POLICY BRIEFS ON

ECONOMIC IMPACT OF HIV

SUMMARY BRIEF #1

HEALTH AND ECONOMIC RETURNS ON INVESTMENTS IN HIV

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SUMMARY BRIEF **#1**

HEALTH AND ECONOMIC RETURNS ON INVESTMENTS IN HIV

Investments in HIV have worked to defend against the potentially destabilising effects of high AIDS-related mortality. The return on investments in the HIV response largely arises from decreased mortality and improved survival. As a result of increased access to timely HIV treatment, more people survive and contribute economically. Given that HIV impacts people in their prime working years, better health also means improved economic outcomes as treatment enables people living with HIV to avoid health-related unemployment and diminished access to education for their children. These gains carry through to the economy overall in the form of larger GDP.

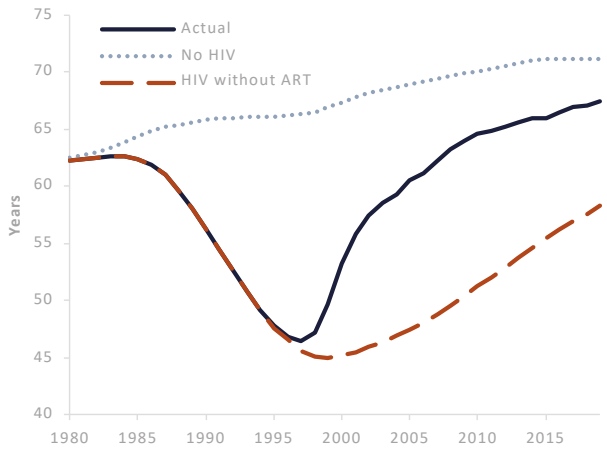
From the beginning of the HIV pandemic, it was feared that HIV would have a negative economic impact in addition to its devastating health consequences. Given that the disease affects predominantly working-age adults, there was a concern that high AIDS-related mortality and the ballooning number of orphans would destabilise societies and economies, especially in sub-Saharan Africa where HIV was most prevalent (Policy brief #4). In 2001, the United Nations General Assembly described HIV/AIDS as "a global emergency and one of the most formidable challenges to human life and dignity [...] which undermines social and economic development throughout the world" (UNGA, 2001).

Propelled by these concerns, the global partnership on HIV came together in the early 2000s to mobilise domestic efforts and an unprecedented level of international support in response to the epidemic. This investment has largely reversed the negative health and economic consequences of HIV. People living with HIV across low- and middle-income countries can now realistically have a near-normal life expectancy (Policy brief #2) and contribute fully to the economy, provided that they are diagnosed and initiate treatment sufficiently early (Johnson et al., 2013).

The most immediate effects of the HIV response are its impacts on the health and survival of people living with HIV and on the transmission of HIV (Policy brief #1). Globally, annual AIDS-related mortality among people living with HIV has declined from 5.8 percent in 2000 to 1.8 percent in 2020. The number of annual new HIV infections declined by nearly half between 2000 and 2020, from 2.9 million to 1.5 million, and even faster in Eastern and Southern Africa, where many countries with high HIV prevalence are located (UNAIDS, 2021).

The scaling-up of treatment has made significant contributions to improved global and national health outcomes overall (Policy brief #2). Declining AIDS-related mortality has contributed about one-sixth (0.9 years out of 5.5 years) of global gains in life expectancy between 2002 and 2019. The impact has been dramatic in some countries with very high HIV prevalence. In Botswana, for example, life expectancy fell below 50 years in the early 2000s – among the lowest anywhere – but has since rebounded to 68 years (and the loss in life expectancy owing to HIV/AIDS is now down to about 3½ years.

Figure 1: Life expectancy, Botswana, 1980-2019



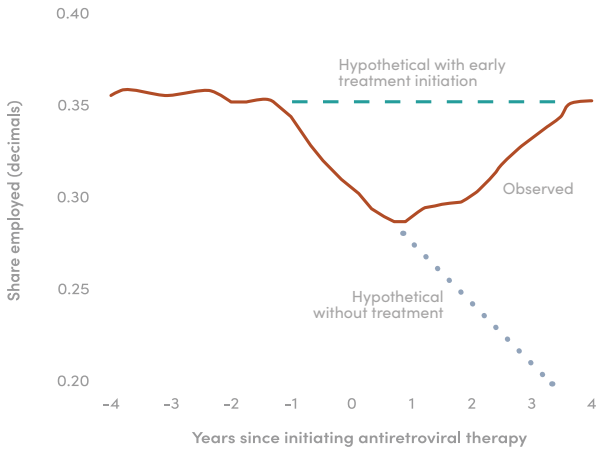
Source: UNAIDS (2020) and own calculations.

The health gains from longer survival directly translate into economic gains for people living with HIV (Policy brief #6). People living with HIV who start treatment have been shown to recover most of their productivity, in addition to surviving longer (Figure 2). People initiating treatment early – before AIDS-related symptoms become apparent – avoid such steep productivity losses and often-lengthy spells of unemployment altogether (Figure 3, see Policy brief #6).

Figure 2: Productivity loss among workers living with HIV (working days per month)

Source: Haacker (2016), adapted from Larson et al. (2013).

Figure 3: Employment trend among HIV patients receiving antiretroviral therapy



Source: Bor and others (2012).
Notes: The "observed" curve is from Bor et al. (2012); the curve for "early treatment initiation" is a hypothetical addition for our discussion.

A less immediate economic effect arises from the impacts of HIV on education (Policy brief #4). Educational attainments and school attendance have been shown to be lower for orphans and in areas where HIV prevalence is high (Beegle et al., 2010; Mishra & Bignami-van Assche, 2008; Fortson, 2011). Living with a parent who is HIV-positive also has had a negative effect on education (Evans & Miguel, 2007). The data underlying these studies are, however, from the early 2000s and thus precede the scaling-up of treatment, which has plausibly mitigated these adverse effects.

From a macroeconomic perspective, the principal consequence of these HIV-related losses in life and health is a reduced growth of the working-age population (Policy brief #3). Additionally, because of lower birth rates, or AIDS deaths among children who were infected at or around birth, cohorts affected by HIV as children and ageing into the working-age population are also smaller. Overall, in some countries with high HIV prevalence the working-age population is now about 10 percent smaller than it would have been in the absence of HIV (Policy brief #3).

Established macroeconomic "growth accounting" approaches suggest that GDP consequently is several percent smaller than it would be without the impact of AIDS by around half of the loss in the size of the working-age population (Policy brief #7). However, evidence on the impact of HIV on GDP per capita is ambiguous because HIV impacts two key factors – population growth and productivity – affect GDP per capita in opposite ways. HIV's negative impact on population growth increases GDP per capita as productive assets are divided among fewer people. Simultaneously, lower productivity of people living with HIV and lower government investment because of high HIV spending reduce it. These two effects on GDP per capita broadly offset each other.

Investment in the HIV response contributes to increased GDP growth primarily by reversing the slowdown in population growth caused by AIDS-related mortality (Policy brief #3). In fact, this investment will plausibly lead to higher economic growth than "without AIDS" over the coming years, as larger cohorts not depleted by high AIDS-related mortality replace cohorts which have suffered from high AIDS-related death rates before treatment became widely available, making population growth higher than otherwise.

The economic impacts of HIV and the returns on investments in the HIV response largely arise from decreased mortality and improved survival (Haacker, 2016; Resch et al, 2011). More people survive and contribute economically. But the response to HIV does not make the economy richer

on average, since the higher GDP is shared among a larger number of people. The survival gains are of course significant and important in their own right. Additionally, approaches to assigning a monetary value to survival gains from investments in HIV often find that this value is considerably higher than the output gains from increased survival (Policy brief #2; Lamontagne et al., 2019).

Taking a step back from interpreting these "growth accounting" exercises or valuations of health gains, it is important to recall that the global response to HIV was motivated by averting the feared catastrophic effects of unprecedentedly high mortality, especially in some of the world's poorest countries. As of 2000, it was expected that up to half of young people growing up in some countries with high HIV prevalence would eventually die because of AIDS. Because of the ubiquitous effort to fight HIV, such catastrophic impacts did not materialise anywhere; for the same reason, we never had to find out how bad the economic and social repercussions of such a health shock would have turned out. That by itself is one of the returns to investment in the global response to HIV.

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