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THE COMPOUNDING ECONOMIC DIVIDENDS OF GLOBAL HEALTH INVESTMENT

How investing in global health and health
systems can strengthen local economies

FP ANALYTICS



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The COVID-19 pandemic has served as a costly reminder of the deep interconnection between global public health and the strength of the economy. In addition to as many as 20 million lives lost, the pandemic will cost the global economy at least USD \$13.8 trillion through 2024. By contrast, investments in public health increased life expectancy by 54 percent between 1950 and 2020 and were responsible for as much as a third of economic growth in the last century. In this context, and as the world continues to combat a range of infectious diseases, the complementary health and economic benefits of investing in global health have rarely been more compelling.

In the case of HIV/AIDS, tuberculosis, and malaria, health investments offer high-impact, multidimensional returns. For example, low-cost treatment for an adult with tuberculosis can lead to an additional 20 years of life on average, as well as avert an additional 10 to 15 infections annually per person receiving treatment for the disease. For children under age five who are at risk from malaria—1,300 of whom die every day—an insecticide-treated net costing as little as USD \$2 can be the difference between a lifetime of opportunity and premature death.

Such global health interventions produce benefit-cost ratios (BCRs) that range between 2 to 1 and over 100 to 1, driven overwhelmingly by averted deaths and disability and restored years of economic productivity. The benefits of health-related investments may stack even further. The COVID-19 pandemic also catalyzed a multitude of health innovations, such as co-testing for infectious diseases, multimonth dispensing of medication, and digital tools to facilitate prevention and treatment, proving that investments in global health can deliver critical health and economic dividends while protecting communities from future threats and strengthening the resilience of global health systems.

Health investments must be reframed to capture not only the direct health benefits, but also the multiple dividends for lives, livelihoods, and economies around the world.



Indeed, beyond the many health benefits, there is an often-overlooked but compelling, multifaceted economic case to be made for robust and sustained investment in global health. Money spent to avert sickness, disability, and death contributes to the overall well-being of societies and enables individuals to live more productive, stable lives. Those who suffer from temporary poor health lose opportunities for productivity, and those who experience disability can face prolonged underemployment. Meanwhile, premature death due to illness not only curtails economic opportunity and engagement but also risks compounding financial hardship for dependents left behind. In contrast, improved health outcomes reduce the burden of care on family members and the wider community, while healthier individuals are more likely to pursue further educational and vocational training, thus raising their lifetime earning potential.

How Health and Economic Benefits Intersect

In the case of treatable diseases such as HIV/AIDS, tuberculosis, and malaria, the COVID-19 pandemic undid as much as eight years of progress. HIV testing fell by 22 percent, while the number of people being treated for tuberculosis fell by over 1 million, and almost 40 percent of countries reported disruptions to one or more malaria services. But while the term “unprecedented” is often used to describe the

effects of COVID-19, these health challenges are very much precedented: treatments are available and affordable, and they have positive influence far beyond treating a single disease. Even though progress rebounded in 2021, including through treatment gains for tuberculosis and malaria, the world has much work to do to fully capitalize on this opportunity and offset the impacts of COVID-19.

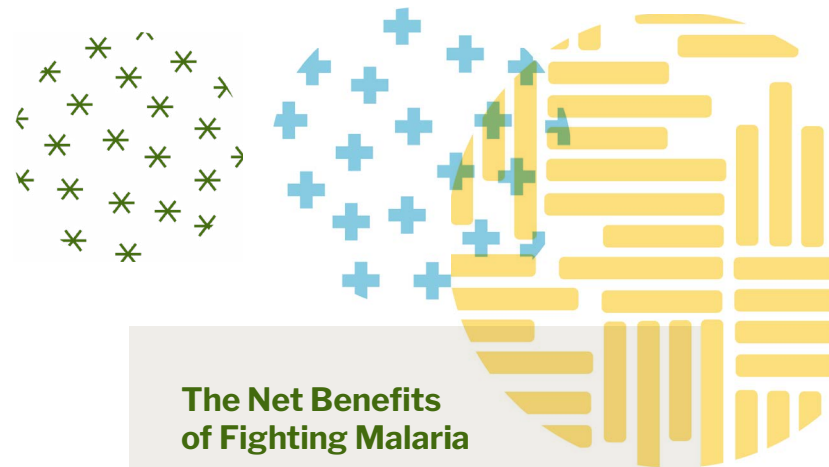
The steps for securing continued health gains in these areas are well documented. They involve closing gaps in testing and coverage, prioritizing high-risk groups, and increasing access to effective preventative tools, such as pre-exposure prophylaxis (PrEP) for HIV or insecticide-treated netting for malaria. Importantly, there is ample evidence that these tools work: Since 2002, the combined death rate from the three diseases has fallen by more than half.

Investments in global health programming also produce spillover health and economic benefits that improve healthcare more generally—from helping to educate and train medical personnel to strengthening institutional capacity and medical supply chains to establishing critical laboratory networks for testing and monitoring for multiple diseases. A study published in Lancet Global Health found that universal testing and treatment for HIV made adults in target communities 10 percent more likely to be employed, 10 percent less likely to seek healthcare, and nearly 13 percent less likely to spend money on healthcare three years after the intervention. A third of the Global Fund’s investments to tackle HIV/AIDS, tuberculosis, and malaria—or 33 cents of each dollar invested—goes toward building sustainable community health systems.

“The economic case, put simply, is that TB treatment is low cost and highly effective, and on average may give an individual in the middle of their productive life around 20 additional years of life, resulting in substantial economic and health return.”

—Anna Vassall, “Benefits and Costs of TB Control for the Post-2015 Development Agenda”

Projected benefit-cost ratios provide a useful, if imperfect, estimate of the potential return on global health interventions at the project, disease, and more general levels. Research from 2020 indicates that malaria elimination in Nepal would yield a BCR of 1.6 to 1—or \$USD 1.60 in health, economic, and social benefits for every dollar spent. A study published in *Health Affairs* in 2019 found that investment in antiretroviral therapy (ART) to treat HIV between 1995 and 2015 had a BCR of 3.5 to 1. Another study in the *Journal of Epidemiology & Community Health* estimated the median return on investment for general public health interventions in high-income countries at 14.3 to 1. Finally, both the World Health Organization and the Global Fund put their




The Net Benefits of Fighting Malaria

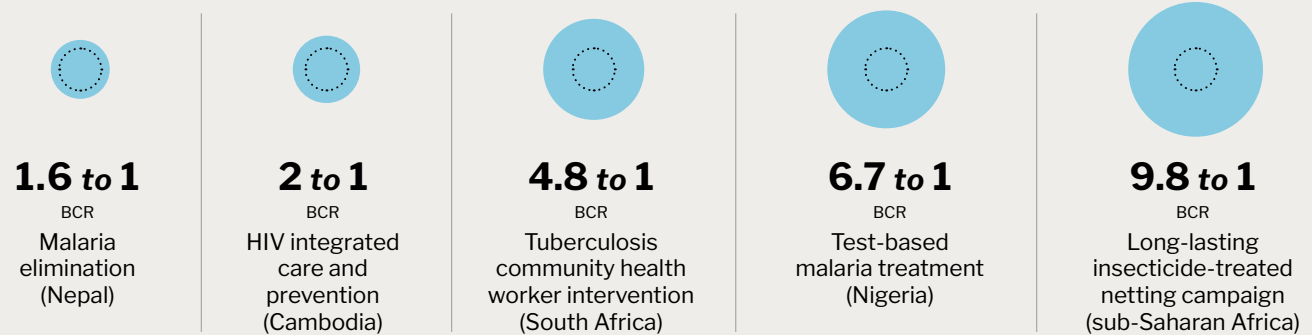
Relatively low-cost and effective preventative measures for malaria, such as long-lasting insecticide-treated netting (LLIN), are available but underutilized. In 2018, only 56 percent of people in sub-Saharan Africa likely had access to an LLIN, despite it being recognized as the disease’s most cost-effective vector-control strategy. According the Copenhagen Consensus, at an estimated cost of just USD \$4.89 per unit for mass distribution, a USD \$500 million distribution and delivery campaign would save over USD \$100 million in malaria treatment but also USD \$4.9 billion in averted deaths and disability. Critically, over 90 percent of that benefit would come from children under age five, who instead would be able to pursue long and productive lives. A review published in the *Malaria Journal* found that benefit-cost ratios for malaria control or elimination stretch as high as 145 to 1.

Measuring Healthy Returns

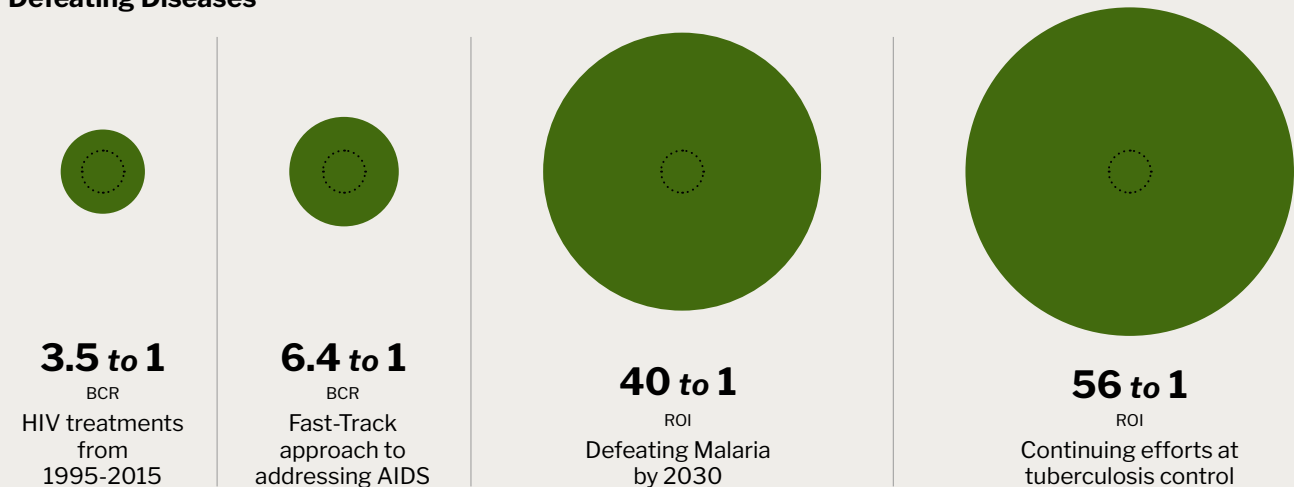
Investing in prevention of disease spread is not only less expensive than treatment and cure, but also yields additional returns in terms of economic growth and human development. Healthy returns can be measured through lives saved, livelihoods supported, and economies boosted.

 = 1 | ROI=direct financial return on an investment; BCR=ROI + indirect, intangible, or estimated benefits

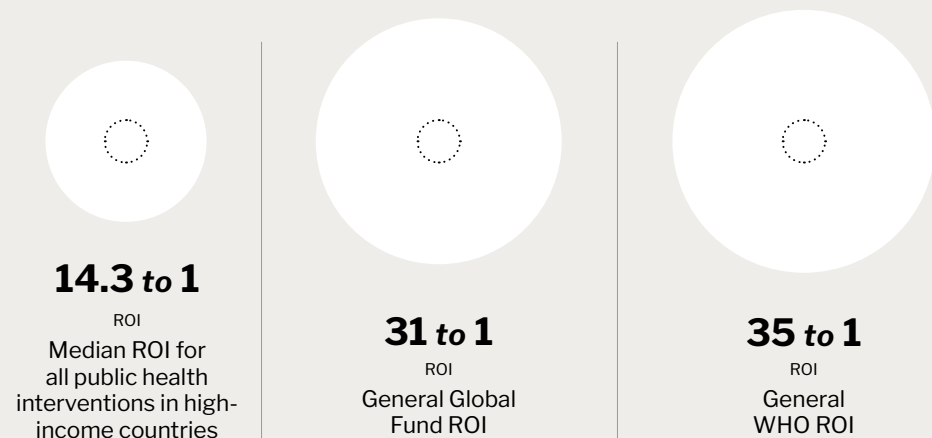
Disease-Specific Interventions



Defeating Diseases



General Health Investments



Sources: NIH, American Journal of Medical Sciences and Medicine, Copenhagen Consensus - Daviaud, Malaria Journal, Copenhagen Consensus - Dalaba, Health Affairs, Health Policy, Roll Back Malaria, Copenhagen Consensus - Vassal, BMJ, Global Fund, World Health Organization

average return on investment at somewhere above 30 to 1.


The ratios vary, depending on the methodology, variables assessed, and scale of indirect benefits attributed to an intervention, among other factors. Nevertheless, such calculations broadly support the same message: Investments in public health can produce direct and indirect returns for individuals and societies on a large scale.

The stakes are higher than one might expect. The McKinsey Global Institute estimates that forgone economic growth due to ill health in 2017 was equivalent to USD \$12 trillion—or the entire economic output of China for that year. Conversely, research in World Development suggests that a one-year increase in life expectancy is associated with as much as a 4 percent increase in economic output. On its own, a 90 percent reduction in deaths from tuberculosis by 2030 could save an estimated 24 million lives as well as USD \$13 trillion by 2050. Though these figures make the economic case for global health investment clear, they may not fully account for another crucial benefit that improves their case: improved resilience to global health security.

The Added Benefit of Pandemic Preparedness

COVID-19 has illuminated the need for greater preparedness and has underscored the case for targeted investments capable of improving healthcare delivery and strengthening global health systems against future shocks. The International Labour Organization (ILO) estimates that the world had nearly 9 percent fewer working hours in 2020 than in Q4 of 2019, an impact four times greater than the global financial crisis of 2007 to early 2009. The pandemic's immense losses—including the deaths of an estimated five to 20 million people and up to USD \$13.8 trillion through 2024—make a strong case for investing in global health systems and improving pandemic preparedness and response (PPR).

While the World Health Organization (WHO) and the Global Fund estimate their overall return on investment at over 30 to 1, some estimates of return on investment for PPR, such as from the Center for Global Development, stretch as high as 1,000 to 1. At the G20 in 2022, a World Bank and WHO paper put the cost of a global PPR system, prepared to respond to multiple threats, at roughly USD \$30 billion per year. If just one COVID-19-sized threat were to emerge in the next 50 years, such a system could yield benefits of



“We will have new types of pathogens threatening us. The question is whether we allow them to become pandemics. The things you need are the capacities to prevent, to detect, and respond. It’s a combination of diagnostics, infection prevention and control systems, primary healthcare, community, health workers, supply chains. We need to invest smartly in those components of the health system, but doing it with a very deliberate, multi-pathogen perspective so that we’re not just narrowly focused on any particular disease, but we’re providing the equipment and training.”

—Peter Sands, Executive Director, The Global Fund



more than 9 to 1. Realistically, the world is likely to face more than one. Research published in the Proceedings of the National Academy of Sciences suggests that the likelihood of a similarly sized pandemic arising is expected to double in the next several decades due to climate change. Because of climatic and land-use changes that are already underway, a study in Nature predicts that cross-species transmission of viruses will increase, potentially exposing humans to more than 10,000 virus species by 2070.

The threat posed by new health vectors offers another key rationale to invest in global health programming. Evidence from COVID-19 shows that existing investments to fight other diseases are directly relevant to PPR, from surveillance sites for HIV to protocols established for Ebola. Global health funding can also be adapted on short notice. As of July 2022, the Global Fund's COVID-19 Response Mechanism had awarded more than USD \$4.4 billion for pandemic-related needs, such as therapeutics, diagnostics, and personal protective equipment. Mozambique, for example, was able to access funding and training to enable a 20-fold increase in testing capacity by the fourth wave (the Omicron variant) as well as strengthen a network of public health laboratories that will continue to provide needed services far into the future. While world leaders also need to consider targeted investments in PPR, the attendant benefits of global health investments in tackling other diseases should be heeded.

“Just as the simian immunodeficiency virus making a host jump from monkeys to chimpanzees and gorillas facilitated the origins of HIV, or SARS-CoV spillover into civets enabled a bat virus to reach humans, these kinds of wildlife-to-wildlife host jumps may be evolutionary steppingstones for the approximately 10,000 potentially zoonotic viruses that are currently circulating in mammalian hosts.”

—Carlson et al., *Nature*, 2022

Looking Ahead

COVID-19 has shone a spotlight on the multifaceted costs of global pandemics, underscoring the urgent need to take public health threats seriously. That the world has rebounded from the worst days of 2020 is indicative of the power of sustained, collective action on global health priorities. This is a call to action for leaders from the public and private sectors and civil society to assess and invest in improving healthcare delivery, treating preventable diseases, and mitigating health and economic threats more concertedly. Key areas for action include:

Investing in known interventions. Many of the tools needed to successfully mitigate HIV/AIDS, tuberculosis, and malaria already exist but are not being delivered at a sufficient rate or scale. Greater investment offers a cost-efficient way to deliver straightforward progress on such health threats.

Planning for the long term. Investments need to be sustained and coordinated so that progress made in fighting these diseases will be protected and continuously built on over time. Continued support offers the best route for maximizing both health and economic benefits.

Prioritizing gaps in care and ensuring health equity. Targeting the most at-risk populations as well as underserved groups can help to ensure that health efforts will reach the places that need it most and not leave the most vulnerable behind. Gaps in coverage put everyone at risk.

Reframing investments in global health. Ultimately, investments in global health need to be consistently conceptualized, in terms of not only their immediate health benefits but also their compounding benefits for fighting other diseases, building sustainable health systems more broadly, expanding economic opportunity, and contributing to global health security.

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