Global health 2050: High-priority interventions to achieve a grand convergence in premature mortality

Background paper for the Lancet Commission on Investing in Health

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Introduction

In 2013, the Lancet Commission on Investing in Health released its report, "Global Health 2035: a world converging within a generation" (hereafter, "GH2035").[1] The GH2035 report laid out an ambitious and optimistic vision for global health in the coming decades, including the possibility of a "grand convergence" in mortality related to infections and maternal health (IMH). By this the report meant that all countries could, by 2035, achieve child, maternal, HIV, and TB mortality rates that had already been achieved in high-performing upper-middle-income countries, thereby reducing global inequalities in health. GH2035 also advocated for an approach to universal health coverage (UHC) called "progressive universalism," i.e., the notion that achievement of UHC should be based on progressive expansion of a limited set of interventions that are offered to all (i.e., high population coverage) and at very low out-of-pocket cost (i.e., with financial protection).

GH2035 was influential within the global health community and laid the foundation for several of the Sustainable Development Goal (SDG) health targets.[2] However, the years following the adoption of the SDGs have seen massive changes. The decline of internationalism and austerity measures have led to a flattening in development assistance after a decade of rapid growth.[3] The Covid-19 pandemic reversed years of health system progress in many low- and middle-income countries.[4] The macroeconomic and fiscal outlook for these countries has become relatively unfavorable,[5] and health has been de-prioritized within government budgets, especially in lower-middle-income countries that have experienced rapid economic growth.[3] Conflict and war are on the rise in several parts of the world, creating further political distractions from health and potential for "health shocks" from injuries and mental trauma.

The challenge for health policymakers in the coming years will be to "do more with less." To this end, the Commission on Investing in Health is preparing a follow-up report that will include guidance for how countries can focus their health agendas on a small set of priority health conditions and interventions. This focused approach is intended to respond directly to the observation that progress on UHC has been very limited, and for many countries achieving UHC is still a long way off.[6] But, as the Commission will say, countries need not wait on UHC to achieve better health for their populations. Additionally, the Commission is extending its recommendations from 2035 (for IMH) to 2050 (for premature death from all causes), underscoring the increasing urgency of tackling noncommunicable diseases and injuries (NCDIs).

To this end, this background paper has been drafted to provide evidence in support of the Commission's main messages around the need to focus the health agenda. Our team previously developed a mathematical modeling tool called the FairChoices – Disease Control Priorities Analytics Tool (hereafter, "FairChoices") to support local decision-making around UHC health benefits packages. The methods for the FairChoices tool around intervention cost and impact modeling have not been previously published and are summarized in this paper.

The objectives of this paper are: (i) estimate the cost-effectiveness of "core" interventions for health systems in low- and middle-income countries; (ii) assess the contribution of these interventions the four GH2035 targets for IMH conditions, as well as a proposed "50x50" target for all-cause mortality by 2050; and (iii) estimate the resources required to fully implement all interventions in 82 low- and lower-middle-income countries by 2050.

In this version of the paper (9 May 2024), we present preliminary estimates of the incremental cost of 84 interventions, organized into health system "modules." These estimates are featured in the main Commission report, submitted to the Lancet on the same date. The effectiveness inputs and cost-effectiveness and impact outputs are being validated and will be featured in the next iteration of the analysis.

Methods

Overview of the FairChoices Model

FairChoices is a deterministic mathematical model of the population that includes demographic and epidemiological parameters taken from international data sources (e.g., Global Burden of Disease 2019 Study,[7] World Population Prospects 2022 Revision[8]). The model calculates the potential impact of interventions by changing rates of disability and mortality from various causes as a function of the effectiveness of the interventions (taken from the literature) and changes in population coverage (e.g., scaling up intervention X from 30% coverage in 2019 to 80% coverage in 2050).

Intervention costs are taken from the literature and adjusted to different country settings. The demographic and epidemiological data identify the population in need of each intervention,

which along with the coverage assumptions informs the estimates of aggregate costs. Figure 1 is a schematic of the model for "version 3" of the tool, the first version that will be released publicly (July 2024). Of note, the tool will include an online user interface, shown in the upper right corner, but this will be focused on guiding health benefits package design with an emphasis on intervention cost-effectiveness. The analyses presented in this paper were done using the "back end" mathematical model.

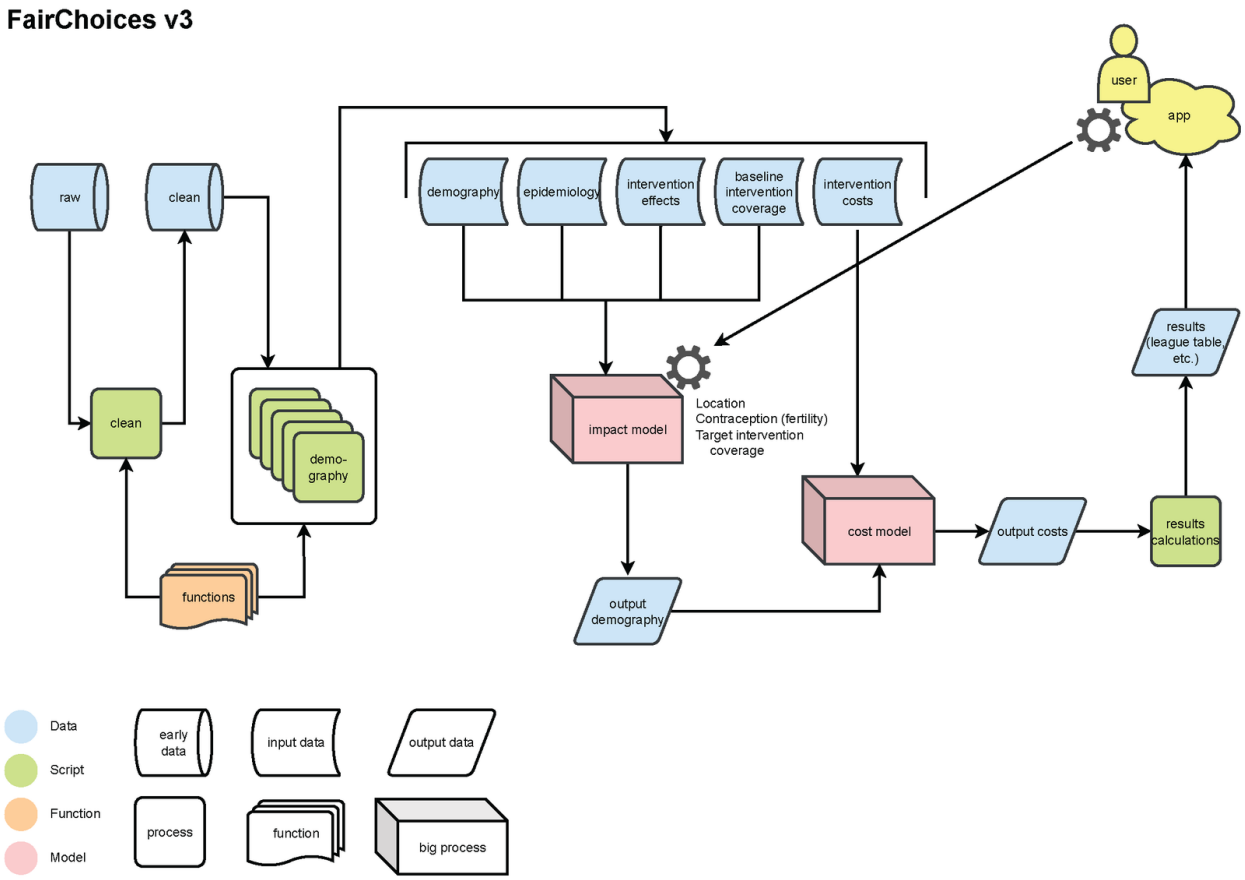

Figure 1. Schematic of the FairChoices model

Selection of interventions

The starting point for our list of interventions in FairChoices version 3 is the list of 218 essential health sector interventions featured in DCP3 (published in 2018).[9] We updated the list of interventions with some elements that were missing from DCP3, e.g., management of enteric and lower respiratory infections in adults (as a complement to the DCP3 interventions for children). We also restructured the intervention list around a "taxonomy" that was aligned with the structure of the WHO UHC Compendium (https://www.who.int/universal-health-coverage/compendium/architecture-of-clinical-services).

For the 9 May 2024 analysis, we selected 84 interventions (see Appendix) that address mortality or serious disability from the 15 causes that are the focus of the GH2050 report, including 8 conditions under "infections and maternal health" (previously called "grand convergence conditions") and 7 conditions under "NCDs and injuries." (For the next iteration of the report, we plan to include several additional interventions, especially addressing NCDs and injuries.)

Health impact model

The FairChoices model uses a lifetime perspective on health. This is to capture benefits that last well beyond the implementation period from interventions like HPV vaccination of adolescents, kidney transplant, and obstetric fistula surgery. We do this using a model based on standard lifetable methodology, where input on demography and epidemiology is based on the World Population Prospects and the Global Burden of Diseases and Injuries study (GBD), input on the coverage and effects of the interventions is compiled from the medical literature and other data sources (e.g., WHO Global Health Observatory, World Bank Open Data).

Conceptually, we first assume that without implementing interventions, cause-, sex-, and age-specific mortality and morbidity will remain unchanged into the future. Then we calculate healthy life-expectancy for each cohort (i.e., the people born the same year) alive today and for the cohorts that will be born during the scale-up period. Assuming a scale-up period of 25 years and that mortality is 100% at age 100, we then need to consider 126 cohorts (C_0 through C_{100} are the cohorts that are alive today, and C_{-1} through C_{-25} the cohorts that will be born the next 25 years). We can now present the mortality of these cohorts as follows:

		Age						
		0	1	2	⋯	98	99	100
Cohort	C_{-25}	M_0	M_1	M_2	⋯	M_{98}	M_{99}	1
	⋯	⋯	⋯	⋯	⋯	⋯	⋯	⋯
	C_{-1}	M_0	M_1	M_2	⋯	M_{98}	M_{99}	1
	C_0	M_0	M_1	M_2	⋯	M_{98}	M_{99}	1
	C_1	⋯	M_1	M_2	⋯	M_{98}	M_{99}	1
	⋯	⋯	⋯	⋯	⋯	⋯	⋯	⋯
	C_{99}	⋯	⋯	⋯	⋯	⋯	M_{99}	1
	C_{100}	⋯	⋯	⋯	⋯	⋯	⋯	1

Table Baseline mortality.
M_{x} denotes the mortality from age x to age x+1. As seen, $M_{100} = 1$ for all cohorts.
C_{y} denotes the cohort. A negative y is used if the cohort has not yet been born. C_{-25} denotes the cohort that will be born in 25 years.

One table is constructed for each sex.

Corresponding tables are also constructed for disability (i.e., morbidity), based on the age- and sex-specific disability weights provided by GBD.

		Age						
		0	1	2	⋯	98	99	100
Cohort	C_{-25}	D_0	D_1	D_2	⋯	D_{98}	D_{99}	D_{100}
	⋯	⋯	⋯	⋯	⋯	⋯	⋯	⋯
	C_{-1}	D_0	D_1	D_2	⋯	D_{98}	D_{99}	D_{100}
	C_0	D_0	D_1	D_2	⋯	D_{98}	D_{99}	D_{100}
	C_1	⋯	D_1	D_2	⋯	D_{98}	D_{99}	D_{100}
	⋯	⋯	⋯	⋯	⋯	⋯	⋯	⋯
	C_{99}	⋯	⋯	⋯	⋯	⋯	D_{99}	D_{100}
	C_{100}	⋯	⋯	⋯	⋯	⋯	⋯	D_{100}

Table Baseline disability.
D_{x} denotes the disability from age x to age x+1. Note that D_{100} is not 1.
C_{y} denotes the cohort. A negative y is used if the cohort has not yet been born. For example, C_{-25} denotes the cohort that will be born in 25 years.

Once "Table Baseline mortality" and "Table Baseline disability" have been, we can introduce interventions. Interventions are specified to act on a condition (defined as one of the GBD causes of death or disability) and a sex- and age-specific population and have a duration where it is effective. For treatment of acute conditions, the duration is one year, whereas for interventions like vaccines and obstetric fistula surgery the duration is longer and may even be life-long.

Each intervention reduces mortality, disability, incidence, or prevalence of one or more conditions. The crude effect of the intervention, $\mathrm{e}_{\mathrm{crude}}$, is adjusted to account for the change in coverage during the scale-up period using the formula

$$\mathrm{e}_{\mathrm{adj}} = \mathrm{e}_{\mathrm{crude}} \times \frac{\mathrm{cov}_{\mathrm{target}} - \mathrm{cov}_{\mathrm{baseline}}}{1 - \mathrm{e}_{\mathrm{crude}} \times \mathrm{cov}_{\mathrm{baseline}}},$$

where $\mathrm{cov}_{\mathrm{baseline}}$ and $\mathrm{cov}_{\mathrm{target}}$ are coverage at baseline and target.[10]

We have that M_{x} can be divided into the cause-specific mortality from the targeted condition and what we may call "background mortality", which is the risk of dying from any other cause, as follows,

$$\mathrm{M}_{\mathrm{x}} = \mathrm{M}_{\mathrm{x,background}} + \mathrm{M}_{\mathrm{x,cause}}\,.$$

Applying the intervention, we get

$$\mathrm{M}_{\mathrm{x,adjusted}} = \mathrm{M}_{\mathrm{x,background}} + \mathrm{M}_{\mathrm{x,cause}} \times \left(1 - \mathrm{e}_{\mathrm{adj}}\right).$$

As seen, if $\mathrm{e}_{\mathrm{adj}} = 1$, cause-specific mortality is reduced to zero in the targeted population. If a total of K interventions target the same condition, we get

$$\mathrm{M_{x,adjusted}} = \mathrm{M_{x,background}} + \mathrm{M_{x,cause}} \times \left(1 - \mathrm{e_{adj,1}}\right) \times \cdots \times \left(1 - \mathrm{e_{adj,K}}\right),$$

where $\mathrm{e_{adj,k}}$ is the effect of the k'th intervention. Note that this means that cause-specific mortality cannot be reduced to less than 0. We make similar calculations for interventions that reduce disability. Further, in our model, we scale up coverage of the intervention gradually over time. This means that the full effect will not be felt until the last year, so that the age-specific mortalities (and disabilities) in different cohorts ($\mathrm{C_{-25}}$ through $\mathrm{C_{100}}$) will be affected differently. Hence, to make intervention-adjusted versions of Table Baseline mortality and Table Baseline disability, each cell is now both age- and cohort-specific.

		Age						
		0	1	2	⋯	98	99	100
Cohort	C_{-25}	$M_{0,-25}$	$M_{1,-25}$	$M_{2,-25}$	⋯	$M_{98,-25}$	$M_{99,-25}$	1
	⋯	⋯	⋯	⋯	⋯	⋯	⋯	⋯
	C_{-1}	$M_{0,-1}$	$M_{1,-1}$	$M_{2,-1}$	⋯	$M_{98,-1}$	$M_{99,-1}$	1
	C_0	$M_{0,0}$	$M_{1,0}$	$M_{2,0}$	⋯	$M_{98,0}$	$M_{99,0}$	1
	C_1	⋯	$M_{1,1}$	$M_{2,1}$	⋯	$M_{98,1}$	$M_{99,1}$	1
	⋯	⋯	⋯	⋯	⋯	⋯	⋯	⋯
	C_{99}	⋯	⋯	⋯	⋯	⋯	$M_{99,99}$	1
	C_{100}	⋯	⋯	⋯	⋯	⋯	⋯	1

Table Adjusted mortality.
$M_{\mathrm{x,y}}$ denotes the mortality from age x to age x+1 in cohort y. As seen, $M_{100} = 1$ for all cohorts.
C_{y} denotes the cohort. A negative y is used if the cohort has not yet been born. C_{-25} denotes the cohort that will be born in 25 years.

		Age						
		0	1	2	⋯	98	99	100
Cohort	C_{-25}	$D_{0,-25}$	$D_{1,-25}$	$D_{2,-25}$	⋯	$D_{98,-25}$	$D_{99,-25}$	$D_{100,-25}$
	⋯	⋯	⋯	⋯	⋯	⋯	⋯	⋯
	C_{-1}	$D_{0,-1}$	$D_{1,-1}$	$D_{2,-1}$	⋯	$D_{98,-1}$	$D_{99,-1}$	$D_{100,-1}$
	C_0	$D_{0,-0}$	$D_{1,-0}$	$D_{2,-0}$	⋯	$D_{98,-0}$	$D_{99,-0}$	$D_{100,-0}$
	C_1	⋯	$D_{1,1}$	$D_{2,1}$	⋯	$D_{98,1}$	$D_{99,1}$	$D_{100,1}$
	⋯	⋯	⋯	⋯	⋯	⋯	⋯	⋯
	C_{99}	⋯	⋯	⋯	⋯	⋯	$D_{99,99}$	D_{100}
	C_{100}	⋯	⋯	⋯	⋯	⋯	⋯	D_{100}

Table Baseline disability.
$D_{\mathrm{x,y}}$ denotes the disability from age x to age x+1 in cohort y. Note that D_{100} is not 1.
C_{y} denotes the cohort. A negative y is used if the cohort has not yet been born. For example, C_{-25} denotes the cohort that will be born in 25 years.

For an individual in cohort y, we can calculate healthy life-expectancy (HLE) based on the mortality rates and disability weights in Table Baseline mortality and Table Baseline disability

(i.e., $\mathrm{HLE}_{\mathrm{baseline,y}}$) and on Table Adjusted mortality and Table Adjusted disability (i.e, $\mathrm{HLE}_{\mathrm{adjusted,y}}$). The healthy life-years (HLYs) gained is now simply

$$\text{HLYs gained}_{\mathrm{y}} = \mathrm{HLE}_{\mathrm{adjusted,y}} - \mathrm{HLE}_{\mathrm{baseline,y}} .$$

Total HLYs gained from scaling up one or more interventions then becomes the sum

$$\text{Total HLYs gained} = \sum_{\mathrm{y}=-25}^{100}\left(\text{HLYs gained}_{\mathrm{y}} \times \mathrm{N}_{\mathrm{y}}\right) ,$$

where N_y is the number of individuals in cohort y.

Calculating statistical lives saved (SLS) for the individuals in cohort y can be done by taking the sum

$$\mathrm{SLS}_{\mathrm{y}} = \mathrm{N}_{\mathrm{y}} \times \sum_{\mathrm{x}=0}^{100}\left(\mathrm{M}_{\mathrm{x}} - \mathrm{M}_{\mathrm{x,y}}\right) ,$$

where M_x and $M_{x,y}$ are from Table Baseline mortality and Table Adjusted mortality. If we want to limit ourselves to counting SLS, for example, during the scale-up period, this is done by changing the start and end values of the index x.

Summing over y gives the total SLS,

$$\text{Total SLS} = \sum_{y=-25}^{100} \mathrm{SLS}_{\mathrm{y}} .$$

Calculating lives saved under a certain age, X, we can first calculate the risk of dying before X for each cohort. At baseline, this risk is

$$\mathrm{P}_{\mathrm{y}}(\mathrm{X}|\text{baseline}) = 1 - \left(1 - M_{\max(y,0)}\right) \times \cdots \times (1 - M_{\mathrm{X}}) ,$$

Where $\max(y, 0)$ ensures that we do not consider pre-birth mortalities for cohorts C_{-25} through C_{-1} or the mortality of years past for cohorts C_1 through C_{100}. After scaling up the interventions, the risk becomes

$$\mathrm{P}_{\mathrm{y}}(\mathrm{X}|\text{adjusted}) = 1 - \left(1 - M_{\max(y,0),y}\right) \times \cdots \times \left(1 - M_{\mathrm{X,y}}\right) ,$$

Now, lives saved below X is the sum

$$\text{Under-X lives saved} = \sum_{\mathrm{y}=-25}^{100}\left(\left(\mathrm{P}_{\mathrm{y}}(\mathrm{X}|\text{baseline}) - \mathrm{P}_{\mathrm{y}}(\mathrm{X}|\text{adjusted})\right) \times \mathrm{N}_{\mathrm{y}}\right) .$$

Demographic projection model

In our study, we employ the cohort component projection method to model demographic changes, integrating the primary determinants of population dynamics: fertility, mortality, and migration. The initial population structure, segmented by sex and categorized by discrete age groups from 0 to 100 years, is based on the 2022 release of the World Population Prospects (WPP) by the United Nations Population Division.

We initiate our projections with a detailed population age structure, delineated by sex and organized into single-year age brackets, ranging from 0 to 100 years. For fertility, we utilize the age-specific fertility rates (ASFR) provided by the WPP. The number of births is calculated by multiplying the number of females in each reproductive age group (typically ages 15 to 49) by the corresponding ASFR, and integrating across all reproductive ages to include the entire fertility span:

$$B(t) = \int_{a=15}^{49} ASFR_f(a,t) \times P_f(a,t)da$$

However, due to the granularity of the data and the necessity for computational efficiency, we opt for a discrete approximation:

$$B(t) = \sum_{a=15}^{49} ASFR_f(a,t) \times P_f(a,t)$$

For mortality, we derive life tables from the WPP mortality rates. The survivorship of individuals in the population is calculated using life table survivor rates, $S(a,t)$, which give the probability of surviving from age a to age $a+1$. This allows us to compute the population at each age and sex in the subsequent year:

$$P_s(a+1,t+1) = P_s(a,t) \times S_s(a,t)$$

Here, s denotes the sex subscript, distinguishing between male (m) and female (f) populations. Finally, the population projection is refined by incorporating net migration, $M_s(a,t)$, for each age and sex:

$$P_s^*(a+1,t+1) = P_s(a+1,t+1) + M_s(a,t+1)$$

The total adjusted population for each age and sex in the subsequent year is thus the sum of the survivors from the preceding year and the net migrants. These equations collectively form the foundation of our demographic projections, providing a comprehensive account of population evolution based on rigorous statistical modeling of the fundamental demographic processes.

Cost model

Our cost model generally followed the approach outlined by Watkins and colleagues in DCP3.[11] In brief, we searched the literature for estimates of the annual unit cost (defined per population or per case treated, depending on the intervention) of each of the interventions described below. (Data sources for each intervention are also provided below.) To each intervention-specific unit cost $c_{i,lit}$ presented in the literature, we added in health system strengthening costs to each unit cost estimate c and intervention i.

$$c_i = c_{i,lit} + \alpha \cdot c_{i,lit} + \beta \cdot (c_{i,lit} + \alpha \cdot c_{i,lit})$$

As in DCP3, α is a markup reflecting facility-level "indirect" costs (e.g., utilities, maintenance, administration, laboratory and pathology services, etc.), calculated based on Access, Bottlenecks, Costs, and Equity (ABCE) Project data from the Institute for Health Metrics and Evaluation. The α markup was calculated by intervention platform (7.4% for outpatient facilities and 27% for inpatient facilities) based on estimates of the proportion of total cost from infrastructure, administration, and nonmedical services in Kenya, Uganda, and Zambia.
The β is a markup reflecting "above-facility" health system costs including supply chain, financing, governance and administration, and health information systems, set at 17% as per DCP3. We included these costs in our model to reflect the importance of investing in health systems to support delivery of specific interventions. (These costs were only added on when they were not included in the original studies.)

Unit costs were taken from representative studies based in single countries. These costs were extrapolated to all other LICs and MICs under the assumption that traded goods would not vary across countries, on average, and non-traded goods and services would vary in proportion to national income. Hence the unit cost in the target country y with gross national income (GNI) per capita S_y is estimated as

$$c_{i,y} = (\delta \cdot c_{i,x} \cdot \frac{S_y}{S_x}) + (1 - \delta) \cdot c_{i,x}$$

for unit cost c_i in the originating country x with gross national income per capita S_x and a traded proportion of total unit cost equal to δ. On average, δ was around 0.3, but we computed this proportion separately for each unit cost data point used. In a few instances, we used updated drug prices from Management Sciences for Health (MSH) in lieu of drug costs cited in the study (see below), and so the study-specific δ was adjusted further as necessary.

All costs were converted and inflated to 2022 US dollars using procedures described by Watkins and colleagues.[11] Unit cost estimates were combined with estimates of populations in need and estimates of population coverage to estimate intervention costs at a population level, $C_{i,pop}$:

$$C_{i,pop} = \sum_{i=1}^{n} c_i \cdot w_i \cdot p_i$$

where w_i is the proportion of the target population covered by intervention i and p_i is the estimated number of persons treated by intervention i, also referred to as the "population in need."

We assumed that c_i remained constant (in 2022 US dollars) throughout the analytic horizon, but we used year-specific estimates of p_i from the demographic model and year-specific values of w_i specified in our projection model (see above). This approach allowed us to generate a stream of population-level costs for all interventions, summed together to calculate the overall "package" cost. The summation was done by year for the baseline scenario (i.e., no change in w_i) and various intervention scenarios where w_i was increased year after year. The difference between these two streams of costs, then, is the "incremental cost" of the intervention scenario, which corresponds to an improvement in health that results from an increase in intervention coverage over the same time.

Emerging findings

Table 1 presents our estimates of the incremental cost of the "modules" that include each of the interventions in the current analysis. In total, expanding access to these interventions to an additional 10% of the population would require, annually, an additional 0.33% (33 basis points) of GDP in these countries. These costs are inclusive of the requisite investment in health systems (e.g., supply chain strengthening, facility overhead costs) required to implement them. However, the incremental cost of achieving full coverage of all interventions will vary by country.

Module name	**Incremental cost of expanding coverage by 10% (in basis points of GDP)**
Routine childhood immunization	0.12
Pregnancy and childbirth	3.7
Acute childhood illness	1.4
TB	0.26
HIV/AIDS	0.52
Public health functions	0.32
Primary surgical care	2.0
1st tier cardiovascular care	4.6
2nd tier cardiovascular care	2.0
1st tier cancer care	1.2
2nd tier cancer care	6.9
Primary mental health care	2.4
Family planning	1.1
School age child and adolescent development	0.65
Dental care	0.80
Rehabilitation	1.4
Custodial care*	0.69
Primary care functions	1.0
Emergency care functions	2.4

Note: The analysis was done for 40 low- and lower-middle-income countries that comprise 87% of the total population (3.4 billion people) and economic activity (US$ 7.5 trillion) of those two income groups.

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Appendix. List of interventions included in the 9 May 2024 analysis.

Alcohol use disorders, opportunistic screening and brief intervention
Antenatal care
BCG vaccine
Early care for newborn
Early detection and treatment of neonatal sepsis and pneumonia
Exercise based cardiac rehabilitation
Exercise-based pulmonary rehabilitation of COPD
Extensively drug-resistant TB
Family planning
Human Papilloma virus (HPV) immunization
IHD second best Management of acute coronary syndromes (aspirin,
Influenza and pneumococcal vaccine for people with chronic respiratory disease
Intermittent malaria prevention during pregnancy
Intermittent malaria prevention in infancy
Longitudinal management of asthma
Longitudinal management of chronic heart failure
Longitudinal management of COPD
Longitudinal management of diabetes mellitus type 1
Longitudinal management of diabetes mellitus type 2
Management of acute heart failure
Management of anxiety disorders
Management of bipolar disorder
Management of depression
Management of drug susceptible extrapulmonary TB
Management of drug susceptible pulmonary TB
Management of HIV
Management of maternal sepsis
Management of postpartum haemorrage
Management of psychotic disorders
Management of PTSD
Management of suicide and self harm
MMR vaccine
Multidrug-resistant TB
Opioid Agonist Treatment (OAT) and psychosocial support
P. Vivax treatment
Pentavalent vaccine (DPT-HepB-Hib)
Pneumococcal vaccine
Polio vaccine (Oral) (IPV)
PrEP for population at high risk of HIV (in high prevalence settings)
Prevention of hepatitis B MTCT
Prevention of relapse in vivaxovale malaria
Primary prevention with absolute CVD risk

Rehabilitation of stroke
Rotavirus vaccine
Safe delivery
Screening and treatment of pre-invasive cervical cancer
Secondary prevention of ischemic heart disease
Secondary prevention of peripheral vascular disease (aspirin,β-blockers,ACE inhibitors, ARB, statins)
Secondary prevention of stroke
Secondary prophylaxis with penicillin for rheumatic fever or established rheumatic heart disease
Supportive care for acute hepatitis A, adults
Supportive care for acute hepatitis A, children
Surgery for management of MDR XDR-TB treatment failure
TB preventive therapy (Isoniazide) for high risk people (e.g. PLHIV)
Tobacco cessation counseling (including nicotine agonist treatment)
Treatment of acute diarrhea in adults
Treatment of acute diarrhea in children
Treatment of acute exacerbation of asthma
Treatment of acute exacerbation of COPD
Treatment of acute lower respiratory infections, adults
Treatment of acute lower respiratory infections, children
Treatment of acute lymphoblastic leukemia
Treatment of acute malnutrition
Treatment of acute pharyngitis in children
Treatment of breast cancer
Treatment of Burkitt lymphoma
Treatment of cervical cancer
Treatment of Chagas disease
Treatment of colorectal cancer
Treatment of Echinococcosis
Treatment of ectopic pregnancy
Treatment of Hodgkin lymphoma
Treatment of Human African trypanosomiasis
Treatment of Leishmaniasis
Treatment of measles
Treatment of severe acute malnutrition
Treatment of severe malaria 0-14yrs
Treatment of severe malaria 15-99yrs
Treatment of typhoid and paratyphoid in adults
Treatment of typhoid and paratyphoid in children
Treatment of uncomplicated malaria
Treatment of urinary tract infection
Treatment of Wilms tumor
Voluntary medical male circumcision service in settings with high prevalence of HIV