

Annex 6

Methodology to estimate impact of HIV, TB and malaria investments on utilization of primary health care

Providing effective care for HIV, TB, and malaria can reduce the need for primary health care, by preventing individuals with one of these conditions from becoming ill and seeking care, and by preventing disease transmission that would lead to ill health and treatment-seeking in the future. These analyses estimated how investments in HIV, TB and malaria have reduced the need for primary care in Global Fund-supported countries, over two periods: a historical analysis that covers the period from the inception of the Global Fund in 2002 until 2023, and a forward-looking analysis that forecasts results for the period 2023-2029. For the historical analysis we compared two scenarios – one scenario representing the actual scale-up of care for each of the three diseases over 2002-2023, and a hypothetical counterfactual scenario in which care for each disease was limited to services levels in the year 2000 (representing what might have happened with no additional investments from government, Global Fund and other sources over the following decades). The forward-looking analysis takes a similar approach, comparing a scenario representing the possible scale-up of care for each of the three diseases over 2023-2029, and a hypothetical counterfactual scenario in which care for each disease is limited to service levels reported for the year 2023. Epidemiological projections for each disease, country and scenario were generated by the disease-specific models described in Annex 3, to maintain consistency with other analyses. Based on these modeled estimates, we calculated the number of individuals who would have symptomatic disease (from HIV, TB and malaria), and yet would fail to receive appropriate care. We applied rates of treatment-seeking from the literature for these individuals with unmet health care needs to derive rates of health care utilization (outpatient clinic visits, inpatient bed days) within the routine health system. We estimated the impact of disease-specific investments by computing the difference in utilization between scenarios and summed these results across countries and over time to compute the total reduction in routine utilization produced by disease-specific investments. In addition, we applied standardized country-specific unit costs (as reported by WHO CHOICE) to the estimated number of outpatient clinic visits and inpatient bed days, in order to estimate the total cost-savings due to reduced utilization resulting from disease-specific investments. For countries that have received Global Fund support for each of the three diseases over the 2002-2023 period, we compared estimates of averted inpatient bed days to data

on total hospital capacity in each country (reported number of available hospital beds each year, multiplied by 365), to calculate averted hospitalization as a percentage of actual capacity. Similarly, for each country we divided total averted costs by reported government health care spending over the period, to calculate averted costs as a percentage of total government health spending.

This analysis did not consider any additional supply constraints, beyond those that impact current levels of health care access and utilization within each country. It is possible that access to routine health care would be lower if demand surged as a result of uncontrolled HIV, TB and malaria in the counterfactual scenarios. In addition, this analysis did not take into account reductions in utilization that would result from early death due to HIV, TB or malaria.

The Global Fund commissioned an associate professor of global health¹ on the faculty of the department of epidemiology at the Harvard T.H. Chan School of Public Health to conduct this study.

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