduction of over 70% in new HIV infections among adolescent girls and young women aged 15–24 years since 2010 (106).

Structural gender inequalities play a major part in explaining these trends (107), in particular those related to education, women's lack of empowerment, violence against women and children and lack of access to sexual and reproductive services. Most studies indicate that education plays a crucial role as a protective factor against HIV infection, for young girls and women in particular. After controlling for the prevalence of HIV infection, secondary school enrolment is strongly and negatively associated with disease-related deaths, according to evidence from 115 high-, middle- and low-income countries published in 2010; the relationship between economic development and mortality is mediated by education too (108).

The ratio of female to male secondary school enrolment appears as key, as when women reach or exceed boys in secondary school enrolment, this is linked to a decrease in AIDS deaths, suggesting that women's higher social status gives them increased agency, which protects their health (108) (109). Increases in primary schooling decreased the probability of adult women testing positive for HIV in Malawi and in Uganda, according to a study using 2010-11 data (110).

While HIV-related risks by gender vary greatly worldwide (111), men are less likely to be tested and to access ART, and more likely to die from AIDS-related causes than women (112), due to reasons such as late diagnosis and poorer access and adherence to treatment (112). While 80% of women living with HIV were accessing treatment in 2021, only 70% of men were. In sub-Saharan Africa, men and boys living with HIV are less likely than women and girls living with HIV to know their HIV status, and to be accessing treatment. A UNAIDS report described how in places such as Uganda, gender stereotypes and stigma were a strong barrier for men to know their HIV status and, hence, access treatment that could save their lives (112).

Gender inequality is intimately linked to sexual and gender-based violence, which in turn is linked to greater vulnerability to HIV. A multilevel modelling study showed that in Uganda in 2011, women victims had 34% higher odds of infection compared to non-victims, controlling for socioeconomic characteristics (113). Female empowerment (measured with a proxy of female contraceptive prevalence) and gender equity (UNDP gender-related development index) is not only beneficial for women, but also decreases all-cause child mortality (114).

Throughout the COVID-19 pandemic, men had consistently higher mortality rates than women, but women experienced higher morbidity. This follows a well-known pre-COVID pattern in European countries, where women suffer higher morbidity but lower all-cause mortality (115). With data from 75 countries in 2020 and 62 countries in 2021 (none from low-income countries), researchers showed that the pandemic exacerbated this pre-existing gender gap in mortality, in particular due to the much higher rates of excess deaths among men in high-income countries in 2020, which decreased in 2021 likely due to the roll-out of vaccines (116). A strong limitation of this kind of analysis is that many countries did not report sex-disaggregated data during the pandemic (117). There is abundant evidence on the disproportionate impact of the pandemic on the mental health of women, which is discussed in section 3.5.

Migrants and refugees

Many migrant groups have disadvantaged positions in their host countries leading to disadvantage in housing, income and occupation which negatively impact their health, compared to host populations (118). However, migrant groups are also heterogenous, and tend to be younger and healthier than the host populations, which can reduce their vulnerability, but can also cause an underestimation of their particular risks (119). Around 40% of international migrants and refugees live in LMICs (120), but evidence from these contexts is much scarcer than in high-income countries (HICs) (121). This hinders our understanding of how the COVID-19 pandemic and other public health emergencies impact these groups. Internal migrants and internally displaced persons face challenges, which can include fleeing from armed conflict, extreme food insecurity, indebtedness and lack of access to water and sanitation. The COVID-19 pandemic disrupted the delivery of emergency humanitarian aid, severely impacting these populations (122).

A meta-analysis with data from 53 million participants in HICs found that international migrants had a 84% higher risk of COVID-19 infection than non-migrants and that these inequalities were greater in North America and Northern Europe than in Southern Europe (121). The study found no inequalities in the risk of being hospitalised, but did find a higher risk among hospitalised migrants of being sent to ICU. At the population level, migrants experienced higher mortality.

Migrants' heightened vulnerability is related to their labour market status or the characteristics of their occupations. Labour migrants — those whose main reason to migrate is to find work in other countries — are considered to be vulnerable to HIV/AIDS infection because of their separation from their families, their lack of supportive social networks and the often dire working and living conditions they must endure, among other reasons (123) (124). Once infected, migration status linked to fear of deportation can prevent them from accessing screening and treatment (125). Household overcrowding was an important factor in explaining the 22% higher odds of infection among migrants compared with non-migrants during the second wave of the COVID-19 pandemic in England and Wales, accounting for more than one third of the increased odds (126).

During public health emergencies, authorities and the media often focus on the need for individuals to adopt protective behaviours, such as handwashing or mask-wearing. At the population level, however, these types of public health measures are often insufficient to protect groups in vulnerable situations due to structural inequities. This applies in particular to migrants, who often have little autonomy to change any aspect of their living and working conditions. Longitudinal data from a cohort study in the Netherlands confirms this, finding that education, occupation and household size pre-pandemic were much more relevant in explaining infection rates than risk-mitigating activities during the pandemic (127).

Key populations: people who inject drugs, sex workers, prisoners, LGBTQ+

"Key populations" refers to groups of people who are at a particularly high risk of HIV infection. UNAIDS recognises sex workers, gay men and other men who have sex with men, transgender people, people who inject drugs, and prisoners as the main at risk population groups (128). Key populations and their sexual partners represented approximately 70% of new global HIV infections in 2021, and 94% of new infections outside of Sub-Saharan Africa (129). Some of these groups are also more vulnerable to other pandemics, such as COVID-19 or Influenza.

In 1918, overcrowding, poor ventilation and failure to effectively isolate infected inmates contributed to the rapid spread of Influenza among the population of California's San Quentin prison (130). During COVID-19, individuals in prisons also experienced significantly higher rates of infection and mortality, as well as deteriorations in their mental health (131). Global evidence indicates that within the incarcerated population, ethnic minorities and older inmates suffered worse impacts (132). People in prisons are five times more likely to be living with HIV than adults in the general population (111). They are also less likely to adhere to ART and incarceration often disrupts treatment (133,134).

The risk of acquiring HIV is 28 times higher globally among gay men and other men who have sex with men than among adult men (15–49 years) in the general population. Among transgender women, it is 14 times higher than it is among other adult women (15–49 years) (111). Intersectionalities can increase the impact of pandemics on certain population groups. For example, in the initial months of the COVID-19 pandemic in Texas (US), LGBTQ Latinx people related more COVID-19 related worries and adverse outcomes than non-Latinx LGBTQ people (135). Worse pre-pandemic mental health among LGBTQ+ people made them susceptible to worse outcomes during the pandemic (136), but social cohesion acted as a buffer in cases such as among trans women in Lima (Peru) (137).

Sex workers were severely impacted by COVID-19. They experienced loss of income and a worsening of their living conditions, such as increasing household overcrowding (138). The pandemic also increased sexual violence against sex workers (139). There is some evidence that the criminalisation of sex work can be associated with increased HIV/AIDS rates at the ecological level (129). Overall, the relative risk of acquiring HIV globally is 30 times higher among female sex workers than among female adults who are not sex workers (111).

People who inject drugs, due to a high prevalence of comorbidities, their exposure to poor living conditions and homelessness, stigma and other disadvantages are more vulnerable to COVID-19 (140). They also have a 35 times higher risk globally of acquiring HIV than adults who do not inject drugs (111). During pandemics, harm reduction services and medical care can be restricted for these groups, exacerbating inequalities (141,142).

Disabilities

About 16% of the world's population lives with a significant disability, involving physical, sensory, intellectual, or mental health conditions. The majority of them live in LMICs (143). People with disabilities can be more vulnerable to the effects of pandemics, due to worse previous health, barriers to access healthcare, higher socioeconomic disadvantage and institutionalisation (144).

People with disabilities tend to be older and have more comorbidities, both of which are factors associated with more severe forms of COVID-19 (145). However, after adjusting for age, health characteristics, vaccination status, and socioeconomic factors, among others, people with disabilities still had a significantly higher risk of death involving COVID-19 than those without in England up to March 2022. Among women, the risk was 60% higher for the "more-disabled" group compared with those with no disabilities (146).

People with disabilities are also generally considered to be more vulnerable to HIV infection, due to factors such as

poverty, sexual abuse — in particular against women and girls — and a poor societal understanding of their sexual and reproductive health needs (143). However, data on HIV prevalence among this group is scarce in low-income countries (147). A higher prevalence was detected among people with disabilities compared with controls or the general population in Cameroon (148) and Mali (147).

People with lower incomes are more likely to become disabled, and individuals with disabilities often have limited access to education and job opportunities. As a result, they are more prone to living in poverty, struggle to find affordable housing, and experience undernutrition (144). Pandemics can exacerbate these pre-existing inequalities, leading to further economic hardship for people with disabilities and their families. This was evidenced in Vietnam during COVID-19 where disabled people were significantly more likely to have stopped working; to have reported lower earnings; and to have experienced severe impacts on their household food security and finances, than people without disabilities (149).

As many people with disabilities live in care facilities, the close proximity in which people in these facilities live with each other and the frequent interaction with assistance staff greatly increase their risk of contracting Influenza (150). This heightened risk extends to other pandemics, including COVID-19, where similar environmental conditions facilitated rapid disease spread and higher fatality rates (151).

In Liberia the Ebola epidemic exacerbated existing barriers for people with disabilities to access essential services. Non-disabled individuals were reported to have better access to healthcare resources and were less likely to be excluded from mainstream health interventions (152).

2.3.3 Inequalities in living conditions

Urbanisation and housing

Housing conditions, in particular living in overcrowded homes, is a risk factor for contracting COVID-19 and may also increase severity of outcomes because proximity with other people can increase the viral load. In England, level of overcrowding was an important mediating factor between area-level deprivation and mortality rates from COVID-19 (153). According to estimates, between 20% and 30% of the excess risk of hospitalisation among non-White ethnic groups, compared with the White population, was due to household size/status and deprivation, adjusting for comorbidities and lifestyle factors (154). Population density was not found to be associated with excess mortality in a study in England (155).

In low-income settlements such as in Harare (Zimbabwe), people living in overcrowded accommodation in highly populated suburbs encountered huge barriers to observe lockdown, which would mean “death due to hunger, death due to charcoal fumes, and death due to sanitation problems” (156). The need to get out to guarantee basic survival, however, exposed them to the virus. This is closely linked to urbanisation in many low- and middle-income countries, exacerbating and creating new patterns of socioeconomic inequality and increasing vulnerability to pandemics. In Rio de Janeiro (Brazil), case-fatality rates from COVID-19 in neighbourhoods with the highest concentration of favelas was double that in areas with no favelas (102).

In major Indian states, urbanisation – population density, population size and proportion of non-agricultural employment – was associated with higher COVID-19 prevalence (157). A “spatial justice” approach has been called for in South Africa, were racialised inequitable urbanisation has been both a driver of pandemics as well as a component of the policy response to them (158).

Rapid urbanisation in Global South cities has been intrinsically linked to the growth of informal settlements that pose increased need for basic and social services, as well as access to jobs in the formal economy. All these constitute barriers for effective prevention of HIV/AIDS. In 2022, over 1.2 billion people worldwide lived in slums and informal settlements (159).

In Brazil, regions with greater development and infrastructure, and cities, have a higher HIV/AIDS burden (93). This pattern was evident too during the Ebola epidemic in West Africa. When infection spread to urban slums in Sierra Leone, it rapidly spread (160). This contrasted with previous outbreaks in Central and Eastern Africa, in which the virus had been confined to rural and sparsely populated areas (49).

Employment and working conditions

Employment conditions and occupational inequalities play a major role in inequities in health, which are amplified during pandemics. Having an informal job; experiencing job insecurity or precarious employment; being unable to work from home; or lacking power to enforce workplace regulations, all increase the risk of being severely affected by pandemics, as evidence from COVID-19 shows (161) (162) (163) (164) (165). The type of job someone does, as well as the working conditions attached to it, are important in driving inequalities in pandemic outcomes. Often, inequalities in social determinants of health are compounded, and certain population groups (migrants, ethnic minorities, those with lower education, women and others) are more likely to experience labour market disadvantage. In Brazil, Black women domestic workers had 112% higher odds of dying from COVID-19 than White men in the same occupational group (102).

Health care workers are among the worst affected during pandemics. Frontline healthcare workers in the US and the UK were at least three times more likely to report a positive COVID-19 test than the general population in their communities (166). WHO estimates that around 115,000 healthcare workers died globally due to COVID-19 between January 2020 and May 2021, although this figure is likely underestimating the true toll (167). During the Ebola epidemic in West Africa, health workers were also disproportionately affected. In Liberia and Sierra Leone, 8% and 6.9% of the doctors, nurses and midwives died. In addition to the human toll, it also compromised the country’s capacity to provide essential healthcare during and after the crisis (168).

Other groups of workers in essential services, defined by the International Labour Organization (ILO) as those "without which the safety, health or welfare of the community or a section of the community would be endangered or seriously prejudiced" (169), are often exposed and unprotected during pandemics. These jobs tend to be occupied by low-paid workers from ethnic minorities who face increased risks such as lack of sick leave, long working hours, weak enforcement of workplace regulations and the inability to socially distance (169) (170). In London, bus drivers experienced a three-fold excess in age-standardised mortality compared with the general population between March and May 2020 (before the first COVID-19 lockdown). The excess mortality was still two times greater after adjusting for vulnerabilities such as a higher proportion of ethnic minority staff and living in disadvantaged urban settings (171).

Unemployment has long been recognised as a health risk. In South Africa, men and women who were unemployed had higher odds of HIV infection compared with the employed, based on data from the 2016 South Africa Demographic and Health Survey (172). Being unemployed or underemployed was associated with increased odds of having depression during the COVID-19 pandemic in the US (173).

Environmental inequalities

Environmental inequalities can have a major influence on the severity of pandemics and further exacerbate existing inequities for poorer marginalised groups (174). Individuals who live in highly polluted areas are at a greater risk of experiencing severe health consequences during times of respiratory disease outbreak. This occurs as a result of the air pollutants causing inflammation in the respiratory system which damages the immune function of cells in the lungs (175). In the US during the 1918 Influenza pandemic, cities that used more coal than other cities with similar pre-pandemic socio-economic conditions and population health, experienced significantly higher mortality rates (176). Extended exposure to air pollution is also associated with increased mortality rates from COVID-19 (174) (177,178). Exposure to pollution is often unequal among socioeconomic groups (179).

Community and social support networks

It is widely understood that social networks are important for health (180). These interpersonal relationships are embedded in wider contexts given by structural factors, such as socioeconomic inequality or the characteristics of the political system. They can positively or negatively impact health through different mechanisms at the micro level, including social support and access to material resources or information (180). Many different terms are used in epidemiology to refer to the quality of social networks and interpersonal relationships and related concepts, such as social cohesion, social capital or social connection. Although it is not the place here to discuss their different meanings, the terms are not interchangeable, and there is no standard way to operationalise them (181), which limits the generalisability and comparability of findings.

Social cohesion was used to refer to different characteristics of relationships during the COVID-19 pandemic (182). Evidence shows that greater social cohesion can promote better health outcomes (183) (184), facilitate individual adoption of protective health behaviours (185) and build resilience (182). Qualitative research in Bangladesh described how social networks helped slum residents to cope with the socioeconomic and emotional shock of the pandemic (186).

Although there is no consensus on how to define social capital, it usually includes three elements: social network, norms of reciprocity and trust (187). A study in seven European countries (Austria, Germany, Great Britain, Italy, the Netherlands, Sweden and Switzerland) found that increases in social capital — defined as the willingness to act collectively and pursue socially valuable activities, and measured with the proxy of voting turnout — lead to a decrease in COVID-19 cases per capita between mid-March and the end of June 2020, as well as fewer excess deaths per capita (188). In Argentina, perceptions of high neighbourhood social capital were associated with positive outcomes in personal resilience, ability to cope with uncertainty and compliance with public health measures, among others (189).

Social capital can have a buffering effect between the stress brought by the pandemic and mental health. In Hong Kong, it protected economically inactive adults against mental health problems, while not having a significant effect among those economically active (190). In the UK, individuals living in neighbourhoods with higher social capital became increasingly more resilient and less lonely over the pandemic and those with greater resilience had better mental health (191).

An individual's capacity to acquire social capital, however, can be highly influenced by the position in society, as seen in the UK, where ethnic minorities (in particular those of Pakistani/Bangladeshi and Black heritages), had lower social capital during the COVID-19 pandemic than the White majority, and this was due to their socioeconomic disadvantage (192). Racism and its policies, such as residential segregation, can also negatively impact social capital and social cohesion resources (193). Stigma related to HIV/AIDS can hinder levels of trust within the community, while feeling close to the family and having contacts of different religions can be associated with better subjective wellbeing among people living with HIV/AIDS (194). Globally, social support has been found to be beneficial for the quality of life of people living with HIV/AIDS (PLWH) (195).

2.3.4 Inequalities in access to healthcare, testing and treatments

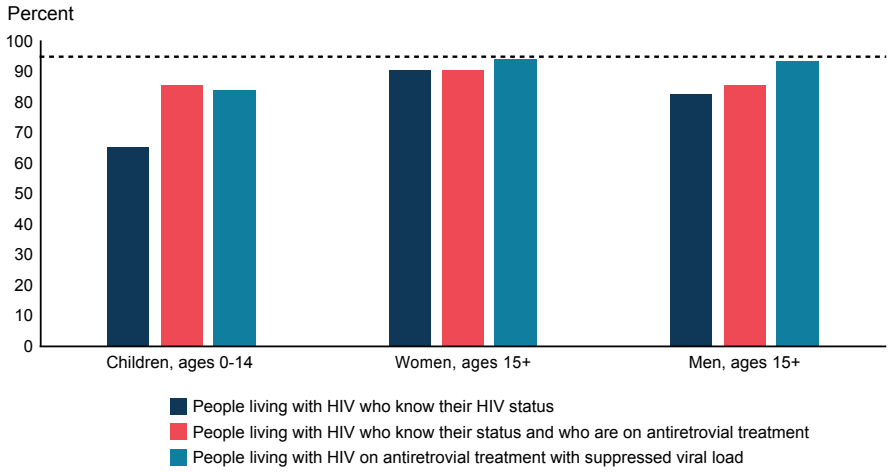
Inequalities in access to healthcare have been reported as far back as the 1918 influenza pandemic. In South Africa, even before the 1918 pandemic that killed around 6% of its population, Black people who died were less likely to have been seen by a doctor than White people, and this inequality in access to care was exacerbated later on during the 1918 pandemic (196). 102 years later during the COVID-19 pandemic, a similar pattern was documented in many countries.

In the US, non-Hispanic Black (Black hereafter), Hispanic/Latino/a were more exposed to COVID-19 and also had more difficulties in accessing healthcare (having no primary care doctor, not seeing a doctor because of cost, not seeing a doctor because of immigration status, and not having insurance), which increased the odds of hospitalization compared with Whites by between 53% and 115% (197). Early in the pandemic, Black patients also had lower rates of treatment with remdesivir — the first antiviral given emergency authorisation by the Food and Drugs Administration (FDA) during the pandemic — than White patients (198). In Brazil between March 2020 and September 2022, Black and Brown individuals were over 20% more likely to die in hospital than Whites, while those with an Indigenous background were close to 70% more likely, adjusting for educational level, gender, age, type of healthcare access (public/private) and three comorbidities (diabetes, obesity and cardiovascular disease) (199).

Access to testing is seen as critical to ending the HIV/AIDS epidemic, as part of the testing and treatment cascade. UN member states have set the 95-95-95 target to achieve by 2030, i.e. that 95% of people living with HIV know their status; 95% of those being diagnosed with the infection are being sustainably treated with antiretroviral therapy; and that among those being treated, 95% are virally suppressed (200). Botswana, Eswatini, Rwanda, the United Republic of Tanzania and Zimbabwe have achieved these targets (201). Knowledge of HIV status has increased dramatically in the last two decades in Eastern and Southern Africa, the regions most affected by the virus, rising from 5% to 86% in Eastern Africa and from 9% to 90% in Southern Africa between 2000 and 2020 (202). The median time to diagnosis has gone from 11 and 7.7 years, respectively, to 2.0 and 1.5. Globally, in 2023, 86% of all people living with HIV knew their status (203).

However, inequalities remain, and while 91% of women worldwide living with HIV/AIDS knew their status in 2023, fewer men (83%) and especially children below 15 (66%) did (see Figure 5) (204).

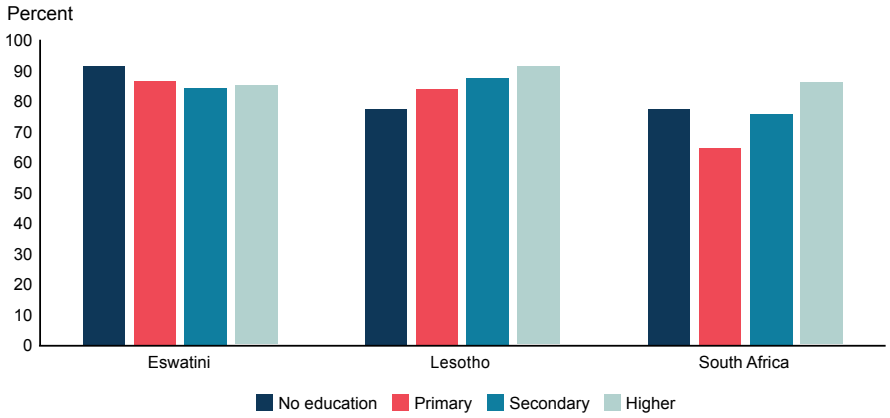
Figure 5. Progress towards 95-95-95 2030 target, global, 2023



Source:UNAIDS (204).

The UNAIDS inequalities visualisation tool shows that in countries such as Lesotho, Angola, Namibia, Uganda or Zambia there is a gradient by education in ever having been tested and received a result (unadjusted) (205). In others, such as in South Africa, the relationship is not linear, and those with primary and secondary education show lower rates of testing than those with no education (205). In Eswatini, those with no education have higher rates than the rest (see Figure 6).

Figure 6. Percent of 15-49 year olds having ever tested and received a result for HIV, by highest level of education, Eswatini, Lesotho, and South Africa*, 2016/17**



*The three countries with the highest HIV prevalence amongst adults (15-49) as of 2023.

** Eswatini 2017, Lesotho 2017, and South Africa 2016

Source: UNAIDS (204).

There is evidence of wealth and education inequalities in HIV testing from Haiti in 2012 (206); in rural Mozambique between 2006 and 2011 (207) and in France (208), among others.

The problem of delayed diagnosis, defined as "presenting for HIV care with a CD4 count below 350 cells per µL, or with an AIDS-defining event, regardless of the CD4 cell count", goes beyond access to testing, and can multiply the risk of death from the disease (209). In New York (US), a higher risk of late HIV diagnosis between 2009-10 was found in neighbourhoods with a higher presence of Black people, but this was not explained by testing prevalence or accessibility, pointing to the need to look at wider social factors, such as incarceration (210). Among men who have sex with men in Florida, Black men were 15% more likely to experience delayed diagnosis than Whites (211). In Germany being older, sexual contacts with both sexes as possible route of HIV transmission, being married, and poor knowledge about HIV treatment were linked to an increased risk of late presentation (212).

Access, initiation and adherence to anti-retroviral therapy

Combination antiretroviral therapy (ART) allows PLWH to have the same life expectancy as an HIV-negative person of the same age (213). ART stops HIV from multiplying and can suppress HIV to undetectable levels in the blood, making the virus untransmissible between the infected person and a sexual partner (213). It has been crucial in reducing AIDS-related deaths since their peak in 2004. In 2022, 82% of pregnant and breastfeeding women living with HIV globally were accessing antiretroviral treatment, up from 46% in 2010, allowing for a 58% reduction in new HIV infections among children between 2010 and 2022 (201).

Recent cuts to US foreign aid, the dismantling of the US Agency for International Development (USAID) in early 2025 and uncertainty regarding the future of the US President's Emergency Plan for AIDS relief (PEPFAR) has disrupted the HIV treatment programmes of dozens of low- and middle-income countries. In Rwanda, PEPFAR supported nearly 40% of the total HIV response and 50% of antiretroviral therapy (ART) in 2023–2024 (214). Without it, estimates project between 1929,000 and 64,000 additional adults infected with HIV in the next ten years in Rwanda, between 20,000 and 92,000 cumulative new adult infections and an increase in deaths of between 10,000 and 51,200 (214). According to UNAIDS, between its creation in 2003 and 2024, PEPFAR saved more than 26 million lives and averted almost five million new HIV infections by funding critical HIV prevention, treatment, care and support programmes in 55 countries. Estimates indicate that eliminating PEPFAR could lead to an extra 25 million deaths from AIDS over the next 15 years (215). Other cuts in US health funding could, in the next 15 years, lead to 69 million more TB infections, 2 million more TB deaths, and 7.9 million child deaths (215).

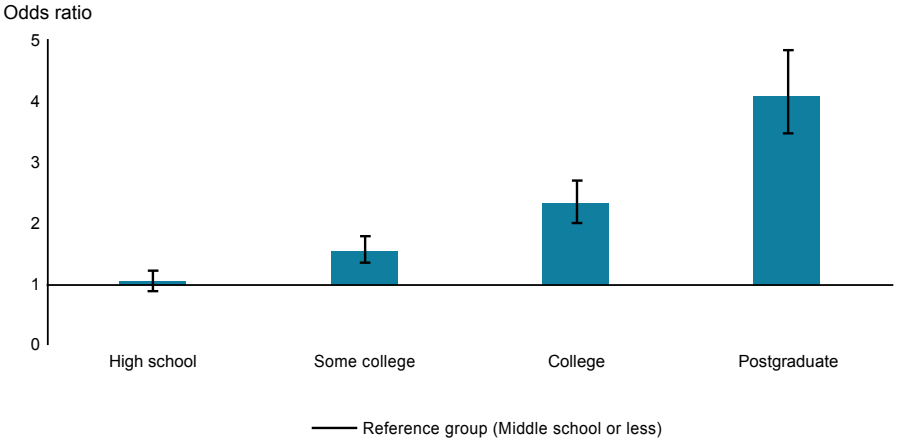
Even before the US funding cuts were announced, however, barriers remained that prevented certain groups from accessing treatment and taking it regularly as prescribed. Among the 39.9 million people living with HIV worldwide, 30.7 million were accessing ART. The rest either did not know their HIV status, did not have access to treatment or had not been able to maintain it. Inequities in treatment remain between regions, between adults and children and between women and men (106).

There are multiple barriers that make disadvantaged groups face more difficulties in adhering to ART, including food insecurity, poverty and stigma. Social determinants of health can influence both access and response to treatment. Gender norms, HIV stigma, concerns about confidentiality and financial strain are some of the barriers to access treatment, according to a systematic review of qualitative studies from low- and middle-income countries (216). In both Kenya and the US, food insecurity has been associated with lack of access and poor adherence to ART (217) (218) (219). Among Black women receiving HIV care in the US, not having been incarcerated in the past year was linked to a higher likelihood of adherence in 2013–2014 (220). Daily economic stress was highlighted as an important barrier in qualitative studies in India (221) and Colombia (222).

Vaccines

Inequalities in vaccination uptake were brought to the forefront during the COVID-19 pandemic, but did not arise then. There is evidence of similar patterns during different Influenza seasons and the H1N1 pandemic of 2009/10. These inequalities can have serious consequences when they affect groups that are more vulnerable, such as pregnant women, older adults and those with chronic health conditions. In France, pregnant women with postgraduate degrees were four times more likely to have been vaccinated during the H1N1 Influenza pandemic than those with only middle school or less (see Figure 7) (223).

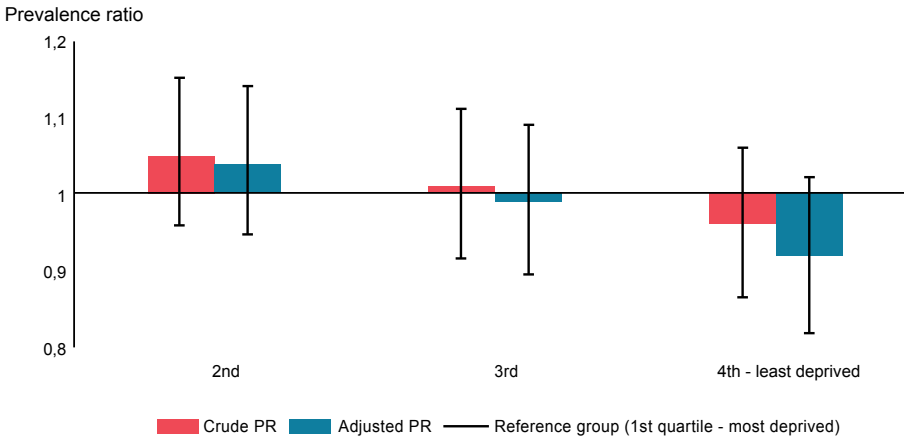
Figure 7. Pregnant women vaccinated against H1N1 by highest level of education, odds ratio compared to 'Middle school or less', France, 2009.



Source: Blondel et al., 2012 (223).

In 29 US states and NY city in 2009/10, Black women had lower vaccination coverage for H1N1 than White women even after adjusting for provider recommendation or offer of the vaccine, insurance status, and demographic factors (224). In contrast, cross-sectional data from a municipality in Brazil found that lower-income women had been more likely to receive the vaccine during pregnancy than those in higher-income groups, which could be due to several factors, including the existence of a strong universal primary healthcare network (see Figure 8) (225).

Figure 8. Crude and adjusted* prevalence ratios (PR) for vaccination during pregnancy, by income quartiles, Rio Grande, Rio Grande do Sul State, Brazil



*Adjusted for age, civil status (married or not), prenatal care and having had influenza-like illness before pregnancy.

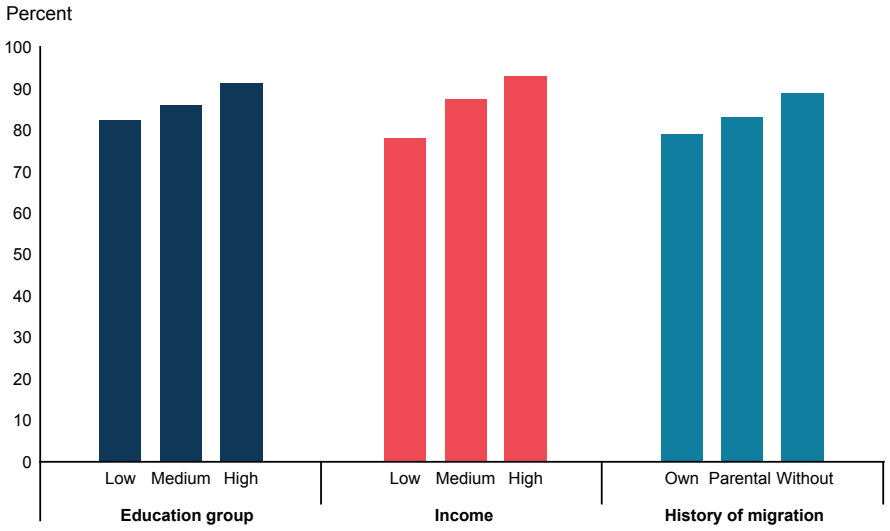
Source: Mendoza-Sassi et al., 2015 (225).

Immunisation coverage in the early stages of the COVID-19 vaccination rollout followed long-standing patterns of inequity in the US. It only took 41 days from December 2020, when the COVID-19 vaccine rollout started, for racial/ethnic inequalities in vaccination to emerge (226). By May 2021, when all age groups were eligible for vaccination, all minority ethnic groups had lower vaccination rates than Whites.

High levels of vaccine hesitancy, especially among Black adults, prompted by cumulative experiences of racism and discrimination, including in health care environments; medical distrust; and low level of trust in public health agencies, were important factors behind low vaccination intent and rates (227) (228) (229) (230,231). Vaccine hesitancy in ethnic minority groups was also documented in the UK (232). As the COVID-19 vaccine rollout expanded in the US, race/ethnic inequities in immunisation narrowed between Whites and Blacks (233), and even reversed between Whites and Hispanics. This has been attributed to several factors, including increased community knowledge about the vaccines (233).

In Europe there were socioeconomic inequalities in vaccination uptake by income, education, migration history, ethnicity and other social stratifiers according to individual, area-level and multi-level analyses (see, for example Figure 9) (234) (235) (236) (237).

Figure 9. Proportion of people vaccinated against COVID-19 (at least once) by education group, income and history of migration, Germany, 2021.



Source: Bartig et al., 2023 (235).

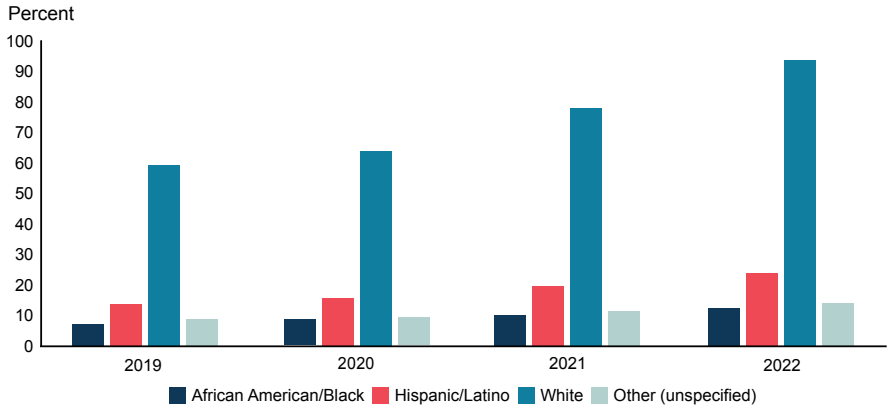
Political determinants might also impact vaccination uptake. For example, in 21 European countries voting for parties on the far-right was associated with higher vaccine hesitancy (238). By September 2021, vaccination rates (unadjusted) were higher in US counties that voted for Joe Biden than in those that voted for Donald Trump in the 2020 presidential election (239).

Evidence documenting vaccine inequities in low- and middle-income countries is scarcer. A meta-analysis found that vaccine coverage – without a particular focus on pandemics – in LMICs is lower among women than men, and that children of mothers without formal education were close to 30% less likely to be fully vaccinated than those whose mothers had primary education or above (240). Inequalities were also found between wealth quintiles. In China, the urban/rural divide was seen in lower self-reported vaccination rates against H1N1 in rural areas in 2009, despite a higher willingness to get the vaccine among rural residents (241). This divide, however, does not seem to hold in all countries (240). Refugees and people living in informal settlements experience more difficulties accessing vaccines (242–245).

Access to oral pre-exposure prophylaxis (prep) and condoms

Oral pre-exposure prophylaxis (PrEP) constitutes an effective additional option for groups who are at higher risk of acquiring HIV. Despite the continuous increase in uptake, significant inequalities remain both between and within countries (246). For example, in the US, Black adults experience a seven times higher new HIV infection rate compared with White adults, but have the lowest PrEP coverage (see Figure 10) (247).

Figure 10. HIV PrEP Coverage by Race, percent, USA, 2021.



Note: State-level and county-level PrEP data are not available by race and ethnicity. Data on the race and ethnicity of individuals prescribed PrEP are available for fewer than 40% of the total and are collected in only four categories: White; Black; Hispanic/Latino; Other.

Source: Health Equity Tracker, 2025 (248).

However, among men who have sex with men in a geographically diverse sample, Black men had higher odds of taking PrEP than White, Hispanic, Asian and Native American/ Alaskan/ Hawaiian/Pacific Islander/Other in 2015-2016. Separately, those who had a 4-year degree had 1.76 times higher odds of taking PrEP compared with those with only High School Diploma (249).

Barriers to accessing and using condoms were examined in Africa, with associations between lower use of condoms and poverty levels in boys aged 15–24 in Cameroon (250). Inequality and stigma are still preventing men who have sex with men from accessing and using condoms in developing countries (251). It is noticeable that although increased primary school completion has been positively linked to condom use in 32 countries in Sub-Saharan Africa, this does not directly translate into lower HIV transmission. Improvements in living standards and increases in higher secondary education completion rates are also needed (252).

2.3.5 Comorbidities

Certain health conditions preceding or contributing to a death, also called comorbidities, increase the risk of being hospitalised or dying from COVID-19. This risk is further exacerbated as co-morbidities accumulate (253) (254). Cardiovascular and some respiratory conditions; immunosuppressive conditions; dementia and several risk factors such as obesity heighten this risk (253) (255) (256) (257). Given that comorbidities increase with age, which is in turn the main risk factor for COVID-19 complications and death, disentangling both can be complex (253) (153).

In Mexico, a study with a large set of data on formal workers showed a large income gradient in COVID-19 mortality and hospitalisation that could not be explained by the existing gradient in comorbidities or by higher positivity or testing rates (258). In the US, comorbidities intersected with race/ethnicity. The COVID-19 Severe Health Risk Index measures the risk of severe symptoms among the population of US counties based on the presence of some chronic conditions identified as risk factors by the Centers for Disease Control and Prevention (CDC) (259). Majority White and majority Hispanic counties had lower scores compared with majority Black ones (259). The incidence risk and death rates between March 2020 and March 2021 were higher in counties with higher density of African American population and a higher burden of comorbidities, but this study did not examine how these two variables interact (260).

HIV/AIDS and TB

While TB is the leading cause of death among people living with HIV (PLWH), there has been commendable progress in this respect (261). Between 2010 and 2022, there was a 70% decline in TB-related deaths among PLWH. However, important inequalities remain, globally and within countries. Most TB-related deaths among PLWH in 2022 occurred in Sub-Saharan Africa (South Africa, Nigeria, Zimbabwe, Democratic Republic of Congo) and some parts of Asia (India, Indonesia, Myanmar), where both TB and HIV/TB coinfection are frequent.

HIV and TB share common social determinants. As highlighted by WHO, they are associated with poverty and its correlates of malnutrition, poor housing and population density; educational inequalities; stigma and discrimination; and cultural barriers (262). The prevalence of HIV/TB is higher in countries with a lower Human Development Index (263). In the state of São Paulo (Brazil), income inequality in 645 municipalities was associated with a greater occurrence of coinfection (264).

There are persistent within-countries socioeconomic and demographic inequalities in the risk of coinfection, as well as in developing serious or fatal outcomes. Being men, having low education and injecting drugs were predictors of coinfection in Iran (265). In Chile, a cohort study evaluating the incidence of mortality by coinfection among people receiving highly active ART found that, adjusting for age and education, indigenous populations and men who have sex with men were at a heightened risk (266). Occupational status, type of job and working conditions can be important determinants of HIV/TB. Among the patients of a health facility in Nigeria between 2018 and 2022, traders had the highest odds of coinfection when compared with other occupational groups, with up to a five-fold difference in odds compared with civil servants (267).

People living with both HIV and TB need both HIV and TB treatment. The Global AIDS Strategy 2021-2026 set as an achievable target that 90% of people living with HIV should have received TB preventive treatment. Overall, 17 million people living with HIV initiated TB preventive treatment between 2005 and 2022. But only 56% of all people living with HIV are receiving preventive TB treatment (268). Gay men and other men who have sex with men, people who use drugs, transgender people, people in prisons and other closed settings, adolescent girls and women, displaced people and refugees, face increased barriers to accessing health services (262).

Qualitative research in South Africa indicates important barriers faced by people coinfected by HIV/TB to access care, similar to those faced by PLWH alone. Stigma, lack of income and employment, and lack of social and material support were some of the factors described by patients in three public health clinics in the highly affected province of KwaZulu-Natal (269). In Peru (Lima) non-adherence to ART among coinfected patients was associated with substance use, depression, and lack of social support (270).

Chapter 3
Do pandemics exacerbate societal and health inequalities?

3.1 Introduction

There are many long-lasting ways in which pandemics exacerbate inequities in health and in the social determinants of health. Their impact can be direct as a result of ill-health and death, leading to loss of income for the whole household and potentially catastrophic health expenditure. The impacts on health are also indirect, through negative impacts on key social determinants of health such as increasing unemployment and disrupted education. There is strong evidence from past pandemics showing they exacerbate pre-existing inequalities, with a higher toll on the lives of those who were already disadvantaged. This section focuses on these inequalities and highlights how certain groups, such as those with lower educational levels, living in poorer areas, living in poverty and relative low income, women, ethnic minority groups, disabled people, the young and older people, informal and precarious workers and older workers, often bear the brunt of the social and economic impacts of pandemics (271) (272).

However, the pandemic burden goes well beyond the immediate disruption to livelihoods or the severe effects on physical and mental health. Life-course studies have discovered significant long-term impacts, including into adulthood among those who had not been born when the outbreaks happened. In the US, adults who were in utero during the 1918 influenza pandemic had reduced educational attainment, lower income and socioeconomic status, higher rates of disability and a higher need for welfare payments in adulthood compared with other birth cohorts (273). In Argentina, the 1918 Influenza pandemic also caused a reduction in educational achievement among those who were in utero at the time (274). Taking a life course perspective to analysing pandemics is key, because even after the economy reopens and eventually recovers, the impacts remain.

3.2 Poverty, income inequality and employment

3.2.1 Introduction

Both employment and income are closely linked to health outcomes. While being in good quality employment is protective of health and provides an income, unemployment, underemployment and precarious employment harm physical and mental health. This is also true for people living with HIV/AIDS, for whom being in employment is associated with better physical and mental health, wellbeing and quality of life (275). Poverty and insufficient income are associated with poor long-term physical and mental health and low life expectancy (76).

3.2.2 Pandemic impacts

The COVID-19 pandemic reversed decades of social and economic progress (276) and although there have been some signs of recovery, they are uneven and fragile (277). Its impacts dwarfed the hit of the 2008 global financial crisis. Until before the COVID-19 pandemic, 2009 was the worst year on record since the 2008 financial crisis, seeing a decline of 1.67% in global GDP. However, by April 2020 global GDP had shrunk by 20% (278). Estimates indicate that 165 million people were pushed into poverty — below the US$3.65-a-day poverty line — all of them in low- and lower-middle-income countries (279). In the European Union, child poverty increased by 19% in 2020, affecting close to one million children (280). Employment losses were unprecedented, with 114 million jobs lost in 2020 compared with 2019 (281). In numerous countries, including in many OECD countries, real wages still remain below pre-pandemic levels (282).

HIV/AIDS profoundly affected the population and economies of several countries in Sub-Saharan Africa. In 2005, Bostwana, Namibia and South Africa had lost 24 to 42 years of life expectancy at birth due to AIDS (283). From the 1990s, the loss of workers due to AIDS in the informal and formal sectors, decreasing productivity, reduced agricultural output, and the depletion of human capital in key sectors like healthcare, education and public administration set back development and growth (284). Estimates situated the loss of GDP as a result of HIV/AIDS between 2-4% annually in high prevalence countries (285).

A significant reason for the rise in poverty during COVID-19 was the severe impact that the crisis had on informal workers. The lack of social protection, lack of access to healthcare and higher risks of exposure to the virus aggravated the pre-existing vulnerabilities of a workforce that accounts to an estimated two billion people worldwide (286). Survival strategies, such as borrowing money, selling assets or using savings further increased their insecurity and, by mid-2021, over 80% of the informal workers surveyed in 2020 by the organization WIEGO across 12 world cities had been unable to recover these (287). 2024 was the first year since the start of the COVID-19 pandemic that extreme poverty decreased below average pre-pandemic levels (8.5% compared with 8.8%) but this improvement did not extend to the world's poorest countries, which are still above pre-pandemic levels (288).

The long-term decline in the labour income share — the proportion of total income in a country that workers earn by working, relative to capital income — was also accelerated during the pandemic, an indication of increasing inequality (289). The World Bank estimated an increase in the Gini index of inequality of 0.7 in 2020 globally, compared to 2019, the largest increase since at least 1990 (290). However, government efforts to sustain incomes likely mitigated this impact in those countries where social support measures were of an adequate intensity and scope (291). In previous pandemics including SARS, H1N1, MERS, Ebola and Zika, there was an increase in inequality (292) (293).

Women experienced greater employment losses than men, and assumed most of the care responsibilities, especially those on low-incomes and in precarious employment (294). As described in section 3.5, this worsened their mental health. In Brazil between 2019 and 2020 there were 825,000 job losses, over 70% of which were held by women (102). While men's employment prospects recovered through the pandemic, women remained largely out of the labour market in countries such as Egypt, Jordan, Morocco and Tunisia (295). This pattern is similar to what has happened in the countries most affected by HIV/AIDS, for example in those in Sub-Saharan Africa, where women have often shouldered the burden of caregiving for HIV-infected relatives, especially in rural areas. This keeps them away from productive work and affects their long-term prospects of employment and wellbeing (296). Among women, there is a significant negative relationship between being employed and having a family member who is infected with HIV (297).

Longitudinal evidence from European countries confirms an unequal impact on migrants and people with disabilities. In Germany, first-generation immigrants reported more financial worries during the COVID-19 pandemic than the native-born majority, as well as compared with second-generation immigrants (298). In Chile, employment loss was higher for people living in informal settlements, and immigrants were disproportionately affected (299). In the UK, workers with disabilities had a 40% higher chance of being out of work – including those furloughed and receiving state income support – compared with those without and, although the causes for this are not necessarily only linked to discrimination, the long-term effects for workers can be substantial (300).

PLWH often experience increased barriers to employment. Studies have found that among individuals with AIDS, people with low CD4 cell counts and poor physical health are less likely to be employed (275). Fear of discrimination in the workplace is also an impediment (275) (301). The prevalence of discriminatory beliefs about HIV infection and work is still high in many countries. Across 50 countries surveyed by ILO in 2020, 36% of respondents said that people living with HIV should not be allowed to work directly with others who do not have HIV (302).

The increased accessibility of antiretroviral treatment has eased some of these barriers, in particular in rich countries, but has not eliminated inequalities. A large study in Sweden found that people with HIV were 43% less likely to be employed than those without HIV in 1996, while by 2016 the difference had reduced to 16% (303).

3.3 Food insecurity

3.3.1 Introduction

Undernutrition makes adults and children vulnerable to disease and death and is associated with multiple negative physical and mental health outcomes among children and adults, including malnutrition, chronic disease, increased risk of infection, stress and anxiety (304) (305,306). Food insecurity prevents children from "reaching their full physical, cognitive, and psychosocial potential" (307)

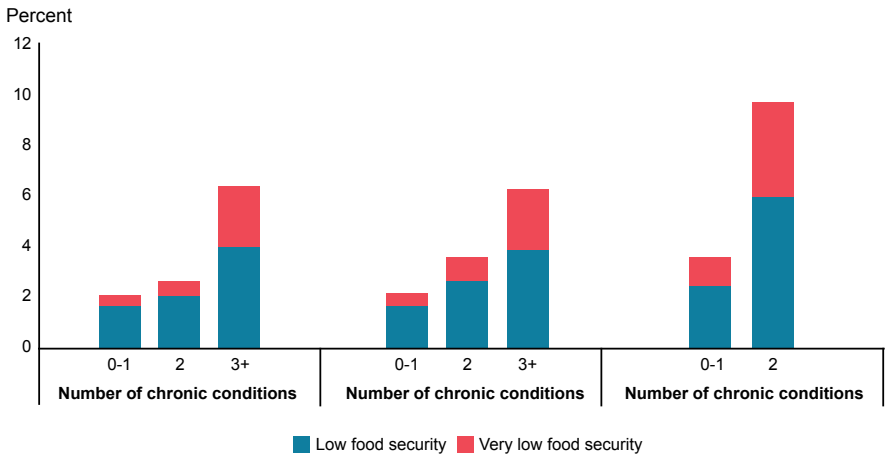
3.3.2 Pandemic impacts on food security

Pandemics can severely disrupt the food supply chain due to restrictions and shortages in the workforce, limiting the availability of food and increasing the prices of available produce. Lockdowns, if not accompanied by social protection measures, can entail an immediate risk of hunger for those who depend on their daily earnings to survive (308). In 2020, during the first year of the COVID-19 pandemic, the number of people facing hunger worldwide increased from an estimated 650 million in 2019 to between 720 and 811 million people (309).

Loss of income and mobility restrictions were drivers of hunger in Philippines and Thailand during the COVID-19 pandemic (310). Nigerians living in poverty faced risks of hunger and starvation and concerns about exposure to infection had to take second place (311). More than two thirds of households reported being food insecure in a survey carried out in Sierra Leone in 2015, during the Ebola epidemic, but lack of routine data collection made it impossible to discern the specific impact of the epidemic in a country where food insecurity was already widespread before Ebola (312).

Who is most at risk of falling into moderate or severe food insecurity during a pandemic is related to pre-existing structural inequalities. The risk is higher for households with children and those on low incomes, and those who are unemployed and in unstable housing, based on data from Ontario (Canada) among households affected by HIV (313). In the US people aged 65 or older with two or more chronic conditions had between one and four times higher odds of suffering from low or very low food security during the COVID-19 pandemic compared with those with zero or one chronic condition (see Figure 11) (314).

Figure 11. Low or very low food security among older adults (65+), by number of chronic, physical, or mental conditions, USA, 2020-21



Source: Recreated from Figure 2 in Cai & Bidulescu, 2023 (314).

In rural households in Iran, employment status (full-time job), monthly income and educational level of the head of the household were protective factors regarding food security during COVID (315).

There is a close link between food insecurity and HIV/AIDS and the relationship is bidirectional. When adults cannot work due to HIV/AIDS, the entire household loses a source of income, as well as assets and skills, and all this impacts food security (316). On the other hand, being food insecure makes individuals, households and communities more vulnerable to HIV/AIDS and less likely to adhere to treatment (317). PLWH and those who live in households with infected individuals experience higher rates of food insecurity than those who do not. In Kenya, children aged under 5 living in households affected by HIV — orphaned or with an infected adult— had a much higher prevalence of stunting in 2006 (25.5%) compared with those living in unaffected households (9.1%) (318). In the Karimnagar district in India in 2010, children age 5-11 either infected or with infected parents attending a clinic had lower average Body Mass Index (BMI) than the control group (319).

Within those households affected by HIV/AIDS, those headed by women are more vulnerable to food insecurity than those headed by men (320), likely due to discrimination. Women in Dominican Republic have described illegal HIV testing by employers and being dismissed if tested positive, in particular those working in tourism and free trade zones (321).

3.4 Early years development and educational attainment

3.4.1 Introduction

Pandemics can increase life course and intergenerational inequalities through the impacts on children and young people. The impacts are interrelated and affect at least three areas: children and young people's educational achievement; their neurocognitive development; and their mental health. School closures and lockdowns restrict children and young people's exposure to education, limit their social interactions and affect their family environments, due to economic downturns, care and work requirements and other additional sources of stress. The impacts disproportionately affect more disadvantaged groups.

3.4.2 Pandemic impacts

Studies in high- and middle-income countries clearly show increased development and educational inequalities during the COVID-19 pandemic. The pandemic significantly affected learning outcomes in maths and in reading, and the impact was relatively larger in middle-income than in higher-income countries (322). In four states in Brazil – where public primary schools were closed on average for 279 days, and private ones for 248 – the proportion of children aged six and seven who could not read or had limited reading skills increased from 52% to 73% between 2019 and 2021 (102).

Investigations with high quality longitudinal data in the UK found inequalities in hours spent doing schoolwork by primary school children based on parental social class; on whether parents were working from home or in the office; and whether the child had his own computer or had to share it with someone else (323). There is some evidence that these gaps have remained at least in some countries, but not enough yet to assess the long- and medium-term impacts of the pandemic on educational inequalities worldwide (324) (325).

Before COVID-19, there had been just one example of widespread school closures during an epidemic, and this was during the Ebola outbreak in West Africa. Guinea, Liberia and Sierra Leone, the three most affected countries, closed their schools for seven to nine months, affecting around five million children (326). In Sierra Leone, primary and secondary school dropout rates increased after the Ebola epidemic, with some groups being more likely to drop out, including youth in rural areas and those in the poorest quintile (326). The probability of leaving secondary school increased by 6.5 percentage points in Sierra Leone and by 8.6 percentage points in Guinea respectively, for youth from the poorest families compared with before the outbreak (326). This represented an additional 5,770 and 11,640 secondary-age youth dropouts in the poorest quintile, respectively.

In China during the SARS epidemic, schools either significantly reduced their hours or closed completely during several weeks in 2003. Cities with more SARS cases in 2003 experienced a stronger association between maternal education and the grades obtained by children in the college entrance exam (CEE). 15 years after the epidemic, among those who had taken the CEE exam in 2003, children of educated mothers (at least 12 years of education) were more likely to have better jobs and higher income than those of mothers with only six years of schooling, evidence of the potential that disruptions in education have to increase intergenerational socioeconomic inequalities (327).

Children, young people and young adults' mental health suffered considerably during the COVID-19 pandemic (328). Studies from the US and the UK report an increase in anxiety and depression (329) (330); another shows a negative impact on wellbeing and positive health behaviours, especially among girls, those with an immigration background, children living with single-parents or being not well-off in the WHO European region (331). Parental distress – depression, anxiety, loneliness, and lack of resilience – was directly associated with children's behavioural problems in the US (332).

Cohort studies in different countries which followed children before the COVID-19 pandemic until after the lockdowns occurred also found significant impacts in their development of key cognitive and social skills, in particular among those from more disadvantaged backgrounds (333) (334). In South Korea, children between nine months and six years of age from socioeconomically disadvantaged backgrounds were at a significantly higher risk of suffering neurodevelopmental delays during the pandemic in fine and gross motor skills, cognition, communication, social and self-care skills, than those who did not have these backgrounds (333).

Children were severely impacted by containment measures, directly through the closure of schools, and indirectly through the impact that measures had on family lives and livelihoods and on their own mental health (335). A longitudinal study in France found that in those families with low SES prior to the pandemic, children had increased symptoms of Attention-deficit/Hyperactivity disorder (ADHD) during the period of school closures and that, generally, a low prior SES was linked to a higher risk of emotional symptoms during the pandemic, but only for children whose families suffered a decline in income (336). A decrease in fine motor and personal/social skills was noted in a systematic review (335). These effects can have long-term impacts on the health of children, as well as on their chances to flourish and thrive.

Orphans, children affected by hiv/aids and children living with HIV/AIDS

Despite the general decrease in orphan rates due to the wider availability of ART in recent years – see, for example, a 10% decline in the relative risk of maternal orphanhood and a 20% decline in the relative risk of double orphanhood associated with a 10% increase in community prevalence of ART in a study in Uganda (337) –, in 2024 roughly 13.8 million children under the age of 18 had lost one or both parents to AIDS-related causes worldwide (338). In addition to this, despite the progress in reducing new HIV infections and AIDS-related deaths, there were an estimated 1.37 million children aged 0-14 worldwide living with HIV in 2023 and 43% of them were unable to access antiretroviral treatment (339). The health of HIV-infected children, AIDS-orphaned children and children with infected parents can be severely impacted, as are their educational prospects and their socioeconomic situation. Updated evidence is needed in this area.

Early diagnosis and early initiation of ART are crucial to avoid dramatic effects of HIV/AIDS on children, including stunted growth, developmental delays, coinfections, and death. Without access to treatment, one-third of infants born with HIV will not survive past their first birthday, and half will die by age two, according to UNAIDS (339). In addition to the health impacts and the stigma and discrimination that HIV-infected children can face, their educational prospects are also impacted. HIV-infected children and orphans attain less education than those not affected, according to a systematic review published in 2020 (340).

Orphans and vulnerable children were less likely to be in school in Eswatini in 2010 (341); and were disadvantaged regarding attendance and performance, behaviour, school completion and other variables, according to a literature review published in 2012 (342). However, a more recent study with data from 2016-2019 in five high HIV-prevalence countries in Sub-Saharan Africa – Lesotho, South Africa, Zimbabwe, Malawi and Uganda – found that enrolment inequalities between orphans and non-orphans were small, ranging from 0.4 to 5.1 percentage points (343). These differentials are larger in Lesotho, South Africa and Zimbabwe, where general primary and secondary enrolment rates are higher, and also orphan prevalence rates.

Orphanhood can make children more socially vulnerable, for example, by exposing them to poverty. Although there seems to be no updated evidence on this, a review published in 2006 indicated that households with orphans are more likely to be poor (344), and this will likely have an impact on their health and wellbeing. Orphaned children were found to have a greater risk of suffering psychological problems including depression, peer problems, post-traumatic stress, and conduct problems in townships around Cape Town (South Africa) in 2006 (345); and were more likely to be underweight than non-orphans in Bostwana in 2000 (346).

However, the impact of orphanhood on children's health is likely to vary widely depending on the broader social context and factors such as family structure. Data from 22 Sub-Saharan Africa countries between 1997 and 2006 yielded only very modest differences between orphans and non-orphans' health and nutrition; while maternal orphans were worst affected by malnutrition than paternal orphans (347).

3.5 Impact of lockdowns and related measures on health

As non-pharmacological public health measures were being put in place worldwide to contain the spread of SARS-CoV-2, millions of people lived the experience of being isolated in their homes and having their freedom of movement severely curtailed. It was not the first time, however, that mandatory confinement and lockdown measures were enforced to try and contain a pandemic or epidemic. During the Ebola epidemic in Sierra Leone, lockdown measures were implemented at different times, and households with prior contact with the disease had to wait 21 days — the incubation period — to be allowed to leave the house. These measures had a negative impact on child nutrition due to massive disruptions in the food chain and the impossibility to access food (348).

Containment measures also dramatically reduce economic activity, having a huge impact on people's employment and livelihoods, in turn also negatively impacting population health. Overall, there is strong evidence that lockdowns compound vulnerabilities and have unequal impacts on physical and mental health (349). Women, children and lower socioeconomic groups are disproportionately affected (349,350) (351).

One of the issues affecting women is the increase in intimate partner violence that occurs during confinement. This affects women in high-, middle- and low-income countries. In South Africa, orders to stay-at-home and travel restrictions likely put women experiencing intimate partner violence at an increased risk during the COVID-19 pandemic (352). Similar findings resulted from a survey in Tunisia (353). In European countries, WHO Europe member states reported a 23-32% increase in intimate partner and domestic violence cases during the COVID-19 pandemic, with several reports that women from lower socioeconomic groups and those who had experienced this kind of violence prior to the pandemic were more impacted (354).

Mental health impacts of the lockdown have been widely studied in the UK, where analysis with data from nearly 50,000 individuals from 11 longitudinal studies found that women experienced a higher increase in psychological distress than men in the first year of the COVID-19 pandemic, increasing pre-existing inequalities. There was a slight narrowing of inequalities between those with and without a degree, while no changes were detected by ethnicity (355).

Women in the UK spent much more time doing unpaid care work than men during lockdown, and that those who spent long hours on housework and childcare were more likely to report increased psychological distress (356). Findings of an unequal psychological impact on women were replicated by studies in South Korea, where a population-wide longitudinal study found increased risk of psychosocial stress (357); or in Pelotas (Brazil), where another longitudinal study reported an increase in maternal depression (358).

3.6 Access to healthcare and public health services

3.6.1 Introduction

Pandemics put significant strain on healthcare infrastructure and health systems, systems that in many cases are already operating with a scarcity of resources resulting in staff shortages and underinvestment in healthcare. Pandemics and their aftermath lead to serious disruptions to the continuity of healthcare (349).

The economic burden of responding to the COVID-19 pandemic was unprecedented: estimates indicated that providing an effective response could cost low- and middle-income countries around US$52 billion every four weeks (359). Between November 2022 and January 2023, countries were still reporting disruptions in 25% of their health services, on average (360). For individuals in poverty, out-of-pocket payments can exclude them from accessing care (361).

3.6.2 Pandemic impacts

During the COVID-19 pandemic, maternal services were disrupted in many countries (362). In Nepal, the mean weekly number of hospital births decreased by over 50% during the lockdown period in 2020, compared to before the lockdown (363). In Guinea, most maternal and child health indicators — including children vaccinations, institutional deliveries and the percent of women attending at least one antenatal visit — worsened during the Ebola epidemic in 2014 and did not recover in the post-outbreak period (364). Contraception services are also often affected. In the US, women experiencing income loss or hunger during the COVID-19 pandemic were more likely to not be able to use their preferred contraception method (365).

Essential public health services, such as surveillance and disease prevention, were severely disrupted during COVID-19. Between January and June 2020 in India, detection of TB cases dropped by at least 26% compared with the previous year. TB patients, who often belong to the most deprived groups in society, experienced interruptions in their medication regimes due to disruption in the delivery and shortages of medicines, as well as the conversion of existing clinics into COVID-19 only centres (366). Similar or even higher declines in detection services were experienced in other countries. For example, TB case detection declined by 28–65% in Ghana, Nepal and South Africa during 2020 (362).

3.7 Trust and social cohesion

3.7.1 Introduction

The relevance of trust and social cohesion for supporting societal and individual resilience during pandemics has been laid out in previous sections of this report. But pandemics, as events that can cause major social upheaval, can also influence existing social levels of trust. Trust can fluctuate between different phases of the outbreaks and varies between social groups. One main factor that can influence levels of trust during pandemics is government performance in the handling of the emergency. In this respect, some research indicates that those governments that have been more effective in managing pandemics tend to be more trusted than those who have not. Evidence from the COVID-19 pandemic in different countries seems to support this (367) (368) (52).

3.7.2 Pandemic impacts

Not all social groups are equally susceptible to erosion of trust during pandemics. People who were young (between 18 and 25 years old) during an epidemic show lower levels of trust that other age cohorts in the same country, adjusting for relevant factors (369). They are five percentage points less likely to have confidence in the government and seven percentage points less likely to have confidence in the honesty of elections. The effect is long-lasting and persists for nearly two decades on average after the epidemic is over (369). Older and healthy people were more trusting of governments during COVID-19 (370).

Reduced levels of public trust have also been documented during the Ebola epidemic, related to a poor perceived response by government as well as poor healthcare provision, for example in Sierra Leone (371). This mistrust also extended to interpersonal relations, including within families, potentially eroding social cohesion (372).

Chapter 4
What is the role of social protection in mitigating the unequal impact of pandemics?

4.1 Introduction

Income security is essential for a healthy life. Social protection aims to prevent poverty, vulnerability and social exclusion throughout the life cycle (373) and it is particularly important in critical periods such as when raising a family, and in the event of illness, disability, unemployment and other shocks, as well as during older age. Social protection policies and programmes should play a crucial role during pandemics, when risks and prevalence of ill health, unemployment and poverty rise considerably.

Social protection can be financed through contributory schemes (social insurance) and non-contributory schemes financed via taxation (social assistance) (374). Benefits can be provided in cash, in kind or in services (health care). In addition to social insurance, social assistance and health care, labour market programmes (passive and active) are also generally included as part of the social protection system (375), as well as public works programmes (376) (377). In 2020, approximately half of the world's population had access to at least one social protection measure, excluding healthcare and sickness benefits. Over 65% of the world's population were covered by a social health scheme. In contrast, only 29% of people were beneficiaries of some form of social assistance (378). Pensions for older people are the most common form of social protection worldwide, with nearly 80% beneficiaries (379).

The COVID-19 pandemic drove an unprecedented social protection response from governments worldwide, who largely resorted to cash transfers to mitigate the negative impacts of the pandemic and associated protection measures on livelihoods. The effort was such that one in six people in the world (1.36 billion) received at least one cash transfer payment (380). However, most measures were implemented in the first semester of 2020 and lasted only a few months. While the amounts received were usually greater than before the pandemic, studies show that amounts were generally insufficient to replace lost incomes (380).

Social protection has also been shown to be crucial in preventing individuals from becoming vulnerable and being more exposed to HIV infection; in facilitating access and maintenance of treatment; and in ensuring care and support (381). Access to effective, equitable and non-stigmatising social protection has been deemed essential by the WHO to end the tuberculosis epidemic (382).

Large numbers of people are excluded from social protection worldwide. Restrictions on eligibility largely stem from the widescale prevalence of informal economies in much of the world, as well as from pre-existing inequalities in the labour market that exclude some groups of workers, already disadvantaged, from accessing benefits in times of need. Migrants are also typically excluded, hence the call for portable social protection by the ILO and others, which allows people to maintain acquired benefits when moving countries (383).

Interventions that focus solely on the most disadvantaged will not be sufficient to significantly reduce health inequalities. To reduce the steepness of the social gradient in health, policies must be universal, but with a scale and intensity that is proportionate to the level of disadvantage, i.e. proportionate universalism (384).

4.2 Social assistance

4.2.1 Introduction

Social assistance refers to social protection measures that are non-contributory and tax-financed. They are often means-tested or provided only to those who can prove that they need them due to a specific contingency or condition, for example support for those with a disability (373). Cash transfers are the most common form of social assistance that have been used during pandemics. Due to the immediate effect of pandemics on food insecurity, food assistance is another important measure discussed in this section.

4.2.2 Cash transfers

Cash transfers are “direct, regular and predictable non-contributory cash payments that help poor and vulnerable households to raise and smooth incomes” (385). Before being widely used to mitigate the negative impacts of the COVID-19 pandemic on the poor, cash transfers had been used extensively to support the livelihoods of disadvantaged groups and to prevent extreme poverty. They usually are means-tested and can be conditional or unconditional.

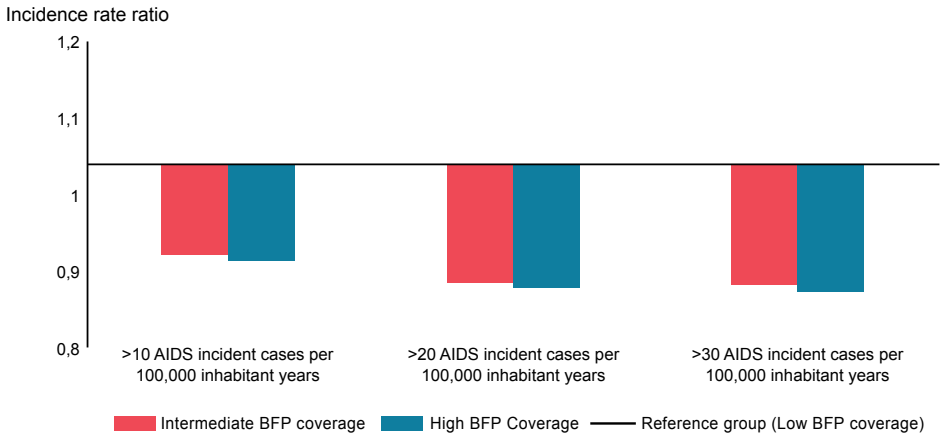
Estimations of the effect of a variety of cash transfers — most of them national and unconditional – on HIV/AIDS related outcomes based on a study of 42 countries, the majority in Africa, between 1996 and 2019 suggest impacts both at the individual and population levels, including an immediate 6% reduction of new HIV infections, and a lagged 9% reduction on AIDS-related deaths on the second year after the introduction of the scheme, with the highest effect in the 9th year after. There were also positive effects on the proportion of people receiving antiretroviral treatment, noticeable from the second year since the introduction of cash transfers and improving over time. The programmes with the greater number of recipients had the largest positive effects (386).

In 2004, Brazil implemented one of the world’s largest conditional cash transfer programmes, the Bolsa Família Programme (BFP), replaced by the Auxílio Brasil Programme in 2021. Bolsa Família intended to alleviate poverty through direct cash transfers and had conditionalities, including pre- and post-natal checks for women and nutritional checks, vaccinations and school attendance for children. The monthly cash benefits ranged from US$17 to a maximum of $41 (depending on household size and composition) and there was a focus on families with children, although poor individuals in poverty could also qualify (387).

Although not specifically designed to address HIV/AIDS-affected groups, the programme has been assessed with regards to HIV/AIDS-related outcomes by several studies, which show positive results. A study with a cohort of 22.7 million low-income individuals followed over nine years showed exposure to Bolsa Família Programme was associated with a reduction of around 40% in both HIV/AIDS incidence and mortality; and of 25% in case fatality rates in this cohort, with stronger effects among those in extremely low-incomes, women and adolescents (388). Also in Brazil a strong social protection system could avoid 230,000 new cases and 34,000 deaths from AIDS and TB in a decade (389).

A longitudinal ecological study found that high BFP coverage at the municipality level was associated with reductions of 5% in AIDS incidence; of 14% in hospitalisations and of 12% in AIDS mortality, with a stronger effect on municipalities with higher AIDS endemicity and on incidence among females and children aged 15 or younger, between 2004 and 2018 (see Figure 12) (387).

Figure 12. Bolsa Família Programme (BFP) coverage areas percent reduction in HIV/AIDS incidence rate ratios, Brazil, 2004-18



Source: Alves de Sampaio Morais et al. (387).

Numerous studies have found positive effects of cash transfers on health, food security, social inequality and several important social determinants of health during the COVID-19 pandemic. For example in South Africa, where the pandemic severely impacted the labour market through job losses, households with members who lost their jobs were less likely to suffer from hunger if they received the child support grant (17% less likely) or the social old age pension (24%) (390). Also in South Africa, where self-rated health decreased significantly during the 2020 lockdown, being in receipt of cash transfers mitigated the negative health effects among the poorest individuals (391). Residents of Soweto highlighted how social grants help them participate in local economic activity, making the community “come to life” (392). While acknowledging the poverty alleviation achievements of cash transfers, recipients and critics have highlighted how, due to their limitations, social grants can perpetuate structural inequalities and are often barely enough for families to survive (393,394).

Cash transfers have also been linked to a reduction of economic inequality during the COVID-19 pandemic. In Brazil, the Auxílio Emergencial (Emergency Aid) was associated with an unprecedented decrease of inequality by proportionately benefitting the poorest households more (395).

In July 2021, the US Government expanded the existing Child Tax Credit (CTC) by raising the credit amount per child and expanding eligibility, giving advanced monthly instalments (instead of the previous tax refunds) to a total maximum of $3,600 per child younger than six and $3,000 per child aged between six and 17 (396). There is evidence that the unconditional cash transfer was associated with a protective health effect for parents on low incomes and that this effect was greater for more disadvantaged groups, including women and ethnic minorities. For example, a longitudinal study among low-income parents (95% mothers) found a negative association between receiving the CTC and the likelihood of having symptoms of either anxiety or depression (397).

Investigations using repeated cross-sectional data with big samples also found positive associations between receipt of CTC and mental health. In one study with over half a million adults between July and December 2021, individuals who received the extended transfer during the pandemic had close to 30% lower odds of anxiety symptoms; the effect was stronger for women, working age, non-Hispanic White and higher education groups. It found no significant influence on depression (398). Greater effects on anxiety among Black and Hispanic adults with children, compared with White adults with children, were found by an investigation with data from close to one million people on the effects of the CTC expansion (399). In contrast, another study saw no effect of the expansion of the child cash credit on symptoms of anxiety or depression (400).

In contrast to national, large scale cash transfer programmes, some evaluations of individual cash transfer experiments during the COVID-19 pandemic via randomised controlled trials have found more modest or no effects from cash transfers (401) (402). These interventions, however, tend to be limited in scope; their evaluations exclude by design potential spillover effects in the extended population (such as other members of the household where the recipients live) and focus on a restricted time scale; all of these factors can explain the diverging results.

Additionally, a number of RCTs have assessed the impact of cash transfers conditional on school attendance on HIV incidence among young girls and women in African countries, with mixed findings; but even if a specific programme did not manage to increase enrolment, there was a consistent clear association across studies between school attendance and lower incidence of HIV (403,404) (405).

4.2.3 In-kind transfers: food assistance

In the US, the Supplemental Nutrition Assistance Program (SNAP) provides monetary support via a card that is topped up every month and that low-income families can use to buy groceries in authorised food stores and retailers (406). To be eligible, individuals and families must be at or below the federal poverty line (407). It is the biggest nutrition assistance programme in the US and provides support to 13% of the population (408). In April 2020 during the COVID pandemic, all beneficiaries received the maximum amount for their household size. The government also temporarily increased the maximum benefit by 15% in January 2021, making a scheduled and permanent — but smaller — increase from September 2021 when the temporary increase had expired (408).

Estimates based on national survey data indicate that the 15% increase in benefits prevented 850,000 incidents of food insufficiency (families reporting that they did not have “sometimes” or “often” enough to eat in the last seven days) per week in the first three months of the measure being active (409). Other analysis concluded that SNAP participants with children had a 12% lower likelihood of experiencing food insufficiency than non-participants with children, adjusting for socioeconomic and demographic variables (410). However, barriers accessing the benefit related to immigration status meant that the extension did not have an effect for Hispanic households, according to this same study. Administrative, legal and socioeconomic hurdles are common in accessing means-tested benefits and can exclude a significant proportion of those eligible. As an example, the National Council on Aging estimates that three out of five older adults eligible to receive SNAP are not enrolled (407).

The increase in benefits was also found to modestly reduce anxiety symptoms (411); mitigate the impact of food insecurity on psychological distress (412); and reduced difficulties paying for other household expenses during the COVID-19 pandemic (411). Receiving SNAP benefits also potentially reduced the effect of material hardship on the risk of incurring in child neglect in households headed by grandparents (413). Despite the evidence that SNAP extensions had a significant positive impact in mitigating food insufficiency and mental health impacts of the COVID-19 pandemic, by March 2023 all US states had ended these expansions (411).

With data from before the COVID-19 pandemic (2010-2014), researchers estimated the effect that increasing the income limit for SNAP eligibility would have on HIV incidence and concluded that it was negatively associated with the number of HIV diagnoses (414).

An intervention in San Francisco (US) provided people living with HIV with medically tailored meals, groceries and nutritional education. The evaluation found that those who received the intervention had lower odds of being hospitalised, of suffering food insecurity and depressive symptoms, while they had higher odds of adhering to ART, among other beneficial outcomes, compared with the control group (415).

These findings are consistent with the evidence laid out in sections 2.3 and 3.3 of this report that food insecurity is a risk factor for poor HIV/AIDS outcomes by increasing vulnerability and reducing uptake and adherence to treatment. In low- and middle-income countries, the link between food assistance and better adherence to HIV and TB treatment has been established in several studies, although none of the ones that we could review are very recent. Eight out of 10 articles assessed in a literature review published in 2014 found that food assistance can improve adherence and/or treatment completion for HIV care and treatment, antiretroviral treatment and Directly Observed Therapy for tuberculosis (TB-DOTS) in Niger, Zambia, Haiti, India and Brazil (416). Similar findings were obtained in a pilot study providing food supplementation in Zambia between 2004 and 2005 (417). Qualitative research has indicated some of the possible pathways, including alleviating economic barriers to attend the clinic by liberating the participants of the need to look for food or obtain the money to pay for it (418).

4.3 Social insurance

4.3.1 Introduction

Social insurance comprises benefits and services which are contributory, based on the payment of contributions or the sharing of risk. They include publicly provided or mandated insurance schemes in the event of old age, disability, death of a spouse, maternity/paternity and sickness, as well as health insurance (419).

4.3.2 Old-age pensions

Old-age pensions reduce poverty and insecurity (420) (421). However, contributory social insurance systems typically exclude informal workers and provide limited benefits to more disadvantaged groups, such as those who held low paid jobs, migrants, those who worked for digital platforms and women (378). While pensions have multiple positive impacts on the social determinants of health and health (422–424) –, we have

found no evidence on the role that contributory pensions play during pandemics. This is why this section focuses on social pensions, which are a type of social assistance.

Governments in recent years have expanded non-contributory social pensions to combat poverty in the old-age and mitigate the impacts of labour market inequalities (425). In 2023, around 35% of the population aged 60 or over in South Asia, Latin America and the Caribbean, East Asia and the Pacific, Europe and Central Asia and OECD countries were covered by social pensions (426). Social pensions have been shown to have significant effects in reducing and preventing poverty, promoting physical and psychological wellbeing, increasing perceived quality of life, and in reducing mortality in different world regions (427) (428) (429) (430) (431) (432) (433).

The majority of social pension beneficiaries share a significant part of it with other members of the household, and even with relatives who do not live with them, expanding the safety net provided by these programmes (434). Given the crucial role played by older people in caring, pensions enable family support. For example among those affected by HIV/AIDS, old age pensions have a key role in sustaining multigenerational households, especially in rural settings (435) (436) (437).

In Bolivia, the Renta Dignidad provides a universal payment of US$50 monthly to the elderly, covering one third of Bolivian households. During the COVID-19 pandemic, the programme was associated with increasing financial resilience and food security and particularly benefited low-income households (438). In Egypt, the Takaful and Karama program, providing cash to the elderly poor, persons with disabilities and other groups, limited poverty increases in rural areas during the pandemic (439).

4.3.3 Paid parental leave

Paid parental leave helps families financially, supports parents returning to their jobs, and fosters greater equality between genders, benefitting mothers and their babies (440–443). There is evidence that paid maternal or paid parental leave disproportionately benefits first-time mothers (444), and that it reduces the risk of postnatal depression, improving maternal health outcomes and health-related behaviours, especially among first-time and low-resource mothers (445). Its length and generosity are important to achieve better outcomes in mental health and longer duration of breastfeeding (440). A majority of countries have some sort of paid maternal or parental leave, but differences in duration and gender balance are enormous. In 145 countries in 2022, fathers had less than two weeks of paid leave, while only 24 countries had guaranteed 14 weeks of paid leave for women as recommended by ILO, while limiting gender disparities (446).

Given the additional caring requirements during pandemics, the financial insecurity and the social isolation associated with confinements and economic downturns in pandemics, a generous parental leave policy is important for parents and children (447) (448).

Our search did not yield evidence about the health impacts of paid parental leave during pandemics. There is evidence from the US that, as with other social insurance programmes, certain groups – in this case Asian, Hispanic and Black women — are more likely to receive fewer weeks of full pay compared with White women (449). This exacerbates structural racial inequalities.

4.3.4 Paid sick leave

Paid sick leave facilitates access to medical care, supports mental health and, in times of pandemics, is crucial to limit contagion into the workplace and the wider community (450) (451,452) (453). In complex illnesses such as TB, having access to paid sick leave ensures that patients can avoid severe income loss and complete their recuperation (454) (455). Despite this, many countries still restrict access to paid sick leave to those workers in the formal economy, resulting in the exclusion of two thirds of the global working age population (378) (456) (457). Globally, 27% of countries do not guarantee paid sick leave from the first day of illness and 58% of countries do not ensure that self-employed and gig economy workers have access (458).

Paid sick leave allows workers to stay at home and, by doing so, contains the spread of infectious diseases. Sick pay mandates reduced doctor-certified influenza-like-illnesses by 11% in the US (459). It is key that access is given from the first half-day of illness to avoid transmission, as shown by a Norwegian study (460). Studies in England, Wales and the US document inequalities in access to sick leave benefits during the COVID-19 pandemic (461–463).

4.4 Employment measures

4.4.1 Introduction

Active and passive labour market programmes are usually considered part of social protection. Active labour market measures include training, employment incentives/wage subsidies and employment support programmes, among others. Passive labour market programmes are mainly those that provide unemployment benefits, contributory or non-contributory (419).

4.4.2 Unemployment benefits

The harmful effects of unemployment on health are well known and include mental illness, limiting long-term illness, cardiovascular disease and increased mortality (464). Studies pre-dating the COVID-19 pandemic showed that providing generous income support during unemployment protects the mental health of the unemployed (465); it is associated with better self-rated health among the socioeconomically disadvantaged (466); mitigates the association between unemployment and suicide (467); and protects those in insecure jobs (468).

In the US, where unemployment benefits before COVID-19 were limited, the government expanded unemployment insurance through the Coronavirus Aid, Relief, and Economic Security (CARES) Act, by providing a US$600 supplement a week to state benefits (called Federal Pandemic Unemployment Compensation), expanding eligibility to other types of employment such as gig-economy jobs (Pandemic Unemployment Assistance), and benefit duration (Pandemic Emergency Economic Compensation); and by eliminating administrative barriers and workfare measures.

The US$600 per week supplement was implemented in March 2020 and ended in July that year, although less generous payments continued to be provided afterwards. Several studies with different designs show positive effects of receiving unemployment insurance on health-related outcomes as well as on key health-related conditions such as food insecurity. For example, a cohort study between April and November 2020 with individuals living in households earning less than US$75,000 a year who lost their jobs during the pandemic found that receiving benefits was linked to a 35% relative decrease in food insecurity (469). Compared with receiving the extended supplement, receiving the “reduced” benefit (the former expired initially in July 2020) was associated with an increase in the risk of missing a housing payment and of suffering depressive and anxiety symptoms (470).

A longitudinal study with 900 low-income individuals in the US found that while people who lost their jobs and did not receive benefits showed the highest stress levels, those who lost their jobs but received unemployment benefits experienced reduced stress than those who remained in employment (471). This can be due to worries of being exposed to the virus. It might also reflect the relatively generous nature of the measure, which provided high replacement rates, and which estimates indicate was able to mitigate, and even reverse, the unequal impact of unemployment on low-income workers. However, this powerful progressive effect ended in September 2020, when benefits were curtailed (472).

In the US certain ethnic minority groups were less likely to receive unemployment benefits than the White majority (473,474). This was true during the COVID-19 pandemic and is applicable more generally, and relates to structural inequalities in the labour market, which mean women and ethnic minorities are more likely to work part-time, are worse paid and more represented in platform work, all of which often excludes them from being able to claim benefits (475).

4.4.3 Wage subsidies

Wage subsidies were common among countries trying to mitigate the impact of the COVID-19 pandemic on employment by providing income to employers to keep their employees while being furloughed.

In South Africa, the Temporary Employer/Employee Relief Scheme (TERS) for formal sector employees increased their probability of remaining in employment in the short term by 15.6 percentage points (476). In Australia, the JobKeeper payment was provided to employers to be able to retain employees during the pandemic economic downturn. Among a group of 902 young adults followed between 2018 and 2021, those with a pre-existing mental health disorder who received the JobKeeper payment experienced an increase in their levels of coping compared with those who did not receive the JobKeeper payment, while there was no effect for those without a previous mental health disorder (477).

In the UK, the Coronavirus Job Retention Scheme – which provided up to 80% of a worker’s wages – had a protective effect on the health of those who were furloughed, in comparison with those who lost their jobs. Furloughed workers had a 12% greater risk of suffering psychological distress than those who remained in work, but a lower risk than those who became unemployed, according to findings from data between April and June 2020 from nine longitudinal studies (478).

4.4.4 Public works

Public works programs provide income to the very poor during crises by offering low-skill jobs. In India, the government expanded its existing public works programme (called MN-REGA) to counter the impact of the COVID-19 pandemic and mitigate the effect of large scale migration of urban workers to their rural places of origin. MG-NREGA guarantees 100 days of manual work on public projects to rural households paid at the mandated minimum wage. It is probably the largest programme of its kind worldwide, providing employment to close to 76 million people in 2018 (479). Between April and September 2020, estimates indicate that it created 2 billion person/days of work, disproportionately benefiting women, especially those married, with young children and the less educated (479). However, researchers have highlighted that the poorest districts did not benefit at a level which was proportionate to their need, and accounted for a relatively smaller share of created employment (480). Also in India, another programme — Garib Kalyan Rozgar Abhiyaan —, was effective at providing employment to returning migrants in public works and other target sectors in rural areas (481).

Chapter 5
Conclusion

There is consensus in the scientific community that future pandemics are inevitable, even if the precise timing is uncertain. The evidence in this report shows that being ready for a pandemic goes well beyond having the necessary surveillance mechanisms in place. As important as it is, a strong health system is also not enough. Improving conditions in the social determinants of health and reducing inequalities would significantly improve outcomes during pandemics, as shown in this evidence review.

This report supports concerns about ongoing collective failures to rise to the challenge of preparing for the next pandemic. Lessons from past pandemics, from Influenza to HIV/AIDS and Ebola, could have mitigated the impacts of COVID-19, but were not heeded. Widespread poverty, discrimination, overcrowding and labour market inequalities were not sufficiently addressed and became again risk factors impacting the more disadvantaged. Largely, those groups which due to their situations of vulnerability were disproportionately impacted by HIV/AIDS and Ebola, were also vulnerable to COVID-19, with the addition of new groups such as essential workers. Although too early to see, the long-life negative impacts seen during the 1918 Influenza are likely to be felt again as a result of the COVID-19 pandemic.

However, the COVID-19 pandemic also showed that the scientific community was ready to respond by developing vaccines and treatments. Regrettably, the distribution of vaccines was unequal within and between countries, this is also a central concern for the Council. There needs to be greater effort to identify the links between inequality, social determinants and health outcomes before and during pandemics and what helps reduce social inequality during pandemics. Some of this evidence has been described in this report.

Governments worldwide understood during the COVID-19 pandemic that the circumstances required widespread intervention to mitigate the impacts on health, lives and livelihoods. But this response was short-lived and often excluded precarious workers, migrants, refugees and others who fell through the extended safety net. The unprecedented response did demonstrate that social protection is a crucial part of the social infrastructure to sustain people in times of shocks, as evidenced in this report. It also showed what can be done when there is enough political will.

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