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A New Compact for Financing Health Services in Ethiopia

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Abstract

Recent years have seen health aid play a crucial role in improving health outcomes in low- and middle-income countries, though challenges remain in optimizing the allocation and impact of these resources. The Center for Global Development (CGD) proposes a framework for global health financing that advocates for aid to complement domestic resources by funding high-value interventions, enabling governments to focus on essential services. A case study in Ethiopia explored the implications of this "New Compact" approach, analyzing Ethiopia's essential health services package and prioritizing interventions based on cost-effectiveness. By applying different financing scenarios, the study found that current health financing practices in Ethiopia are inefficient, failing to align resources with the most cost-effective interventions, thereby undermining goals for equitable health service delivery and Universal Health Coverage (UHC). The study suggests that adopting the full New Compact approach, where the Ethiopian government finances top priority health interventions while donor aid extends coverage to additional high-value services, could significantly enhance health outcomes, potentially increasing healthy life years (HLYs) by 15 percent. However, full implementation faces practical challenges, leading to the development of a partial New Compact scenario. This more realistic model retains most of the health gains by allowing some donors to adopt the new financing strategy while others maintain existing commitments, showing that even incremental shifts toward this approach can yield substantial benefits. The study emphasizes the importance of aligning donor aid with country priorities and demonstrates that even partial realignment can drive significant improvements in health service delivery and outcomes, ultimately leading to a more sustainable and resilient health financing system.

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Background

Development assistance for health (DAH) contributes to a substantial portion of domestic financing in many low- and middle-income countries.[1] Globally in 2019, DAH accounted for 25 percent of total spending in low-income countries.[1] Inadequate total volumes of financing to recipient countries; fragmentation, volatility, and uncertainty of financial flows; displacement of domestic financing; inappropriate priority setting; inadequate coordination and disagreement on the rationale for DAH; weak mechanisms for accountability; and the lack of transition planning and country ownership have all been significant challenges relating to DAH.[2,3] Analysis of DAH in Africa showed that it might have a substitution effect on public domestic funding and be an obstacle to the formation of sustainable models for UHC financing.[4]

According to the latest national health accounts, the total health expenditure (THE) in Ethiopia was US$3.62 billion in 2019/20 with a per capita expenditure of US$36.30.[5] The government's share of THE was 32.3 percent (US$1.17 billion), while DAH and household direct out-of-pocket (OOP) expenditures accounted for 33.9 percent (US$1.23 billion) and 30.2 percent (US$940 million), respectively.[5] A substantial portion (62.3 percent, US$2.3 billion) of the available funds address communicable, reproductive, maternal, perinatal, and nutritional disorders in Ethiopia.[4] The major focus areas of DAH have been HIV/AIDS, malaria, and tuberculosis, as well as reproductive, maternal, newborn, and child health interventions both in Ethiopia and globally.[1,5] However, although external health resources have contributed to significant achievements, such as HIV/AIDS pandemic responses and malaria prevention, the organisation of development aid in Ethiopia has raised several key challenges, including fragmentation, inappropriate priority setting, and volatility and uncertainty of financial flows, as mentioned above.[6–8]

Ethiopia revised its essential health services package (EHSP) in 2019 and, at the time of writing, is finalising the health insurance benefits package (HIBP) led by the Ethiopian Health Insurance Services (EHIS), targeting only the community health insurance beneficiaries in Ethiopia.[9] Despite attempts to address harms from DAH fragmentation by adopting sector-wide and pooled funding approaches to harmonise donor funding in Ethiopia, such as the Joint Sustainable Development Goals (SDG) Fund, the majority (60 percent) of the external resources for health are still managed by donors and nongovernmental organisations.[5,10] Furthermore, reforming health financing to improve efficiency and accountability is one of the five priority issues identified as part of the transformation agenda for the second health sector transformation plan (2020/21–2024/25) in Ethiopia.[11] However, the public financial report does not reflect the link between performance and health sector priorities and the level of resources, as revealed by a health financing progress assessment conducted in 2022.[10] Such gaps could compromise the government's ambition to achieve UHC by 2030 and therefore need to be addressed.

The CGD has proposed an approach to address DAH shortcomings and empower country institutions, referred to as the "New Compact."[3] The idea centres around an organising principle, namely that aid

would not target highly cost-effective interventions but would be consolidated into a top-up package at the margin, creating space for domestic financing to fund and manage a cohesive package of the highest value essential services. The approach comprises three elements:

- **Locally led, evidence-informed prioritisation.** Country institutions are supported to set health priorities, drawing on relevant available evidence.
- **Domestic-first resource allocation.** Countries take ownership, including financing, of the core package of high-priority services.
- **Consolidated supplementary aid.** Donors work with each other and country leaders to design a top-up package, both in terms of additional health services and other crosscutting support.

Ethiopia is a good candidate for a case study to further understand and develop the New Compact, both because it receives a significant amount of health aid and, crucially, because much work has been done on evidence-informed prioritisation for health.[9,12,13] Therefore, in this case study, we aim to better understand country-level implications of an applied New Compact approach in Ethiopia. We demonstrate this approach by creating three different New Compact scenarios: funding arrangements under the current practice; a full New Compact, in which domestic finances are allocated first for the highest priority services and aid covers top-up; and a partial New Compact approach involving mixed donor adoption.

Methods

We drew on extensive previous work on evidence-informed design of health benefits packages in Ethiopia to explore scenarios for reworking health financing arrangements to reflect a New Compact between countries and donors. In the analysis, we included healthcare interventions that address the most prevailing disease conditions in Ethiopia (addressing 95 percent of the disability-adjusted life years (DALYs) burden).[14] We ranked interventions based on their average cost-effectiveness ratios (ACERs). ACERs for each intervention were retrieved from the literature.[12,15–90] Health expenditure data and their financing sources were retrieved from the MoH data repositories for the 2014 Ethiopian calendar (2021/22, Gregorian Calendar). Intervention costs and expenditure data were expressed in USD using an average exchange rate of 48.7.[92] The interventions list, ACER values, and cost of interventions are included in Appendix 1.

Intervention prioritisation

The EHSP in Ethiopia used cost-effectiveness evidence as a key criterion in prioritising health interventions. Both in the current exercise and the EHSP revision, we used ACERs rather than incremental cost-effectiveness ratios, since ACERs are evaluated against a common baseline, thereby allowing comparison among interventions for different conditions.[93]

Data on ACER values were extracted from a range of sources, including the Tufts Cost-Effectiveness Analysis (CEA) registry, WHO-CHOICE, available local economic evaluation studies, and a literature review.[15–17,94]

Financial costs of interventions

We estimated the financial costs of interventions based on unit cost estimates, the target population, population in need, and coverage levels. The EHIS is currently revising the health insurance benefits package (HIBP), in which they developed unit cost estimates for more than 700 interventions. The HIBP unit costs did not account for personnel costs; therefore, we added 20 percent to the HIBP unit cost estimates to account for personnel costs based on expenditure data from the MoH. The HIBP does not have unit cost estimates for community- and population-level interventions, for which we obtained unit costs from other sources, such as WHO-CHOICE and local costing exercises.[15,16] The target population and population in need of specific interventions were largely obtained from OneHealth Tool and the Global Burden of Diseases.[12,95]

Who funds what intervention in Ethiopia

Data on government allocation for health (at federal and regional levels) expenditure, household direct OOP expenditure, and DAH were gathered from reviewing MoH expenditure data repositories and national health accounts, as well as by conducting key informant interviews.[5] OOP data for the analysis in the current practice scenario was estimated based on qualitiative accounts from key informant interviews (with health financing experts from the Office of Strategic Affairs at the Federal Ministry of Health – Ethiopia) and in absence of evidence that services would be covered by some other source. Different arrangements to manage external resources available from donors were factored into the analysis.[10]

Scenario analysis

We developed three financing scenarios, (1) reflecting an approximate description of the current EHSP, (2) a full New Compact scenario, and (3) a partial New Compact scenario. Each scenario is further classified into prioritised groups of interventions for ease of presentation. Increasing intervention coverage is a key element of New Compact arrangements, in addition to reworking who finances which services. The scenarios were modelled at an 80 percent intervention coverage level to reflect UHC aims and realistically attainable coverage rates in Ethiopia.

1. Scenario I: current practice. This scenario provides a simplified model of current health services available and funded from public and donor sources, as well as OOP expenditures at the point of care.

2. Scenario II: full New Compact. The government covers the highest priority interventions, and all donor resources are used to cover interventions at the margins, regardless of the type of intervention or disease area.
3. Scenario III: partial New Compact. On-budget aid (both Channels I and II) is informed by country-led priorities in budget planning processes. Gavi, the Vaccine Alliance takes steps towards a New Compact but within its earmarked, vaccine-specific mandate. GFATM does not adopt a New Compact approach. These roles taken by Gavi and GFATM are designed to plausibly test how the New Compact would manage a situation in which different donors take different approaches.

We used MS Excel to analyse data. Interventions were listed with their corresponding ACER values and total costs for each intervention. Finance sources for each intervention were identified and included (see Appendix 1). The league table was then reordered based on ACER values from the most cost-effective to the least cost-effective, in line with the financing arrangements for Scenarios I, II, and III.

In the different scenarios, we assumed that government resources will be available to fund only selected interventions regardless of the current practice, in which there is cost sharing for all the interventions delivered within public health facilities in Ethiopia (personnel costs are covered by the government). Note that personnel costs are included as part of intervention costs.

For each intervention, we allocated the sources of financing as follows:

- Government, if the resources are from the government treasury and if the government has a plan to cover those services, including both federal and regional allocations for health (services that are exempt from the plans include maternal, neonatal, and reproductive health services);[i]
- Channels I[ii] and II[iii], if the resources are donor-pooled funds and allocated to government priorities;
- OOP expenditure (services are available and provided in public health sectors), if the interventions are mostly financed OOP;
- Not yet implemented (NYI), if it is not yet implemented in the public system; and Gavi and GFATM (earmarked funding), if a major portion of the intervention is financed from these sources. There are several other earmarked funding sources that were not included because

i Even though interventions for maternal, neonatal, and reproductive health services are included under the exempt services by the MoH in Ethiopia, full financial commitment is lacking.

ii Donors that contribute to Channel I (federal block grant) include the European Union and World Bank.

iii Donors that contribute to Channel II (the Joint Sustainable Development Goals Fund) include UNICEF, the United Nations Population Fund, WHO, the Italian Agency for Development Cooperation, the Korea International Cooperation Agency, World Bank, the Embassy of the Kingdom of the Netherlands, Irish Aid, the Department for International Development, the Spanish Agency for International Development Cooperation, and so on.

of their smaller contributions to the funding envelope (see Appendix 1, "Others" sheet), and our aim is to demonstrate only the New Compact approach.

We calculated an estimate of the HLYs gained for the three scenarios. We used the ACER values of each intervention and the total cost of the interventions at 80 percent coverage levels to estimate the government financing envelope, donor resources, and the overall total. In estimating the gains in HLYs, we have excluded cost-saving interventions; therefore, the results are likely to be underestimated values for the actual gains.

As a secondary analysis, we also explored the implications of the cost-effectiveness thresholds (CETs) for ACERs using the transition points between government and donor financing, and donor financing and excluded services. CET findings were reported in Appendix 2.

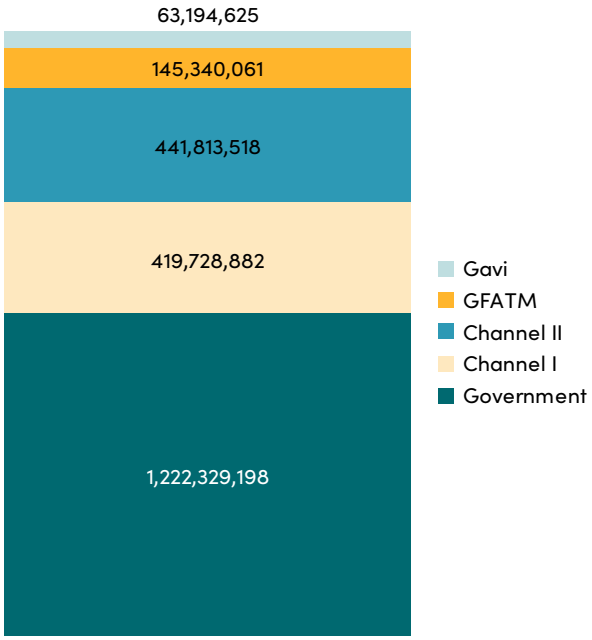
Results

We identified 214 healthcare interventions (see Appendix 1), including 47 infection and parasitic disease interventions, 121 noncommunicable disease and injury interventions (20 are interventions for mental, behavioural, and neurologic conditions), 8 nutritional deficiency interventions, and 38 reproductive health interventions.

Health expenditure by financing sources

Figure 1 presents health expenditure data for 2021/22 stratifed by financing sources. Some donor funds are pooled and allocated via the federal block grant managed and disbursed by the Ministry of Finance (Channel I). The Joint Sustainable Development Goals (SDG) Fund is part of the pooled donor funds that are managed and disbursed by the MoH (Channel II). Some donors, such as the GFATM and Gavi, have earmarked budgets. OOP data are not included in Figure 1, as they are not tracked routinely and were unavailable for 2021/22.

FIGURE 1. Total health expenditure in USD by major financing sources in Ethiopia, 2021/22



Note: OOP expenditure data are not included, as they are only periodically tracked and were unavailable for 2021/22.
Source: MoH expenditure data for government and donor funds.

Intervention cost and cost-effectiveness

The average cost-effectiveness values range from interventions that are cost-saving, such as population-level interventions for the prevention and control of noncommunicable diseases, to the least cost-effective interventions, including renal dialysis (see Appendix 1).

Scenario I: current practice

Based on expenditure data, the total available resources from the government treasury, Channels I and II, the GFATM and Gavi were US$2.29 billion for the 2021/22 period. In this scenario, resources from the government treasury and from Channels I and II are merged, since the resources available from these sources are not tied to a specific intervention, as is the case in earmarked funding. Scenario I, A in Figure 2 below shows the funding sources for the top 31 priority interventions in Ethiopia at the assumed 80 percent coverage in the current practice (refer to Appendix 1 for a detailed interventions list). It demonstrates a mixed pattern, in which all financing sources fund the top-priority interventions. Furthermore, it shows that most of the highly cost-effective interventions are either not yet implemented (the light gold bars in Figure 2; e.g., setting target levels for the amount of salt in foods, adopting interpretive front-of-pack nutrient labelling systems for salt, sugar, etc.) or are financed by OOP expenditures (the blue bars in Figure 2; e.g., management of rheumatic heart disease (RHD) and its associated complications (medical and surgical), diagnosis and treatment of urinary tract infections). The current practice would result in an approximate

total of over 112 million HLYs gained (with a total of US$20.40 per HLYs gained), while government funding sources would result in slightly over 55 million HLYs gained, which on average equates to US$22.10 per HLYs gained (see Table 2).

FIGURE 2. Health services financing arrangements under Scenario I, current practice* in Ethiopia, 2021/22

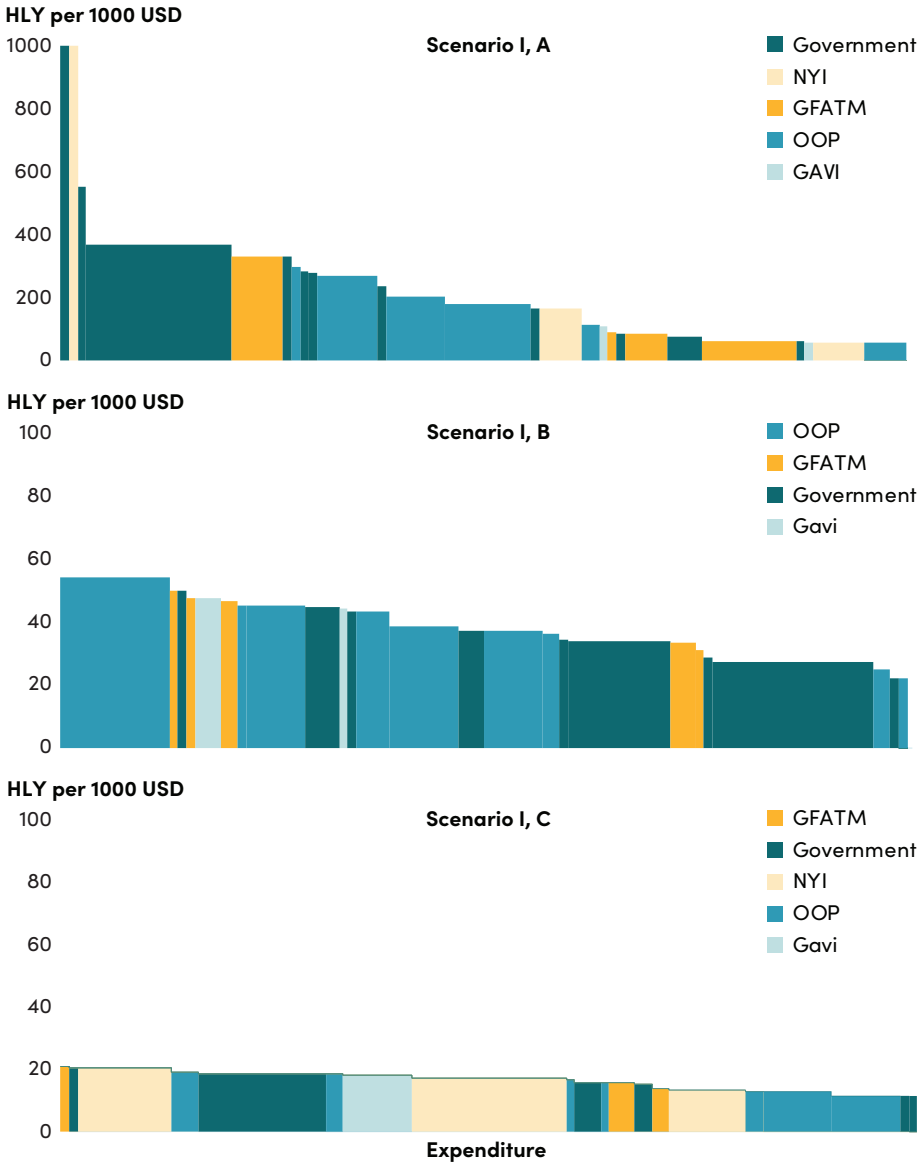
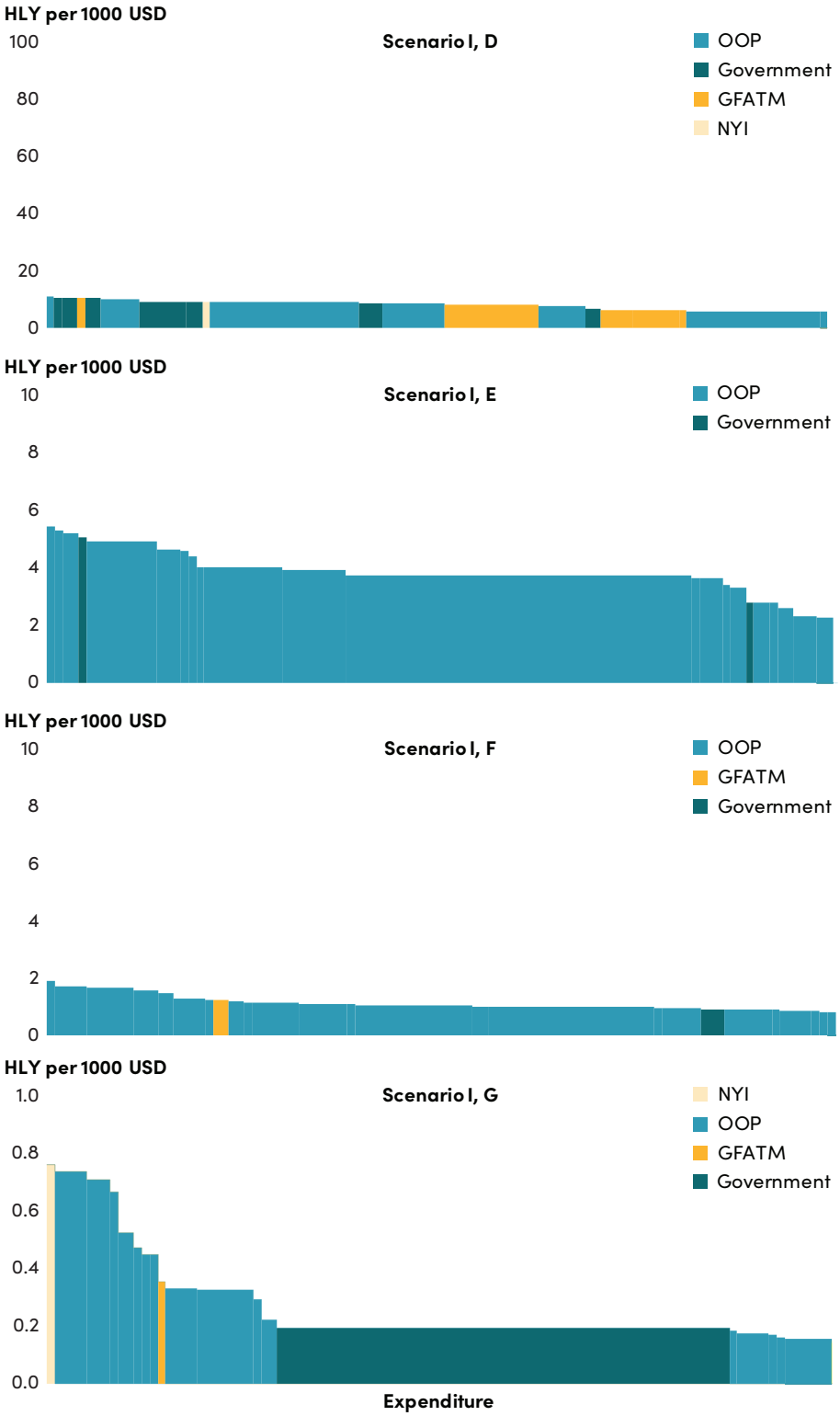


FIGURE 2. (Continued)



Notes: *Assumes 80 percent service coverage. GFATM: Global Fund to end Tuberculosis, HIV/AIDS and Malaria; OOP: out-of-pocket expenditure; NYI: not yet implemented; HLY: healthy life years gained.

Scenario II: Full New Compact

In Scenario II, the government finances the highest priority interventions, while donors act at the margins to include further interventions from the list, regardless of intervention or disease area. At 80 percent intervention coverage, the government can finance 66 of the most cost-effective interventions, donor funds from Channels I and II cover the next 62 interventions, a combination of resources from government and donor funds from Channels I and II cover 1 intervention, while the GFATM and Gavi cover the next 10 interventions. Figure 3 below shows the financing of these 139 interventions: the interventions covered from government sources (Scenario II, A and part of Scenario II, B) are followed by Channels I and II (part of Scenario II, B; Scenario II, C; and part of Scenario II, D), and by the GFATM and Gavi (part of Scenario II, D).

FIGURE 3. Health service financing arrangements for scenario II, full New Compact* in Ethiopia

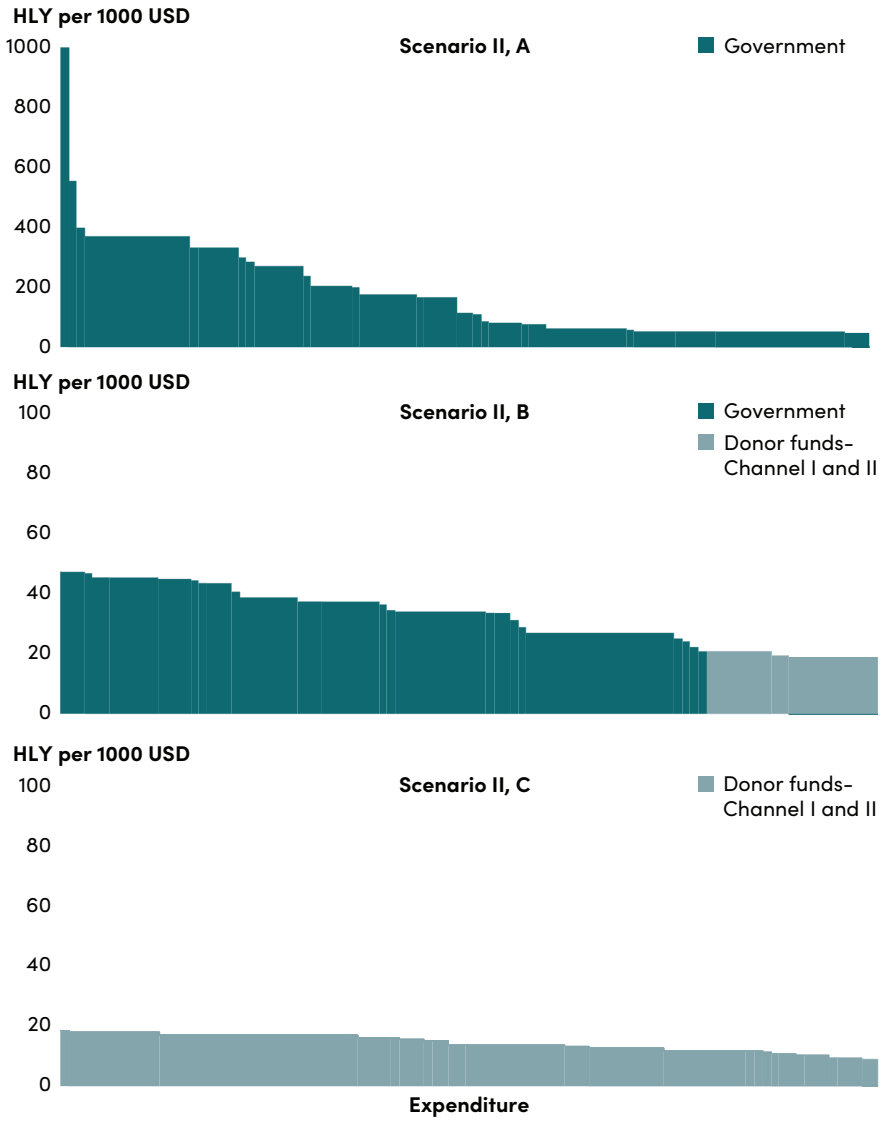
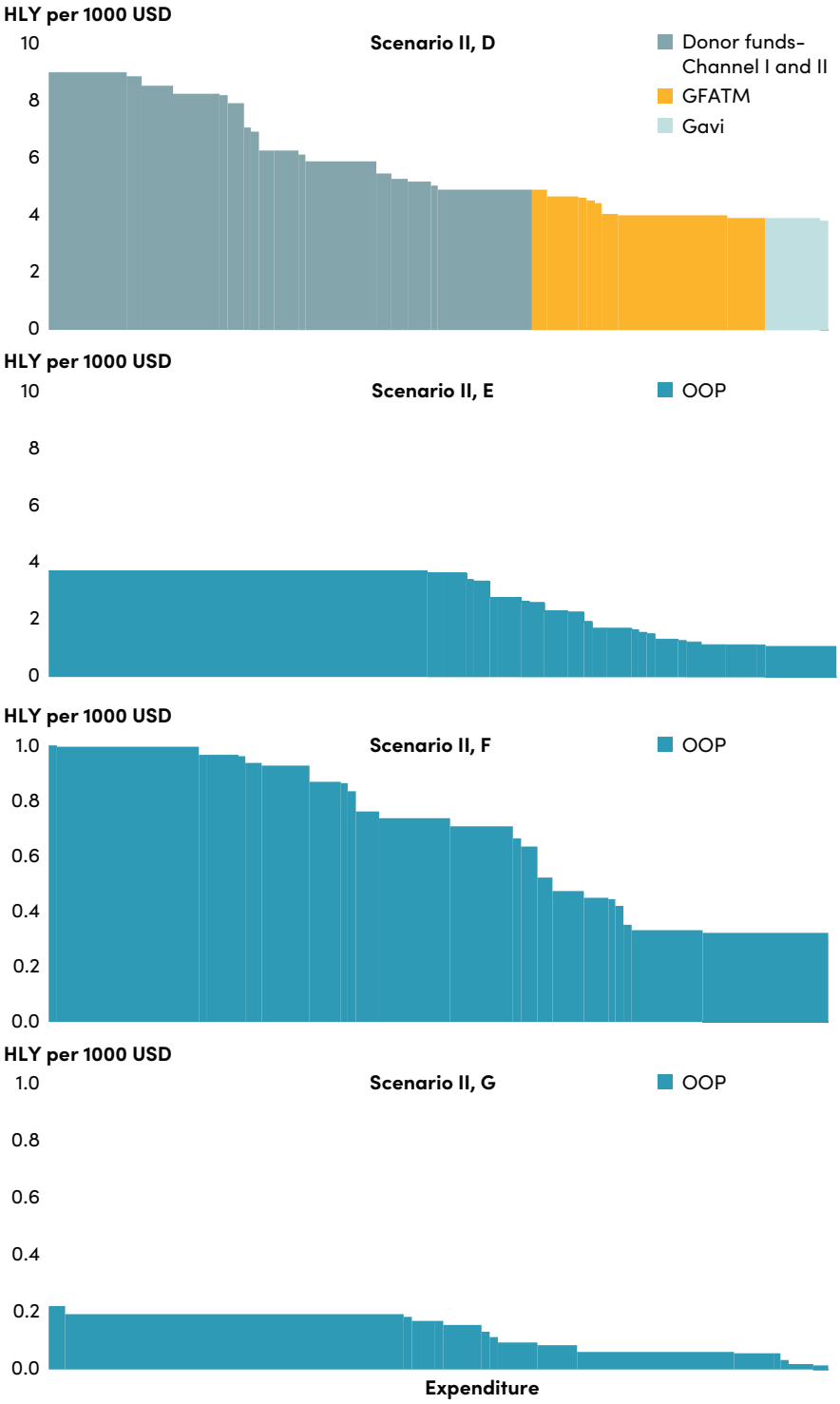


FIGURE 3. (Continued)



Notes: *Assumes 80 percent service coverage. Government resources finance the most cost-effective interventions, and donors support at the margins with unearmarked financing. GFATM: Global Fund to end Tuberculosis, HIV/AIDS and Malaria; OOP: out-of-pocket expenditure; HLY: healthy life years gained.

In this scenario, some of the most cost-effective interventions such as vaccines, some interventions for HIV/AIDS (for example, intensifying behavioural change communications targeting the at risk population and priority geographic areas; targeted, quality assured HIV testing and counseling services; first-line pediatric antiretroviral therapy), for malaria (such as long-lasting insecticide-treated bed nets, vector control), and for tuberculosis (detection and treatment of tuberculosis with drug sensitivity analysis) would be financed by the government rather than as in the current arrangement. Similarly, some population-level interventions not yet implemented in the current practice, such as setting target levels for the amount of salt in foods and meals, and interventions largely financed from OOP expenses at the point of care (such as the secondary prevention of rheumatic heart disease via screening and prescribing antibiotics, or the management of middle ear infections with antibiotics with or without myringotomy) would be prioritised for government financing. Furthermore, Scenario II would result in additional gains in HLYs as compared with the current practice by an approximate total of nearly 17 million HLYs. This would mean an average gain of one HLY per US$17.70 invested for Scenario II overall (as compared with a total of US$20.40 in the current practice; see summary in Table 2). This demonstrates an estimated overall 15 percent improvement in efficiency from Scenario I to II and involves a greater than two-fold increase specifically for government funding sources. The gain does not account for some of the cost-saving population-level interventions included in Scenario II.

Scenario III: Partial New Compact

In Scenario III, we evaluate when some donors adhere to the New Compact approach, while others do not, at 80 percent intervention health service coverage. Figure 4 below displays what interventions are covered from government sources and from a donor who does not adopt the approach, in this case GFATM. Donor funds – Channels I and II fully adopt the approach, while Gavi takes steps towards a New Compact but within its earmarked vaccine-specific mandate (see section "vaccine financing" below).

FIGURE 4. Health service financing arrangements for Ethiopia for a partial New Compact scenario

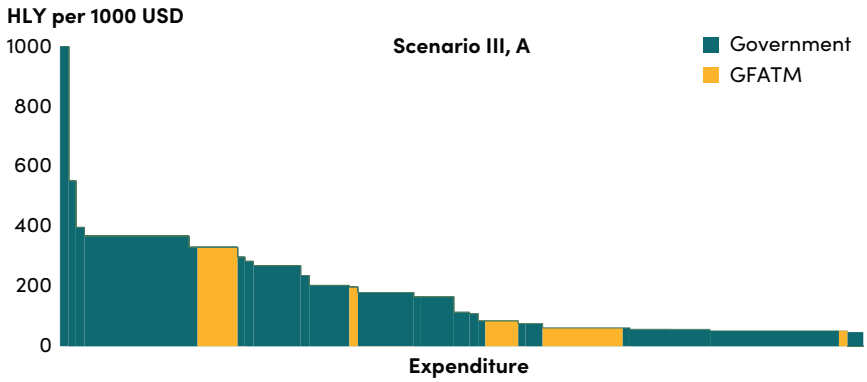


FIGURE 4. (Continued)

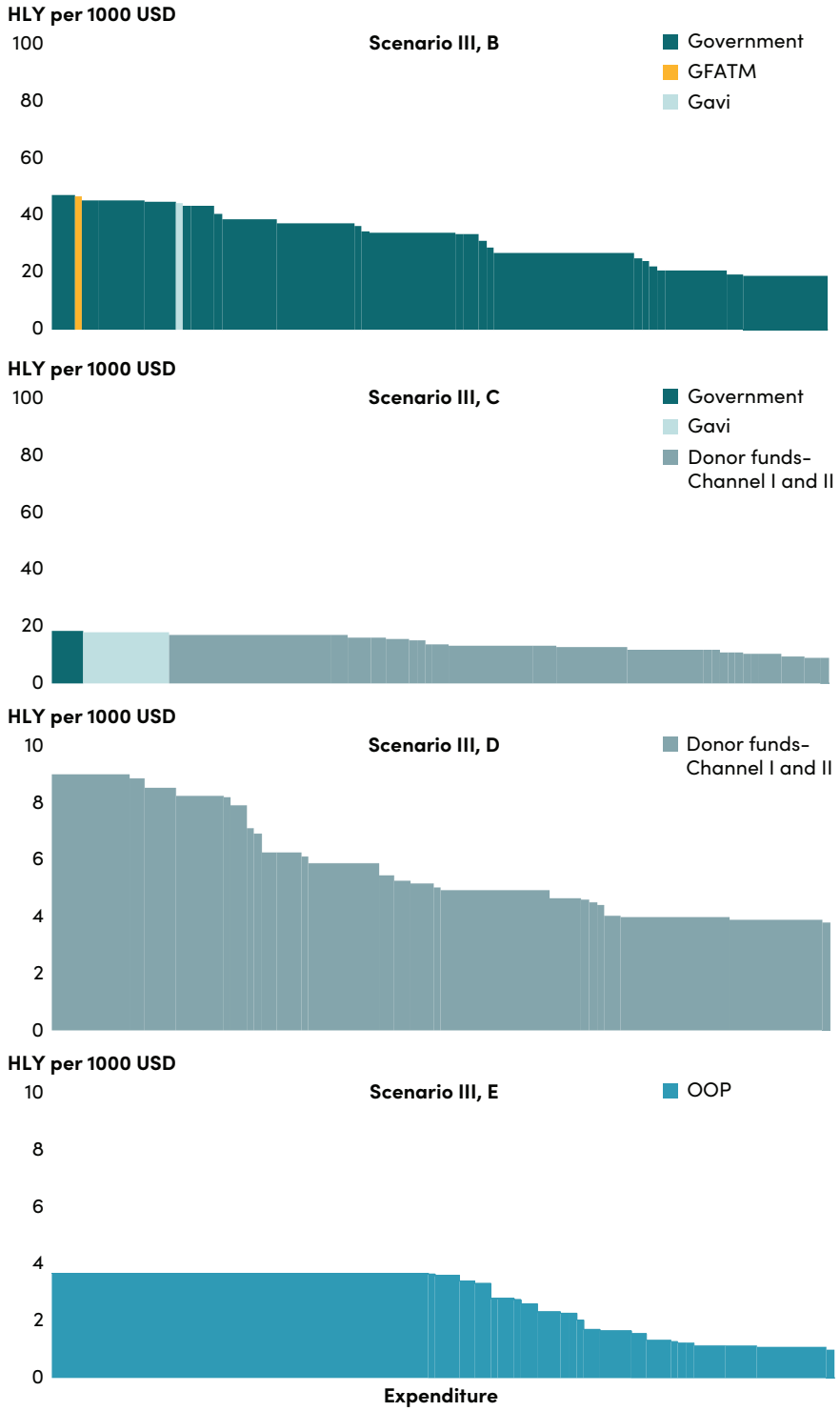
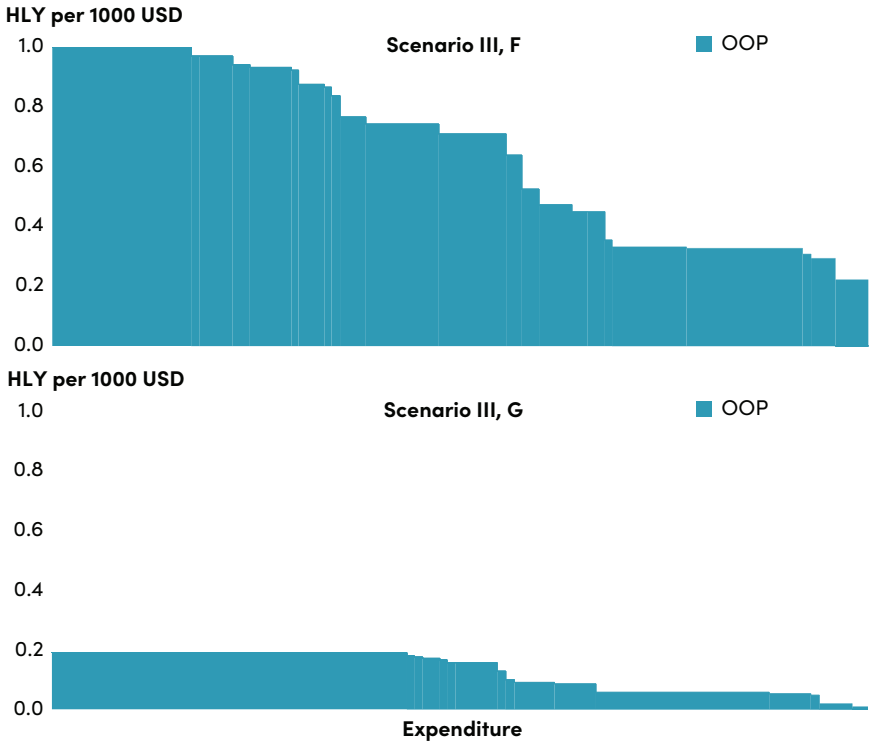


FIGURE 4. (Continued)



Notes: *Assumes 80 percent service coverage. Channels I and II are on a budget assumed to reflect national priorities. GFATM is assumed not to be able to adopt a New Compact model. Gavi adopts policy shifts within the scope of its mandate. GFATM: Global Fund to end Tuberculosis, HIV/AIDS and Malaria; OOP: out-of-pocket expenditure; HLY: healthy life years gained.

Scenario III would result in 128 million HLYs in total, which is more than 16 million additional HLYs compared with the current practice (and the same HLYs gained as in Scenario II). As part of this, government resources result in nearly 104 million HLYs gained – over 48 million HLYs compared with the current practice (refer to Table 2).

Vaccine financing

In order to dive deeper into the applied New Compact for a donor in Ethiopia, we present an illustrative example of the earmarked health service financing arrangements for Gavi at 80 percent coverage in Table 1. Note that this is not prescriptive or a recommendation to be followed. As part of reworking health service financing, Gavi could shift its current financing approach to enable the Ethiopian government to assume a greater share of financing of the highest priority vaccines. This shift would involve a change for Gavi from current, more cost-effective interventions to the proposed (Scenario III), less cost-effective vaccines, in order to enable country-led financing. As shown in Table 1, the government would fund the three most cost-effective interventions, Gavi and the government would co-finance the routine Expanded Programme on Immunization (EPI: protects from measles, diphtheria, pertussis, tetanus, polio, and tuberculosis) and additional vaccines (rotavirus, pneumococcal, and hepatitis B (HepB) – if using the pentavalent), and Gavi would finance

the remaining vaccines. Under this arrangement, the HepB birth dose vaccine could be added to the package of interventions provided in Ethiopia, and there would be an estimated US$2.49 million remaining funds from Gavi's budget for further use, which we unpack in the discussion section.

TABLE 1. Health service financing arrangement shifts for Gavi under the New Compact

Intervention	ACER	Estimated Intervention Cost for 80% Coverage, USD	Scenario I Financing Source	Scenario III Financing Source
Provision of 1st dose of IPV	9	6,636,869	Gavi	Government
Provision of MCV 2 through routine immunisation	10	2,203,498	Gavi	Government
H. influenzae B vaccine	17.5	2,080,000	Gavi	Government
Routine EPI[#] + additional vaccines (rotavirus, pneumococcal, HepB – if using the pentavalent vaccine)	21.1	20,468,835	Gavi	Government and Gavi
Provision of tetanus toxoid vaccine	22.6	5,644,264	Gavi	Gavi
Vaccination against HPV of girls ages 9–14 years	55	42,633,559	Gavi	Gavi
HepB vaccine: birth dose	110	2,190,400	NYI	Gavi

Notes: Reported Gavi funds for Ethiopia in 2020/2021: $63,194,625; remaining Gavi budget in proposed Scenario III: $2,491,985. NYI: not yet implemented; IPV: inactivated poliovirus vaccine; MCV: meningococcal vaccine; EPI: Expanded Programme on Immunization; [#]: Routine EPI contains vaccines against tuberculosis, polio, diphtheria, tetanus, and measles; HPV: human papillomavirus.

TABLE 2. Comparison of healthy life years (HLYs) gained for the different scenarios and financing sources

Scenarios	Financing Source	Total HLYs Gained	Additional HLYs Gained*	USD per HLY Gained
Current Practice	Government	55,330,786	---	22.1
	Channels I and II	38,999,165	---	22.1
	GFATM	15,995,982	---	9.1
	Gavi	2,296,470	---	27.5
	Total	**112,622,403**	---	**20.4**
Full New Compact	Government	117,787,428	62,456,642	10.4
	Channels I and II	10,910,990	-28,088,175	79
	GFATM	608,874	-15,387,108	238.7
	Gavi	146,010	-2,150,460	432.8
	Total	**129,453,302**	**16,830,899**	**17.7**
Partial New Compact	Government	103,840,455	48,509,669	12
	Channels I and II	7,758,752	-31,240,413	111
	GFATM	15,995,982	0	9.1
	Gavi	1,044,815	-1,251,655	60.5
	Total	**128,640,004**	**16,017,601**	**17.8**

Notes: *Compared with the current practice. In the current scenario, Channels I and II funding sources were not attached to specific interventions; therefore, we extrapolated the HLYs for these sources based on the average gain from government and resources from the two channels. Total expenditure, USD, for each source includes: government = $1,222,329,198; donor funds – Channels I and II = $861,542,400; GFATM = $145,340,061; Gavi = $63,194,625; overall total = $2,292,406,283.

Discussion

We developed a platform to explore alternative approaches for a New Compact on prioritising and financing health services in Ethiopia. We found that, in Ethiopia, significant domestic and on-budget donor health financing means that more effective, country-led prioritisation has the potential to greatly improve health impacts. In addition, there are options available for donors to compromise on their positions (i.e., move towards a New Compact approach while working within organisational constraints). We found that allocating finances according to cost-effectiveness results in an overall 15 percent increase in HLYs for the same budget. Moreover, we outlined which services would nominally be covered by which donor, if domestic finances were allocated to highly cost-effective services first, followed by donor finances. Recognising that a simple reallocation of all finances is unlikely to be feasible in the near future under real-world political economy considerations, we consider a partial New Compact scenario with more realistic allocations that would place donors enroute to improved financing models. Here, we found that most health gains are retained through better allocating government and flexible, on-budget financing as well as earmarked financing from GFATM and Gavi within their focus areas. This result emphasises that benefits are still realised when adopting the New Compact even when some donors make adaptations within their mandates and that an immediate transition to the approach is not essential. Notably, the attributable health gains for donors would decrease significantly, as a result of the greater than two-fold increase in health gains for the government due to a shift towards the government financing the most cost-effective services. Overall, the New Compact provides a framework for a transitional journey towards country-led financing, with improved health outcomes and more sustainable funding arrangements for health service interventions.

Scenario I: Current practice

We identified that health service interventions in Ethiopia are currently ineffectively prioritised. Under the current practice model (Scenario I), combined government and donor resources are not focused on the most cost-effective interventions; instead, they are financed either from direct OOP expenditure at the point of care or by donors, and some are not yet implemented in the Ethiopian public heath system. In effect, the HLYs gained are fewer in Scenario I than they are in Scenarios II and III. The extensive OOP payments for cost-effective interventions are an unrealised opportunity for the Ethiopian government to improve population health and are in opposition to Ethiopia's pursuit of equitable health service delivery and UHC. Furthermore, the expenditure review showed that there are many donors in Ethiopia with different financing arrangements, and most provide a small amount of support that is likely to burden the health system administration (see Appendix 1, "Others" sheet). Such fragmented financing arrangements could be a hurdle for integrated healthcare delivery and a misalignment with the Lusaka Agenda and donors' intentions to strengthen country health systems.[96] These findings suggest that the health financing landscape in Ethiopia requires revisiting to optimise resource utilisation and healthcare priorities. Pursuing the

agenda of sustainable domestic resource mobilisation for health and implementing the most cost-effective interventions could facilitate progress towards UHC.

Scenario II: Full New Compact

In Scenario II, the top priority health interventions are financed from government resources, and health aid expands the package with the next most cost-effective health interventions. With reduced fragmentation in intervention financing, the consolidated approach to financing health services may make it easier for the Ethiopian government to manage health service delivery. Scenario II also responds to some key challenges of current donor assistance.

Among the major issues that hinder the effectiveness of health aid is its volatility, which could arise due to programme changes or a shift in donor interests. Although DAH constituted a substantial portion of the health spending in Ethiopia in the last decade, the amount fluctuated and has declined in recent years.[97] A similar pattern is observed for programme areas such as HIV/AIDS development assistance in Ethiopia, which may result in disruptions in the delivery of some of the highly cost-effective HIV/AIDS services and in targeted programmes alike. The conditions of Scenario II, in which all donor aid aligns with country priorities, may offer reduced volatility, decrease the likelihood of DAH displacing domestic financing, and ensure sustainable and equitable access to the most cost-effective interventions. This scenario may also offer a smoother transition towards full domestic financing of health services when the time comes for Ethiopia.

Another benefit of the New Compact includes supporting a country-led effort towards a coordinated approach between Ethiopia and all donors. The overarching goal of improving health outcomes would be attained, as an estimated total of 16,830,899 HLYs (see Table 2) could be gained compared with the current practice. This result would involve an estimated doubling (55,330,786 to 117,787,428 HLYs gained from Scenario I to II) in health service efficiency for government funding and is an unrealised opportunity for improved health outcomes in Ethiopia's health system. Individual donors, however, would need to accept that their specific contributions would finance less cost-effective interventions (involving a total loss of 45,625,743 HLYs in Scenario II and 32,492,068 HLYs in Scenario III across all donor sources) and would need to claim their success in contributing to the overall improved health system. As donors often rely on narratives of providing highly cost-effective services for advocacy and fundraising purposes, a shift in their financing models will require the development of more nuanced narratives for reporting progress that include facilitating country-led achievements in health and strengthening specific health system functions. Additionally, it would be vital for the success of this approach that new models of joint reporting are developed, enabling donors to report their contributions to the overall impact on the health system by moving to a New Compact approach.

Despite Ethiopia's existing institutional efforts to establish evidence-informed priority setting for their health services (through establishing EHSP, HIBP, and EHIS) and to coordinate donor efforts, Scenario II would be challenging to achieve in the short- to medium-term for countries and donors.

If we consider realistic policy shifts, transitioning intervention financing to the full New Compact may risk ineffective implementation and leave populations at risk due to temporary service gaps or limited institutional capacity, in addition to the difficulties of facing today's social and economic challenges. Donor alignment and the coordination of partnerships have historically been difficult for global health initiatives, including Gavi and GFATM.[98,99] Therefore, the full New Compact may be a medium- or long-term goal, but in the short-term, more realistic alternatives need consideration, as shown in Scenario III.

It is worth noting that methodologically, the prioritisation of donor sources for Scenario II were arbitrarily allocated, and the subgroups' HLYs gained and cost expenditure are similarly arbitrary.

Scenario III: Partial New Compact

Scenario III illustrates a likely example in which most health aid would provide support at the margins while some donors do not adhere to the New Compact approach. In the foreseeable future, foreign aid is expected to contribute to a substantial portion of Ethiopia's healthcare resources. To accommodate this, Ethiopia adopted the sector-wide approach "One Plan, One Budget and One Report" for donor coordination more than a decade ago.[100,101] This approach has led most donors to coordinate their resources with government priorities, thereby reflecting capabilities that fall in line with the New Compact approach. Currently, however, some multilateral donors do not adhere to this approach, which might compromise aid effectiveness and country ownership.[102] Therefore, at least initially, Scenario III may be more realistic for countries and donors to adopt.

First, the pooling and allocation of donor Channels I and II, comprising the federal block grant and the Joint SDG Fund, are already managed by the MoH and align with the adoption of the New Compact approach. Reallocating finances as illustrated under Scenario III would therefore be feasible for funds that allow for this flexibility. Thus, this scenario would enable donors to support better service prioritisation led by the MoH while allocating top-up support to ensure the next most cost-effective service would still be available.

Second, Scenario III demonstrates that some donors cannot readily depart from predefined mandates (such as GFATM) and will not align with a New Compact approach. This lack of alignment will perpetuate a degree of fragmentation and complexity in donor financing, and in a sense decrease the HLYs potentially gained through government funding sources (Table 2).

However Morton et al.,[103] in a companion paper to this piece, explore the case for a New Compact between Gavi and partner countries, and elaborate on complementary policy shifts to rework vaccine financing. To build on this CGD analysis, we aimed to outline how Gavi and the Ethiopian government could rework vaccine financing, with the government financing the most cost-effective vaccines and Gavi financing the next most cost-effective vaccines, with a goal of at least 80 percent coverage across the board. Gavi's shift towards less cost-effective, vaccine-preventable interventions

creates space not only for government-led financing, but also for strengthening the processes and institutions required for delivery, as well as the link between these institutions and the public. Increasing MoH vaccine financing will create an opportunity to reallocate this Gavi budget to other areas: this could include financing interventions that were not yet implemented in Ethiopia, such as the birth dose for the HepB vaccine or the targeted introduction of a malaria vaccine, technical assistance towards agreed MoH priorities, or vaccine-relevant infrastructure investments. Recent challenges in Ethiopia, such as conflict, drought, and COVID-19, have limited its immunisation efforts. Gavi could also consider supporting Ethiopia's policy initiatives in response to acute challenges, such as administering catch-up vaccinations, addressing zero-dose backlogs, and assisting with their recovery and rehabilitation plan. Of note: the New Compact approach supports Gavi's existing arrangements to co-finance interventions, as was demonstrated (in Table 1) with both government and Gavi co-financing routine EPI and additional vaccines (rotavirus, pneumococcal, and HepB – if using the pentavalent vaccine).[104] The efforts to work towards countries' transitions out of Gavi support would also be aided by the arrangements under the New Compact approach.[105]

Overall, Scenario III captures how donors might support progress towards higher coverage and improve prioritisation while supporting country-led financing. The partial adoption of the New Compact can still produce similar population health benefits of the full adoption of the approach while also strengthening the health system. It is important to note that Scenario III provides an illustrative rather than prescriptive example for what the New Compact might look like between country and donor.

Strengths and limitations

This case study is the first to illustrate the applied New Compact using extensive, preexisting country-level data and evidence-informed prioritisation. The analysis is aided by valuable input from the Ethiopian MoH and partners. As this analysis aimed to provide illustrative examples, it can be used as a guide for what the New Compact may look like, but care should be taken not to overinterpret the evidence. We believe the data are sufficient for portfolio-level comparisons, but head-to-head comparisons between specific interventions would benefit from bespoke economic evaluation. Further, while budget planning can be informed by health benefits package design, it is more likely that single interventions would be financed by mixed donor sources, and such co-financing approaches were not explored in detail (see instead Gheorge et al. 2024).[106] Such mixed donor funding was not possible to incorporate in our analysis due to data source constraints. Service coverage was modelled at 80 percent for all services, balancing UHC ambitions with feasibility constraints. This is a simplification and the true service coverage will be heterogenous; significantly lower in many cases and higher in some. Furthermore, healthcare prioritisation and financing may not always translate into effective implementation to have population-level health impacts. Finally, our analysis is based primarily on ACER cost-effectiveness data; however, there may be other reasons for health service prioritisation.

Conclusion

We have used Ethiopia as a case study to explore the challenges and opportunities of reworking health financing according to a New Compact between countries and donors, whereby country-led priority setting directs domestic financing towards the highest priority services. While a full policy process would need to be more comprehensive, we illustrate possible prioritisation changes and potential compromises in which donor mandates are restrictive. We find that, in Ethiopia, significant domestic and on-budget donor health financing means more effective country-led prioritisation has the potential to greatly improve health impacts. In addition, there are options available for donors to compromise on their funding positions (i.e., move towards a New Compact approach while working within organisational constraints).

The New Compact, by focusing on cost-effective intervention prioritisation and resource optimisation, offers a compelling pathway for Ethiopia and similar contexts to achieve their health goals more effectively. This framework aligns with broader global health objectives, such as the Lusaka Agenda, by promoting sustainable and equitable health improvements through better financial management and strategic donor engagement.The political economy of reform can be challenging, but even partial realignment of health aid on priority healthcare services can drive improvements in population health outcomes and pave the way for a less fragmented approach to health aid and a less disruptive path for transitioning beyond aid.

References

1. Global Burden of Disease 2020 Health Financing Collaborator Network. Tracking development assistance for health and for COVID-19: A review of development assistance, government, out-of-pocket, and other private spending on health for 204 countries and territories, 1990–2050. Lancet. 2021;398(10308):1317–43.
2. Moon S, Omole O. Development assistance for health: Critiques, proposals and prospects for change. Health Econ Policy Law. 2017;12(2):207–21. doi: 10.1017/S1744133116000463.
3. Drake T, Regan L, Baker P. Reimagining global health financing: How refocusing health aid at the margin could strengthen health systems and futureproof aid financial flows. CGD Policy Paper 285. Washington, DC: Center for Global Development; 2023. Available from: https://www.cgdev.org/publication/reimagining-globalhealth-financing-how-refocusing-health-aid-margin-could-strengthen
4. Nonvignon J, Soucat A, Ofori-Adu P, Adeyi O. Making development assistance work for Africa: From aid-dependent disease control to the new public health order. HPP. 2024;39(1):i79–92. doi: 10.1093/heapol/czad092.
5. Ministry of Health, Ethiopia. Ethiopia's 8th National Health Accounts (NHA VIII) 2019/20. Addis Ababa, Ethiopia: Ministry of Health; 2022.
6. Joint United Nations Programme on HIV/AIDS (UNAIDS). The path that ends AIDS: 2023 UNAIDS global AIDS update. Geneva: UNAIDS; 2023.
7. World Health Organization (WHO). World malaria report 2014. Geneva: WHO; 2014. Available from: http://www.who.int/malaria/publications/world_malaria_report_2014/en/
8. Glassman A, Temin M. Millions saved: New cases of proven success in global health. Baltimore, MD: Center for Global Development; 2016.
9. Eregata GT, Hailu A, Geletu ZA, Memirie ST, Johansson KA, Stenberg K, Bertram MY, Aman A, Norheim OF. Revision of the Ethiopian essential health service package: An explication of the process and methods used. Health Syst Reform. 2020;6(1):e1829313.
10. World Health Organization (WHO). Health financing progress matrix assessment, Ethiopia 2022: Summary of findings and recommendations. Geneva: WHO; 2023.
11. Ministry of Health (MoH) – Ethiopia. Health sector transformation plan II (HSTP II) 2020/21–2024/25. Addis Ababa, Ethiopia: MoH; 2021.
12. Eregata GT, Hailu A, Stenberg K, Johansson KA, Norheim OF, Bertram MY. Generalised cost-effectiveness analysis of 159 health interventions for the Ethiopian essential health service package. Cost Eff Resour Alloc. 2021;19(2). doi: 10.1186/s12962-020-00255-3.
13. Verguet S, Hailu A, Eregata GT, Memirie ST, Johansson KA, Norheim OF. Toward universal health coverage in post-COVID-19 era. Nat Med. 2021;27:380–7. doi: 10.1038/s41591-021-01268-y.

14. Institute of Health Metrics and Evaluation (IHME). GBD compare – Ethiopia 2019 [Internet]. Seattle, WA: IHME; 2021. [cited 25 Feb 2024]. Available from: https://vizhub.healthdata.org/gbd-compare/

15. Bertram MY, Chisholm D, Watts R, Waganivalu T, Prasad V, Varghese C. Cost-effectiveness of population level and individual level interventions to combat non-communicable disease in eastern sub-Saharan Africa and South East Asia: A WHO-CHOICE analysis. Int J Health Policy Manag. 2021;10(11):724–33. doi: 10.34172/ijhpm.2021.37.

16. Stenberg K, Watts R, Bertram MY, Engesveen K, Maliqi B, Say L, Hutubessy R. Cost-effectiveness of interventions to improve maternal, newborn and child health outcomes: A WHO-CHOICE analysis for eastern sub-Saharan Africa and South-East Asia. Int J Health Policy Manag. 2021;10(11):706–23. doi: 10.34172/ijhpm.2021.07.

17. Ralaidovy AH, Lauer JA, Pretorius C, Briët OJ, Patouillard E. Priority Setting in HIV, tuberculosis, and malaria – new cost-effectiveness results from WHO-CHOICE. Int J Health Policy Manag. 2021;10(11):678–96. doi: 10.34172/IJHPM.2020.251.

18. Nehra P, Chauhan AS, Malhotra P, Kumar L, Singh A, Gupta N, Mehra N, Mathew A, Kataki AC, Gupta S, Prinja S. Cost-effectiveness analysis of different combination therapies for the treatment of chronic lymphocytic leukaemia in India. Lancet Reg Health Southeast Asia. 2023;13:100201. doi: 10.1016/j.lansea.2023.100201.

19. Rognoni C, Ciani O, Sommariva S, Tarricone R. Real-world data for the evaluation of transarterial radioembolization versus sorafenib in hepatocellular carcinoma: A cost-effectiveness analysis. Value Health. 2017;20(3):336–44. doi: 10.1016/j.jval.2016.09.2397.

20. Dixit J, Prinja S, Jyani G, Bahuguna P, Gupta A, Vijayvergiya R, Kumar R. Evaluating efficiency and equity of prevention and control strategies for rheumatic fever and rheumatic heart disease in India: An extended cost-effectiveness analysis. Lancet Glob Health. 2023;11(3):e445–55.

21. Tseng CC, Lai MT, Wu CC, Yuan SP, Ding YF. Cost-effectiveness analysis of endoscopic tympanoplasty versus microscopic tympanoplasty for chronic otitis media in Taiwan. J Chin Med Assoc. 2018;81(3):284–90. Available at: https://www.sciencedirect.com/science/article/pii/S1726490117303490

22. Hung MC, Lai WW, Chen HHW, Lee JC, Lin YJ, Hsiao JR, Cheng YM, Shan YS, Su WC, Wang JD. Cost effectiveness of cancer treatment in Taiwan. JFMA. 2016;115(8):609–18. doi: 10.1016/j.jfma.2016.04.002.

23. Truzzi JC, Teich V, Pepe C. Can hydrophilic coated catheters be beneficial for the public healthcare system in Brazil? – A cost-effectiveness analysis in patients with spinal cord injuries. Int Braz J Urol. 2018;44(1). doi: 10.1590/S1677-5538.IBJU.2017.0221.

24. Shimels T, Bilal AI. Hemodialysis or transplantation for Ethiopia: A cost utility analysis. Ann Adv Biomed Sci. 2019;2(1):1–10. Available at: https://www.medwinpublishers.com/AABSc/AABSc16000112.pdf

25. Leelukkanaveer Y, Sithisarankul P, Hirunsutthikul N. Provider-initiated HIV counseling and testing of out patients at community hospitals in Thailand: An economic evaluation using the Markov model. Asian Biomed. 2010;4(3):479–84. Available at: https://sciendo.com/it/article/10.2478/abm-2010-0060

26. Kaur M, Gupta A, Mahajan R, Gill M. Efficacy, safety, and cost evaluation of the topical luliconazole therapy versus topical clotrimazole therapy in patients with localized dermatophytosis in a tertiary care hospital: An observational study. Int J Appl Basic Med Res. 2020;10(4):260–64. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7758798/

27. Monga N, Garside J, Gurung B, Quigley J, O'Donovan P, Tapprich C, Nastoupil L, Thieblemont C, Loefgren C. Cost-effectiveness analyses, costs and resource use, and health-related quality of life in patients with follicular or marginal zone lymphoma: Systematic reviews. Pharmacoeconomics. 2020;4:575–91. doi: 10.1007/s41669-020-00204-z.

28. Nemati H, Talebianpour H, Lotfi F, Sepehri NZ, Keshavarz K. Cost-effectiveness analysis of topiramate versus phenobarbital in the treatment of children with febrile seizure. Iran J Child Neurol. 2019;13(4):109–20. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6789090/

29. Tadisina KK, Chopra K, Tangredi J, Thomson G, Singh DP. Helping hands: A cost-effectiveness study of a humanitarian hand surgery mission. Plast Surg Int. 2014;2014(1):1–12. doi: 10.1155/2014/921625.

30. Phillips V, Njau J, Li S, Kachur P. Simulations show diagnostic testing for malaria in young African children can be cost-saving or cost-effective. Health Aff. 2015;34(7). doi: 10.1377/hlthaff.2015.0095.

31. Rakanita Y, Syamsunarno MRAA, Sinuraya RK, Suradji EW, Abdulah R, Suwantika AA. Cost-effectiveness of ferrous fumarate–folic acid and ferrous gluconate–multivitamins in a high prevalence area of iron deficiency anemia in Indonesia. Ther Clin Risk Manag. 2021;17:1075–81. Available from: https://www.dovepress.com/getfile.php?fileID=74201

32. Sculpher M, Manca A, Abbott J, Fountain J, Mason S, Garry R. Cost effectiveness analysis of laparoscopic hysterectomy compared with standard hysterectomy: Results from a randomised trial. BMJ. 2004;328. doi: 10.1136/bmj.37942.601331.EE.

33. Leung VC, Pechlivanoglou P, Chew HF, Hatch W. Corneal collagen cross-linking in the management of keratoconus in Canada: A cost-effectiveness analysis. Am J Ophthalmol. 2017;124(8):1108–19. doi: 10.1016/j.ophtha.2017.03.019.

34. Chang JS, Smiddy WE. Cost-effectiveness of retinal detachment repair. Am J Ophthalmol. 2014;121(4):946–51. doi: 10.1016/j.ophtha.2013.11.003.

35. Tolla MT, Norheim OF, Memirie ST, Abdisa SG, Ababulgu A, Jerene D, Bertram M, Strand K, Verguet S, Johansson KA. Prevention and treatment of cardiovascular disease in Ethiopia: A cost-effectiveness analysis. Cost Eff Resour Alloc. 2016;14(10). Available from: https://resource-allocation.biomedcentral.com/articles/10.1186/s12962-016-0059-y

36. Koethe JR, Marseille E, Giganti MJ, Chi BH, Heimburger D, Stringer JS. Estimating the cost-effectiveness of nutrition supplementation for malnourished, HIV-infected adults starting antiretroviral therapy in a resource-constrained setting. Cost Eff Resour Alloc. 2014;12(10). Available from: https://resource-allocation.biomedcentral.com/articles/10.1186/1478-7547-12-10

37. Wang X, Fang H, Shen K, Liu T, Xie J, Liu Y, Wu P, Chen Y, Zhong J, Wu E, Zhou W, Wu B. Cost-effectiveness analysis of double low-dose budesonide and low-dose budesonide plus montelukast among pediatric patients with persistent asthma receiving Step 3 treatment in China. J Med Econ. 2020;23(12):1630–39. doi: 10.1080/13696998.2020.1830410.

38. Eeson G, Birabwa-Male D, Pennington M, Blair GK. Costs and cost-effectiveness of pediatric inguinal hernia repair in Uganda. World J Surg. 2015;39(2):343–9. doi: 10.1007/s00268-014-2818-2.

39. Ferguson MK, Lehman AG. Sleeve lobectomy or pneumonectomy: Optimal management strategy using decision analysis techniques. Ann Thorac Surg. 2003;76(6):1782–8. doi: 10.1016/s0003-4975(03)01243-8.

40. Hamze H, Mengiste A, Carter J. The impact and cost-effectiveness of the Amref Health Africa-Smile Train Cleft Lip and Palate Surgical Repair Programme in Eastern and Central Africa. Pan Afr Med J. 2017;28(35). doi: 10.11604/pamj.2017.28.35.10344.

41. Tan EK, Jacovides M, Khullar V, Teoh T-G, Fernando RJ, Tekkis PP. A cost-effectiveness analysis of delayed sphincteroplasty for anal sphincter injury. Colorectal Disease. 2008; 10(7):653–662. doi: 10.1111/j.1463-1318.2008.01507.x.

42. Hansen KS, Chapman G. Setting priorities for the health care sector in Zimbabwe using cost-effectiveness analysis and estimates of the burden of disease. Cost Eff Resour Alloc. 2008;6(14). Available from: https://link.springer.com/article/10.1186/1478-7547-6-14

43. Hullfish KL, Trowbridge ER, Stukenborg GJ. Treatment strategies for pelvic organ prolapse: A cost-effectiveness analysis. IUJ. 2011;22:507–15. Available from: https://link.springer.com/article/10.1007/s00192-011-1383-6

44. Heuzenroeder L, Donnelly M, Vos T, Haby MM, Mihalopoulos C, Rossell R, Carter R, Andrews G. Cost-effectiveness of psychological and pharmacological interventions for generalized anxiety disorder and panic disorder. Aust N Z J Psychiatry. 2004;38(8):602–12. doi: 10.1080/j.1440-1614.2004.01423.x.

45. Slover J, Espehaug B, Havelin LI, Engesaeter LB, Furnes O, Tomek I, Tosteson A. Cost-effectiveness of unicompartmental and total knee arthroplasty in elderly low-demand patients: A Markov decision analysis. J Bone Jt Surg. 2006;88(11):2348–55. doi: 10.2106/JBJS.E.01033.

46. Govindarajan A, Naimark D, Coburn NG, Smith AJ, Law CHL. Use of colonic stents in emergent malignant left colonic obstruction: A Markov chain Monte Carlo decision analysis. Dis Colon Rectum. 2007;50(11):1811–24. doi: 10.1007/s10350-007-9047-9.

47. Cardarelli M, Vaikunth S, Mills K, DiSessa T, Molloy F, Sauter E, Bowtell K, Rivera R, Shin AY, Novick W. Cost-effectiveness of humanitarian pediatric cardiac surgery programs in low- and middle-income countries. JAMA Netw Open. 2018;1(7):e184707. doi: 10.1001/jamanetworkopen.2018.4707.

48. Desai AA, Baras J, Berk BB, Nakajima A, Garber AM, Owens D, Chertow GM. Management of acute kidney injury in the intensive care unit: A cost-effectiveness analysis of daily vs alternate-day hemodialysis. Arch Intern Med. 2008;168(16):1761–67. doi: 10.1001/archinte.168.16.1761.

49. McMurray JJV, Trueman D, Hancock E, Cowie MR, Briggs A, Taylor M, Mumby-Croft J, Woodcock Fionn, Lacey M, Haroun R, Deschaseaux C. Cost-effectiveness of sacubitril/valsartan in the treatment of heart failure with reduced ejection fraction. Heart. 2018;104:1006–13. doi: 10.1136/heartjnl-2016-310661.

50. Fragoulakis V, Kourlaba G, Tarlatzis B, Mastrominas M, Maniadakis N. Economic evaluation of alternative assisted reproduction techniques in management of infertility in Greece. Clinicoecon Outcomes Res. 2012;4:185–92. Available from: https://www.dovepress.com/getfile.php?fileID=13261

51. Horton S, Gelband H, Jamison D, Levin C, Nugent R, Watkins D. Ranking 93 health interventions for low- and middle-income countries by cost-effectiveness. PLoS One. 2017;12(8):e0182951. doi: 10.1371/journal.pone.0182951.

52. Vossius C, Lotto E, Lyanga S, Mduma E, Msemo G, Perlman J, Ersdal HL. Cost-effectiveness of the ''helping babies breathe'' program in a missionary hospital in rural Tanzania. PLoS One. 2014;9(7):e102080. doi: 10.1371/journal.pone.0102080.

53. Hodges JC, Lotan Y, Boike TP, Benton R, Barrier A, Timmerman RD. Cost-effectiveness analysis of stereotactic body radiation therapy versus intensity-modulated radiation therapy: An emerging initial radiation treatment option for organ-confined prostate cancer. J Oncol Pract. 2012;8(35). doi: 10.1200/JOP.2012.000548.

54. Baltussen R, Smith A. Cost effectiveness of strategies to combat vision and hearing loss in sub-Saharan Africa and South East Asia: Mathematical modelling study. BMJ. 2012;344:e615. doi: 10.1136/bmj.e615.

55. Rudmik L, Soler ZM, Mace JC, Schlosser RJ, Smith TL. Economic evaluation of endoscopic sinus surgery versus continued medical therapy for refractory chronic rhinosinusitis. Laryngoscope. 2015;125(1):25–32. doi: 10.1002/lary.24916.

56. Forde GK, Chang J, Ziogas A. Cost-effectiveness of primary debulking surgery when compared to neoadjuvant chemotherapy in the management of stage III C and IV epithelial ovarian cancer. Clinicoeconom Outcomes Res. 2016;8:397–406. doi: 10.2147/CEOR.S91844.

57. Mengistu HS, Getahun KT, Alemayehu L, Gezahign S. Cost-effectiveness analysis of antithyroid drug (propylthiouracil) compared to radioactive iodine for the treatment of Graves' disease in Ethiopia. Clinicoecon Outcomes Res. 2022;14:221–29. doi: 10.2147/CEOR.S350984.

58. Svefors P, Selling KE, Shaheen R, Khan AI, Persson L-Å, Lindholm L. Cost-effectiveness of prenatal food and micronutrient interventions on under-five mortality and stunting: Analysis of data from the MINIMat randomized trial, Bangladesh. PLoS One. 2018;13(2):e0191260. doi: 10.1371/journal.pone.0191260.

59. Eregata GT, Hailu A, Stenberg K, Johansson KA, Norheim OF, Bertram MY. Generalised cost-effectiveness analysis of 159 health interventions for the Ethiopian essential health service package. Cost Eff Resour Alloc. 2021;19(2). doi: 10.1186/s12962-020-00255-3.

60. Memirie ST, Desalegn H, Naizgi M, Nigus M, Taddesse L, Tadesse Y, Tessema F, Zelalem M, Girma T. Introduction of birth dose of hepatitis B virus vaccine to the immunization program in Ethiopia: An economic evaluation. Cost Eff Resour Alloc. 2021;18(23). doi: 10.1186/s12962-020-00219-7.

61. Glotzer DE, Freedberg KA, Bauchner H. Management of childhood lead poisoning: Clinical impact and cost-effectiveness. Med Decis Making. 1995;15:13–24. doi: 10.1177/0272989X9501500104.

62. Javanbakht M, Azuara-Blanco A, Burr JM, Ramsay C, Cooper D, Cochran C, Norrie J, Scotland G. Early lens extraction with intraocular lens implantation for the treatment of primary angle closure glaucoma: An economic evaluation based on data from the EAGLE trial. BMJ Open. 2017;7(1):e013254. doi: 10.1136/bmjopen-2016013254.

63. Pitt M, Garside R, Stein K. A cost-utility analysis of pimecrolimus vs. topical corticosteroids and emollients for the treatment of mild and moderate atopic eczema. BJD. 2006;154(6):1137–46. doi: 10.1111/j.1365-2133.2006.07184.x.

64. Wilson ECF, Jayne DRW, Dellow E, Fordham RJ. The cost-effectiveness of mycophenolate mofetil as firstline therapy in active lupus nephritis. Rheumatol. 2007;46(7):1096–101. doi: 10.1093/rheumatology/kem054.

65. Fiedler JL, Mubanga F, Siamusantu W, Musonda M, Kabwe KF, Zulu C. Child Health Week in Zambia: Costs, efficiency, coverage and a reassessment of need. HPP. 2014;29(1):12–29. doi: 10.1093/heapol/czs129.

66. Jha P, Bangoura O, Ranson K. The cost-effectiveness of forty health interventions in Guinea. HPP. 1998;13(3):249–62. doi: 10.1093/heapol/13.3.249.

67. Eells SJ, Bharadwa K, McKinnell JA, Miller LG. Recurrent urinary tract infections among women: Comparative effectiveness of 5 prevention and management strategies using a Markov chain Monte Carlo model. Clin Infect Dis. 2014;58(2):147–60. doi: 10.1093/cid/cit646.

68. Parker C, Woods B, Eaton J, Esprit M, Selby R, Benson E, Engstrom A, Sajosi P, Briggs A, Bonthapally V. Brentuximab vedotin in relapsed/refractory Hodgkin lymphoma post-autologous stem cell transplant: A cost-effectiveness analysis in Scotland. J Med Econ. 2017;20(1):8–18. doi: 10.1080/13696998.2016.1219358.

69. Jaramillo HEC, Viscaya MM, Mejia AE. Cost-utility analysis of primary prophylaxis, compared with on-demand treatment, for patients with severe hemophilia type A in Colombia. Int J Technol Assess Health Care. 2016;32(5):337–47. doi: 10.1017/S0266462316000544.

70. Nayagam S, Conteh L, Sicuri E, Shimakawa Y, Suso P, Tamba S, Njie R, Njai H, Lemoine M, Hallett TB, Thursz M. Cost-effectiveness of community-based screening and treatment for chronic hepatitis B in The Gambia: An economic modelling analysis. Lancet Glob Health. 2016;4(8):568–78. doi: 10.1016/S2214-109X(16)30101-2.

71. Bucher BT, Hall BL, Warner BW, Keller MS. Intussusception in children: Cost-effectiveness of ultrasound vs diagnostic contrast enema. J Pediatr Surg. 2011;46(6):1099–105. doi: 10.1016/j.jpedsurg.2011.03.034.

72. Zimovetz EA, Joseph A, Ayyagari R, Mauskopf JA. A cost-effectiveness analysis of lisdexamfetamine dimesylate in the treatment of adults with attention-deficit/hyperactivity disorder in the UK. Eur J Health Econ. 2018;19:21–35. doi: 10.1007/s10198-016-0864-4.

73. Kameda M, Yamada S, Atsuchi M, Kimura T, Kazui H, Miyajima M, Mori E, Ishikawa M, Date I, SINPHONI and SINPHONI-2 Investigators. Cost-effectiveness analysis of shunt surgery for idiopathic normal pressure hydrocephalus based on the SINPHONI and SINPHONI-2 trials. Acta Neurochir. 2017;159(6):995–1003. doi: 10.1007/s00701-017-3115-2.

74. Roberts G, Roberts C, Jamieson A, Grimes C, Conn G, Bleichrodt R. Surgery and obstetric care are highly cost-effective interventions in a sub-Saharan African district hospital: A three-month single-institution study of surgical costs and outcomes. World J Surg. 2015;40(1):14–20. doi: 10.1007/s00268-015-3271-6.

75. Cillo U, Spolverato G, Vitale A, Ejaz A, Lonardi S, Cosgrove D, Pawlik TM. Liver resection for advanced intrahepatic cholangiocarcinoma: A cost-utility analysis. World J Surg. 2015;39(10):2500–09. doi: 10.1007/s00268-015-3150-1.

76. Kaur P, Chong SL, Kannapiran P, Teo W-SK, Ling CNW, Weichen CW, Ruling G, Yin LS, Leng TY, Pei SY, Kang TT, Han LZ, Peizhen L, Yee LLH, George PP. Cost-utility analysis of hearing aid device for older adults in the community: A delayed start study. BMC Health Serv Res. 2020;20(1112). doi: 10.1186/s12913-020-05977-x.

77. Epiu I, Alia G, Mukisa J, Tavrow P, Lamorde M, Kuznik A. Estimating the cost and cost-effectiveness for obstetric fistula repair in hospitals in Uganda: A low income country. HPP. 2018;33(9):999–1008. doi: 10.1093/heapol/czy078.

78. Mathewos B, Owen H, Sitrin D, Cousens S, Degefie T, Wall S, Bekele A, Lawn JE, Daviaud E. Community-based interventions for newborns in Ethiopia (COMBINE): Cost-effectiveness analysis. HPP. 2017;32(1):i21–32. doi: 10.1093/heapol/czx054.

79. Stefan DC, Stones DK, van Zyl A, Uys R. The cost of nephroblastoma treatment in South Africa: A very cost-effective investment with guidelines for the rest of Africa. S Afr J Child Health. 2014;8(4):128–32. doi: 10.7196/SAJCH.749.

80. Chen A, Deshmukh AA, Richards-Kortum R, Molyneux E, Kawaza K, Cantor SB. Cost-effectiveness analysis of a low-cost bubble CPAP device in providing ventilatory support for neonates in Malawi – A preliminary report. BMC Pediatr. 2014;14(288). doi: 10.1186/s12887-014-0288-1.

81. Fung A, Horton S, Zabih V, Denburg A, Gupta S. Cost and cost-effectiveness of childhood cancer treatment in low-income and middle-income countries: A systematic review. BMJ Glob Health. 2019;4:e001825. doi: 10.1136/bmjgh-2019-001825.

82. Ochalek J, Revill P, Manthalu G, McGuire F, Nkhoma D, Rollinger A, Sculpher M, Claxton K. Supporting the development of a health benefits package in Malawi. BMJ Glob Health. 2017;3:e000607. doi: 10.1136/bmjgh-2017-000607.

83. Grimes CE, Holmer H, Maraka J, Ayana B, Hansen L, Lavy CBD. Cost-effectiveness of club-foot treatment in low-income and middle-income countries by the Ponseti method. BMJ Glob Health. 2015;1:e000023. doi: 10.1136/bmjgh-2015-000023.

84. Yiee JH, Baskin LS. Use of internal stent, external transanastomotic stent or no stent during pediatric pyeloplasty: A decision tree cost-effectiveness analysis. J Urol. 2011;185(2):673–81. doi: 10.1016/j.juro.2010.09.118.

85. Renner L, Shah S, Bhakta N, Denburg A, Horton S, Gupta S. Evidence from Ghana indicates that childhood cancer treatment in sub-Saharan Africa is very cost effective: A report from the childhood cancer 2030 network. J Glob Oncol. 2018;4:1–9. doi: 10.1200/JGO.17.00243.

86. de Assis TM, Rabello A, Cota G. Economic evaluations addressing diagnosis and treatment strategies for neglected tropical diseases: An overview. Rev Inst Med Trop São Paulo. 2021;63:e41. doi: 10.1590/S1678-9946202163041.

87. Conteh L, Shuford K, Agboraw E, Kont M, Kolaczinski J, Patouillard E. Costs and cost-effectiveness of malaria control interventions: A systematic literature review. Value Health. 2021;24(8):1213–22. doi: 10.1016/j.jval.2021.01.013.

88. Chen M, Zhang L-L, Hu M, Gao J, Tong R-S. Cost-effectiveness of treatment for acute childhood idiopathic thrombocytopenic purpura (ITP)—a systematic review. J Int Med Res. 2008;36(3):572–8. doi: 10.1177/147323000803600324.

89. Baltussen R, Smith A. Cost-effectiveness of selected interventions for hearing impairment in Africa and Asia: A mathematical modelling approach. Int J Audiol. 2009;48(3):144–58. doi: 10.1080/14992020802538081.

90. Gilson L, Mkanje R, Grosskurth H, Mosha F, Picard J, Gavyole A, Todd J, Mayad P, Swai R, Fransen L, Mabey D, Milles A, Hayes R. Cost-effectiveness of improved treatment services for sexually transmitted diseases in preventing HIV-1 infection in Mwanza Region, Tanzania. Lancet. 1997;350(9094):1805–9. doi: 10.1016/S0140-6736(97)08222-6.

91. Kulkarni GS, Alibhai SMH, Finelli A, Fleshner NE, Jewett MAS, Lopushinsky SR, Bayoumi AM. Cost-effectiveness analysis of immediate radical cystectomy versus intravesical *Bacillus* Calmette-Guerin therapy for high-risk, high-grade (T1G3) bladder cancer. Cancer. 2009;115(23):5450–59. doi: 10.1002/cncr.24634.

92. Memirie ST, Tolla MT, Desalegn D, Hailemariam M, Norheim OF, Verguet S, Johansson KA. A cost-effectiveness analysis of maternal and neonatal health interventions in Ethiopia. HPP. 2019;34(4):289–97. doi: 10.1093/heapol/czz034.

93. Commerical Bank of Ethiopia. Daily exchange rate [Internet]. Addis Ababa, Ethiopia: Commercial Bank of Ethiopia. [cited 2024 Mar 15]. Available from: https://combanketh.et/en/exchange-rate/

94. Tan-Torres Edejer T, Baltussen R, Adam T, Hutubessy A, Acharya A, Evans DB, Murray CJL, editors. Making choices in health: WHO guide to cost-effectiveness analysis. Geneva: World Health Organization; 2003.

95. Center for the Evaluation of Value and Risk in Health (CEVR). CEA Registry [Internet]. Boston, MA: Tufts Medical Center; 2018. [cited 2024 Apr 5]. Available from: https://cevr.tuftsmedicalcenter.org/databases/cea-registry

96. Avenir Health. OneHealth Tool. v6.34, 5th ed. Glastonbury, CT: Avenir Health; 2023.

97. Future of Global Health Initiatives. The Lusaka Agenda: conclusions of the future of global health initiatives process. Future of Global Health Initatives; 2023. [cited 2024 Aug 6]. Available from: https://d2nhv1us8wflpq.cloudfront.net/prod/uploads/2023/12/Lusaka-Agenda.pdf

98. Institute of Health Metrics and Evaluation (IHME). Financing global health: Ethiopia, all-cause, total spending, 1995–2019 [Internet]. Seattle, WA: IHME; 2023. [cited 2024 May 5]. Available from: https://doi.org/10.6069/3HPT-ST31

99. Chi Y-L, Regan L. 2021. The journey to universal health coverage: How Kenya managed the inclusion of disease programmes in its health benefits package. Washington DC: Center for Global Development (CGD); 2021 Nov. Available from: https://www.cgdev.org/sites/default/files/Journey-to-uhc-Kenya.pdf

100. Mwisongo A, Nabyonga-Orem J. Global health initiatives in Africa – governance, priorities, harmonisation and alignment. BMC Health Serv Res. 2016;16(suppl4): 212. doi: 10.1186/s12913-016-1448-9.

101. Sweeney R, Mortimer D. Has the swap influenced aid flows in the health sector? Health Econ. 2016;25(5):559–77. doi: 10.1002/HEC.3170.

102. Federal Democratic Republic of Ethiopia, Ministry of Health. Health sector development program IV, 2010/11 – 2014/15. Addis Ababa, Ethiopia: Federal Ministry of Health; 2010 Oct. [cited 2024 May 5]. Available from: https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/ethiopia/attachment-721-hsdp_iv_final_draft_11octoberr_2010.pdf

103. Morton A, Briones J, Demeshko A, Baker P, Drake, T. A New Compact for Financing Health Services: Opportunities for Gavi and Partner Countries. CGD Policy Paper 336. Washington, DC: Center for Global Development; 2024. https://www.cgdev.org/publication/new-compact-financing-health-services-opportunities-gavi-and-partner-countries

104. Gavi, the Vaccine Alliance. Co-financing policy. Geneva: Gavi, the Vaccine Alliance; 2023 Jan 13. [cited 2024 Jue 5]. Available from: https://www.gavi.org/programmes-impact/programmatic-policies/co-financing-policy

105. Gavi, the Vaccine Alliance. Gavi alliance eligibility and transition policy. Geneva: Gavi, the Vaccine Alliance; 2023 Jan 1. [cited 2024 June 5]. Available from: https://www.gavi.org/sites/default/files/programmes-impact/gavi-eligibility-and-transition-policy.pdf

106. Gheorghe A, Baker B, Guzman J, Drake, T. A New Compact for Health Aid: Integrating Evidence-Informed Priority-Setting and Public Financial Management. CGD Note 377. Washington, DC: Center for Global Development; 2024. https://www.cgdev.org/publication/new-compact-health-aid-integrating-evidence-informed-priority-setting-and-public

107. Ochalek J, Lomas J, Claxton K. Estimating health opportunity costs in low-income and middle-income countries: A novel approach and evidence from cross-country data. BMJ Glob Health. 2018;3:e000964. doi: 10.1136/bmjgh-2018-000964.

108. Woods B, Revill P, Sculpher M, Claxton K. Country-level cost-effectiveness thresholds: Initial estimates and the need for further research. Value Health. 2016;19(8):929–35. doi: 10.1016/j.jval.2016.02.017.

109. Drake T, Chi Y-L, Morton A, Pitt C. Why cost-effectiveness thresholds for global health donors should differ from thresholds for Ministries of Health (and why it matters) [version 2; peer review: 2 approved]. F1000Research. 2024;12:214. doi: 10.12688/f1000research.131230.2.

Appendix 1: Full Prioritised List of Essential Health Services Package

No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
1	NCDs	Other and unspecified noncommunicable diseases	Raise taxes on all tobacco products	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	0.1	10000	7853115.2	Government
2	NCDs	Other and unspecified noncommunicable diseases	Setting of target levels for the amount of salt in foods and meals	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	0.1	10000	2359505.6	NYI
3	Reproductive health	Perinatal conditions	Neonatal resuscitation	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	1.8	555.5555556	3982649.742	Government
4	Infectious and parasitic diseases	Respiratory infections	Community-based management of pneumonia	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	2.5	400	4326642.162	Government
5	Reproductive health	Family Planning	Provision of family planning	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	3	370.3703704	76,619,960.57	Government
6	Infectious and parasitic diseases	HIV/AIDS and other STDs	HIV/AIDS: Intensifying BCC targeting at risk population and priority geographical areas.	https://doi.org/10.1136/bmj.38643.368692.68	3	333.3333333	26600000	GF-ATM
7	NCDs	Other and unspecified noncommunicable diseases	Tobacco: enforce bans on tobacco advertising	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	3	333.3333333	8034961.6	Government
8	Infectious and parasitic diseases	Neglected tropical diseases	Case management schistosomiasis using praziquantel	http://dx.doi.org/10.1136/bmjgh-2017-000607	3.33	300.3003003	3323227.553	Other
9	Infectious and parasitic diseases	Respiratory infections	Facility-based management of pneumonia	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	3.5	285.7142857	5309917.622	Government
10	Reproductive health	Perinatal conditions	New-born sepsis – full supportive care	WHO CHOICE: https://www.ijhpm.com/article_4023.html	3.6	277.7777778	4244400.763	Government
11	Reproductive health	Perinatal conditions	Voluntary new-born male surgical circumcision	http://dx.doi.org/10.1136/bmjgh-2017-000607	3.702124439	270.1151775	32535172.05	Other
12	Reproductive health	Perinatal conditions	Management of neonatal respiratory distress with CPAP	http://www.biomedcentral.com/1471-2431/14/288	4.2	238.0952381	5798889.734	Government

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
13	NCDs	Cardiovascular diseases	Secondary prevention of RHD (Screening for RHD and Rx with Antibiotics)	https://www.thelancet.com/action/showPdf?pii=S2214-109X%2822%2900552-6	4.9	204.0816327	30871649.91	Other
14	Infectious and parasitic diseases	HIV/AIDS and other STDs	Targeted quality assured HIV testing and counselling services: VCT	https://www.bmj.com/content/331/7530/1431	5	200	3123000	GF-TAM
15	NCDs	Cardiovascular diseases	Management of RHD and its associated complications (medical and surgical)	https://www.thelancet.com/action/showPdf?pii=S2214-109X%2822%2900552-6	6	178.5714286	42,387,884.04	Other
16	NCDs	Other and unspecified noncommunicable diseases	Tobacco: warn about danger: warning labels	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	6	166.6666667	7015915.2	Government
17	NCDs	Other and unspecified noncommunicable diseases	Adopt interpretive front-of-pack nutrient labelling systems (e.g. Salt, sugar, etc.)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	6	166.6666667	21,125,573.50	NYI
18	Nutritional deficiencies	Nutritional deficiencies	Vitamin A Supplementation for treatment of xerophthalmia	WHO CHOICE: https://www.ijhpm.com/article_4023.html	7.1	140.8450704	917226.4994	Government
19	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Diagnosis and treatment of Urinary tract infection (UTI)	https://doi.org/10.1093/cid/cit646	8.74	114.416476	8756323.219	Other
20	Infectious and parasitic diseases	Vaccine-preventable diseases	Provision of 1st dose of IPV	Contextualization of cost-effectiveness evidence from literature for 382 health interventions for the Ethiopian essential health services package revision: https://doi.org/10.1186/s12962-021-00312-5	9	111.1111111	6636868.851	Gavi
21	Infectious and parasitic diseases	Vaccine-preventable diseases	Provision of MCV 2 through routine immunization	WHO CHOICE: https://www.ijhpm.com/article_4023.html	10	100	2203498.483	Gavi

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
22	Infectious and parasitic diseases	HIV/AIDS and other STDs	Mass Media communication designed to increase demand and improve use of condoms	https://doi.org/10.34172/ijhpm.2020.251	11	90.90909091	1100000	GF-TAM
23	Reproductive health	Perinatal conditions	Home visits for clean postnatal practices	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	11.5	86.95652174	5429624.547	Government
24	Infectious and parasitic diseases	Malaria	Long-lasting insecticide-treated nets (LLIN)	Costs and cost-effectiveness of malaria control interventions – a systematic review | Malaria Journal | Full Text (biomedcentral.com)	12	84.03361345	22,794,518.44	GF-TAM
25	Reproductive health	Maternal conditions	Gestational diabetes case management	Contextualization of cost-effectiveness evidence from literature for 382 health interventions for the Ethiopian essential health services package revision: https://doi.org/10.1186/s12962-021-00312-5	13	76.92307692	2590967.652	Government
26	NCDs	Other and unspecified noncommunicable diseases	Tobacco: protect people from tobacco smoke	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	13	76.92307692	15667724.8	Government
27	Infectious and parasitic diseases	Malaria	Malaria: Vector control	http://www.malariajournal.com/content/10/1/337	16.1	62.11180124	52777504	GF-TAM
28	Nutritional deficiencies	Nutritional deficiencies	SAM – treatment for severe acute malnutrition	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	16.5	60.60606061	7067345.246	Government
29	Infectious and parasitic diseases	Vaccine-preventable diseases	H. influenzae b vaccine	WHO CHOICE: https://www.ijhpm.com/article_3995.html	17.5	57.14285714	2080000	Gavi
30	NCDs	Other and unspecified noncommunicable diseases	Implement multicomponent salt reduction strategies in community settings including schools, workplaces and hospitals	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	18	55.55555556	27511892.8	NYI

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
31	NCDs	Other and unspecified noncommunicable diseases	Repair of hernias: inguinal/ femoral/incisional hernia	https://pubmed.ncbi.nlm.nih.gov/25270348/	18.1	55.24861878	26775963.54	Other
32	Infectious and parasitic diseases	Neglected tropical diseases	Early diagnosis and management of VL (rapid test, DAT test, splenic aspirate, lymph node aspirate)	https://doi.org/10.1093/heapol/14.1.70	18.4	54.34782609	390183.3817	Other
33	Nutritional deficiencies	Nutritional deficiencies	Management of iron deficiency anemia	https://www.dovepress.com/getfile.php?fileID=74201	19	54.05405405	92,217,732.70	Other
34	Infectious and parasitic diseases	HIV/AIDS and other STDs	Paediatric ART (first line)	https://doi.org/10.1186/s12962-020-00255-3	20	50	10018088.14	GF-TAM
35	Reproductive health	Perinatal conditions	Kangaroo mother care	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	20.1	49.75124378	5995770.277	Government
36	Infectious and parasitic diseases	Tuberculosis (TB)	Treatment + Detection (smear + Xpert) + Drug sensitivity analysis	WHO-CHOICE: https://www.ijhpm.com/article_3995.html	21	47.61904762	5830468.592	GF-TAM
37	NCDs	ENT procedure	Ear irrigation	https://doi.org/10.1080/14992020802538081	21	47.61904762	1250358.989	Other
38	Infectious and parasitic diseases	Vaccine-preventable diseases	Routine EPI + additional vaccines (rotavirus, pneumococcal, HepB – if we use the pentavalent)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	21.1	47.39336493	20468835.05	Gavi
39	Infectious and parasitic diseases	HIV/AIDS and other STDs	Expand access to and promotion of the use of condoms and other contraceptives, behavioural intervention to reduce the incidence of HIV transmission	https://dx.doi.org/10.1371%2Fjournal.pone.0011413	21.5	46.51162791	9300000	GF-TAM

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
40	Infectious and parasitic diseases	Neglected tropical diseases	Management of acute attack dermato-lymphangioadenitis with appropriate antibiotics for lymphatic filariasis	https://www.who.int/surgery/challenges/disease-control-priorities.pdf	22	45.45454545	11682778.31	Other
41	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Management of Otitis media with antibiotics +- myringotomy	https://dx.doi.org/10.1136%2Fbmj.e615	22	45.45454545	44872426.78	Other
42	Infectious and parasitic diseases	Diarrheal diseases	Management of diarrhea through oral rehydration solution and zinc	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	22.3	44.84304933	33138376.41	Government
43	Infectious and parasitic diseases	Vaccine-preventable diseases	Provision of Tetanus Toxoid (TT) Vaccine	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	22.6	44.24778761	$5,644,264.45	Gavi
44	Reproductive health	Perinatal conditions	Management of perinatal asphyxia	https://dx.doi.org/10.1371%2Fjournal.pone.0102080	23	43.47826087	1141738.534	Government
45	Reproductive health	Perinatal conditions	Induction of labour for pregnancies lasting 41+ weeks	https://doi.org/10.1093/heapol/czz034	23	43.47826087	1715544.192	Government
46	NCDs	Other and unspecified noncommunicable diseases	Ponsetti cast and surgery for club foot	http://dx.doi.org/10.1136/bmjgh-2015-000023corr1	23	43.47826087	27030697.51	Other
47	Reproductive health	Maternal conditions	Screening and treatment for syphilis during pregnancy	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	24.8	40.32258065	5740145.056	Government
48	NCDs	Cardiovascular diseases	Conbination treatment for those with absolute risk of CVD >20%	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	26	38.46153846	52,258,947.82	Other
49	Reproductive health	Maternal conditions	Focused ANC follow up (comprehensive)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	26.8	37.31343284	21798979.69	Government
50	NCDs	Cardiovascular diseases	Conbination treatment for those with absolute risk of CVD >30%	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	27	37.03703704	50633142.67	Other

(Continued)

No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
51	NCDs	Cardiovascular diseases	Primary prevention of RHD*	https://www.thelancet.com/action/showPdf?pii=S2214-109X%2822%2900552-6	27.7	36.10108303	11317442.53	Other
52	Reproductive health	Perinatal conditions	Promotion of breastfeeding	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	29	34.48275862	7520789.8	Government
53	Reproductive health	Perinatal conditions	Skilled assistance for normal delivery	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	30	33.78378378	83,189,950.36	Government
54	Infectious and parasitic diseases	Tuberculosis (TB)	Treatment + Detection (smear + Xpert) + Drug sensitivity analysis and preventive therapy	WHO CHOICE: https://www.ijhpm.com/article_3995.html	30	33.33333333	17924078.57	GF-TAM
55	Injuries	Injuries	Trauma-related amputation	https://doi.org/10.1007/s00268-015-3271-6	30	33.33333333	2330252.856	Other
56	Infectious and parasitic diseases	Malaria	Detection (RDT or microscopy) and treatment of severe malaria	https://dx.doi.org/10.1371%2Fjournal.pone.0182951	32	31.25	4482643.287	GF-TAM
57	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Diagnosis and treatment of Pelvic inflammatory disease (PID)	https://resource-allocation.biomedcentral.com/articles/10.1186/1478-7547-6-14	33	30.3030303	1548872.326	Other
58	Reproductive health	Maternal conditions	Balanced energy-protein supplementation to pregnant women with insecure food availability	WHO-CHOICE: https://www.ijhpm.com/article_4023.html	34.6	28.9017341	9186804.248	Government
59	NCDs	Neoplasms	Visual inspection with acetic acid (VIA) and cryotherapy for precancerous cervical lesions	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	37	27.02702703	129,859,108.35	Government
60	NCDs	Other and unspecified noncommunicable diseases	Tympanoplasty for perforated ear	https://www.sciencedirect.com/science/article/pii/S1726490117303490	40	25	11196798.51	Other
61	Reproductive health	Perinatal conditions	Clean cord care (clean birth practices)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	41.8	23.92344498	4012026.506	Government

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
62	Nutritional deficiencies	Nutritional deficiencies	Vitamin A supplementation (0–4 years)	https://doi.org/10.1093/heapol/czs129	45	22.22222222	5870783.657	Government
63	Infectious and parasitic diseases	Neglected tropical diseases	Screening and diagnosis of TT cases (TT surgery)	https://doi.org/10.1080/09286580590932761	45.5	21.97802198	2972201.79	Other
64	Infectious and parasitic diseases	HIV/AIDS and other STDs	Diagnosis and treatment of sexually transmitted infections (syphilis, gonorrhoea, chlamydia, trichomonas, LGV)	https://pubmed.ncbi.nlm.nih.gov/9428251/	47.86	20.89427497	7437837.792	GF-TAM
65	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Vitamin A for treatment of measles	https://doi.org/10.1093/heapol/13.3.249	48	20.83333333	148389.3016	Government
66	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Treatment of severe measles	https://academic.oup.com/heapol/article/13/3/249/577825	48	20.83333333	3674280.629	Government
67	NCDs	Neoplasms	PAP smear and cryotherapy for precancerous cervical lesions	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	48	20.83333333	57,275,530.87	NYI
68	Nutritional deficiencies	Nutritional deficiencies	De-worming during pregnancy (2nd trimester)	https://doi.org/10.1093/heapol/czs129	51.75	19.3236715	1686196.025	Government
69	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Deworming every 6 months (2–5 years)	https://doi.org/10.1093/heapol/czs129	52	19.23076923	16600000	Other
70	Reproductive health	Perinatal conditions	Skilled delivery + management of complications	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	54	18.65671642	75,487,702.40	Government
71	NCDs	Neoplasms	Diagnosis and treatment of retinoblastoma	http://dx.doi.org/10.1136/bmjgh-2019-001825	54	18.51851852	167762.4748	Other
72	Reproductive health	Maternal conditions	Repair of obstetric fistula	https://academic.oup.com/heapol/article/33/9/999/5106382	54	18.51851852	7168075.96	Other
73	NCDs	Neoplasms	Vaccination against HPV of girls aged 9–14 years	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	55	18.18181818	$42,633,558.96	Gavi

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
74	Infectious and parasitic diseases	Neglected tropical diseases	Treatmentof onchocerciasis with Ivermectin	https://doi.org/10.1111/dewb.12016	57	17.54385965	1299441.641	Other
75	NCDs	Neoplasms	HPV DNA and cryotherapy for precancerous cervical lesions	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	58	17.24137931	88,777,072.85	NYI
76	NCDs	Other and unspecified noncommunicable diseases	Management of Dermatitis/ Eczema	https://doi.org/10.1111/j.1365-2133.2006.07184.x	59	16.94915254	8089956.455	Other
77	Infectious and parasitic diseases	Neglected tropical diseases	Early diagnosis and treatment of active trachoma	https://doi.org/10.1080/09286580590932761	61	16.39344262	716693.4012	Other
78	Reproductive health	Perinatal conditions	Full supportive care for premature babies	WHO CHOICE: https://www.ijhpm.com/article_4023.html	62.7	15.94896332	14520108.21	Government
79	NCDs	Oral diseases	Repair of cleft lip and palate	https://panafrican-med-journal.com/content/article/28/35/full/	62.8	15.92356688	5094340.678	Other
80	Infectious and parasitic diseases	HIV/AIDS and other STDs	PMTCT	https://doi.org/10.1186/s12962-020-00255-9	64	15.625	12535997.01	GF-TAM
81	Reproductive health	Maternal conditions	Antibiotics for premature rupture of membrane (pPROM)	https://doi.org/10.1093/heapol/czz034	66	15.15151515	4496235.434	Government
82	Reproductive health	Maternal conditions	Daily iron and folic acid supplementation in pregnant women	WHO-CHOICE: https://www.ijhpm.com/article_4023.html	66	15.15151515	5993739.625	Government
83	Infectious and parasitic diseases	Neglected tropical diseases	Screening and management of scrotal swelling (hydrocelectomy)	https://doi.org/10.1186/s13071-018-2616-z	70	14.28571429	1003621.81	Other
84	Infectious and parasitic diseases	HIV/AIDS and other STDs	ART for TB HIV+ patients	https://doi.org/10.1186/s12962-020-00255-9	72	13.88888889	885301.8404	GF-TAM

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
85	Infectious and parasitic diseases	Tuberculosis (TB)	Treatment + Detection (smear + Xpert) + Drug sensitivity analysis and ART prioritisation for TB cases	WHO CHOICE: https://www.ijhpm.com/article_3995.html	72	13.88888889	10231096.32	GF-TAM
86	NCDs	Other and unspecified noncommunicable diseases	Brief Intervention – Physical Activity	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	74	13.51351351	47023422.4	NYI
87	Infectious and parasitic diseases	Leprosy	Footwear and self-care education for leprosy	https://dx.doi.org/10.1371%2Fjournal.pone.0004548	75	13.33333333	19519.26803	GF-TAM
88	NCDs	Mental and behavioral disorders and neurological conditions	AntiEpileptic Medication + Basic Psychosocial treatment of epilepsy (older drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	76	13.15789474	10280204.46	Other
89	Infectious and parasitic diseases	HIV/AIDS and other STDs	Nutrition supplements in first six months for HIV/AIDS cases	https://resource-allocation.biomedcentral.com/articles/10.1186/1478-7547-12-10	76.16438356	13.1294964	254151.7415	GF-TAM
90	NCDs	Cardiovascular diseases	Treatment SBP>160mmHg: total CVD risk <20%) with a combination of drugs	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	77	12.98701299	38883608.71	Other
91	NCDs	Cardiovascular diseases	Treatment SBP>160mmHg: total CVD risk <30%) with a combination of drugs	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	85	11.76470588	40621217.66	Other
92	Reproductive health	Maternal conditions	Management of pre-eclampsia (mild and severe)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	85.4	11.70960187	4205006.118	Government
93	Reproductive health	Maternal conditions	Management of eclampsia with Magnesium-Sulphate	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	85.4	11.70960187	4949612.299	Government
94	NCDs	Respiratory diseases	Asthma: oral prednisolone + theophylline + high dose inhaled beclometasone + SABA	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	89	11.23595506	1027925.542	Other
95	NCDs	Sense-organ disorders	Eyelid surgery for trachoma (Tarsotomy)	https://doi.org/10.1136/bmj.e615	90	11.11111111	2972201.79	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
96	Reproductive health	Maternal conditions	Antenatal corticosteroids for preterm labour	https://doi.org/10.1093/heapol/czz034	93	10.75268817	3695018.24	Government
97	Reproductive health	Perinatal conditions	Maternal sepsis case management	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	93	10.75268817	5217015.3	Government
98	Infectious and parasitic diseases	Malaria	Detection (RDT or microscopy) and treatment of uncomplicated malaria	https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0095	94.28	10.60670344	2894142.51	GF-TAM
99	Reproductive health	Maternal conditions	Hypertensive disorder case management during pregnancy	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	94.9	10.5374078	3994935.186	Government
100	NCDs	Mental and behavioral disorders and neurological conditions	AntiEpileptic Medication + Basic Psychosocial treatment of epilepsy (newer drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	97	10.30927835	13075478.85	Other
101	Reproductive health	Perinatal conditions	Management of neonatal seizure	https://doi.org/10.1093/heapol/13.3.249	105	9.523809524	870708.3931	Government
102	Reproductive health	Perinatal conditions	Phototherapy and exchange transfusion for neonatal jaundice	https://doi.org/10.1093/heapol/13.3.249	107	9.345794393	15096096	Government
103	Reproductive health	Perinatal conditions	Promotion of complementary feeding	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	109.9	9.099181074	5433787.383	Government
104	Infectious and parasitic diseases	Vaccine-preventable diseases	Hepatitis B Virus vaccine: birth dose	https://doi.org/10.1186/s12962-020-00219-7	110	9.090909091	$2,190,400.00	NYI
105	NCDs	Respiratory diseases	Asthma: high dose inhaled beclometasone + SABA	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	111	9.009009009	926610.8659	Other
106	NCDs	Mental and behavioral disorders and neurological conditions	Intensive psychosocial treatment and anti-depressant medication for recurrent moderate-severe cases of depression on a maintenance basis	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	111	9.009009009	50142131.37	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
107	Infectious and parasitic diseases	Diarrheal diseases	Antibiotics for treatment of dysentery	WHO CHOICE: https://www.ijhpm.com/article_4023.html	112.7	8.873114463	8262417.692	Government
108	NCDs	Sense-organ disorders	Cataract extraction and insertion of intraocular lens	https://doi.org/10.1136/bmj.e615	117	8.547008547	20306373.52	Other
109	Infectious and parasitic diseases	HIV/AIDS and other STDs	ART (first-line treatment) for adults	https://doi.org/10.1186/s12962-020-00255-9	121	8.26446281	32404755.57	GF-TAM
110	NCDs	Respiratory diseases	Asthma: theophylline + High dose inhaled beclometasone + SABA	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	122	8.196721311	892694.6659	Other
111	NCDs	Respiratory diseases	COPD: inhaled salbutamol	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	126	7.936507937	14137124.53	Other
112	Infectious and parasitic diseases	Tuberculosis (TB)	Treatment + Detection (smear generally and culture for MDR) + Drug sensitivity analysis	https://doi.org/10.1186/s12962-020-00255-3	129	7.751937984	117575.6314	GF-TAM
113	Infectious and parasitic diseases	Tuberculosis (TB)	Treatment + Detection (smear + Xpert) + Drug sensitivity analysis and preventive therapy for children	https://doi.org/10.1186/s12962-020-00255-3	140.8	7.102272727	1199084.418	GF-TAM
114	NCDs	Respiratory diseases	Asthma: low dose inhaled beclometasone + SABA	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	141	7.092198582	928760.9156	Other
115	Reproductive health	Maternal conditions	Safe abortion services	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	144.1	6.93962526	4287789.024	Government
116	Infectious and parasitic diseases	Tuberculosis (TB)	Treatment + Detection (smear generally and culture for MDR) + Drug sensitivity analysis and preventive therapy	https://doi.org/10.1186/s12962-020-00255-3	146	6.849315068	87304.66597	GF-TAM

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
117	NCDs	Other and unspecified noncommunicable diseases	Management of intussusception	https://doi.org/10.1016/j.jpedsurg.2011.03.034	149.8	6.675567423	516131.5005	Other
118	Infectious and parasitic diseases	HIV/AIDS and other STDs	ART (second-line treatment) for adults	https://doi.org/10.1186/s12962-020-00255-9	159	6.289308176	9466370.085	GF-TAM
119	Infectious and parasitic diseases	HIV/AIDS and other STDs	Targeted quality assured HIV testing and counselling services: PITC	https://doi.org/10.2478/abm-2010-0060	159.4681832	6.270843373	16082837.13	GF-TAM
120	Infectious and parasitic diseases	Tuberculosis (TB)	Treatment + Detection (smear generally and culture for MDR) + Drug sensitivity analysis and ART prioritisation for TB cases	https://doi.org/10.1186/s12962-020-00255-3	162.7	6.1462815	117575.6314	GF-TAM
121	Infectious and parasitic diseases	Tuberculosis (TB)	Treatment + Detection (smear + Xpert) + Drug sensitivity analysis, ART prioritisation for TB cases, preventive therapy for children	https://doi.org/10.1186/s12962-020-00255-3	162.7	6.1462815	3684085.44	GF-TAM
122	NCDs	Mental and behavioral disorders and neurological conditions	Intensive psychosocial treatment and anti-depressant medication for recurrent moderate-severe cases of depression on an episodic basis	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	170	5.882352941	43431216.74	Other
123	NCDs	Diseases of the genito-urinary system	Orchidopexy for undescended testis		172	5.813953488	2314317.004	Other
124	NCDs	Neoplasms	Diagnosis and treatment of Wilm's tumour	http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S1999-76712014000400003	177	5.649717514	171690.4909	Other
125	NCDs	Respiratory diseases	COPD: smoking cessation	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	183	5.464480874	8114030.727	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
126	NCDs	Neoplasms	Cervical cancer treatment: stage I & II	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	189	5.291005291	8241693.34	Other
127	NCDs	Sense-organ disorders	Correction of refractive error with eye glass, screening in health facilities spectacles for 5–15-year-old children	10.1016/j.healthpol.2008.06.003	192.5	5.194805195	17462815.36	Other
128	Reproductive health	Maternal conditions	Post abortion case management	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	197.5	5.063291139	4359301.812	Government
129	NCDs	Cardiovascular diseases	Cardiac surgery for congenital heart disease (10% receiving service)	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2714503	203	4.926108374	65,207,501.69	Other
130	NCDs	Other and unspecified noncommunicable diseases	Management of Poisoning	https://doi.org/10.1177/0272989X9501500104	208.89	4.787208579	1266502.832	Other
131	NCDs	Sense-organ disorders	Corneal transplant surgery	https://www.aaojournal.org/article/S0161-6420(17)30322-6/abstract	215.0476751	4.65013165	21167420.4	Other
132	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Management of Meningitis	https://doi.org/10.1136/bmj.e615	217	4.608294931	5160472.922	Other
133	Infectious and parasitic diseases	Neglected tropical diseases	Management of Guinea worm disease	https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0005922	222	4.504504505	3379200	Government
134	Injuries	Injuries	Management facial bone fractures and/or dislocation and injury to dentition (inter-dental wiring, arch bar, IMF and open reduction)	https://doi.org/10.1007/s00268-015-3271-6	226	4.424778761	2954758.451	Other
135	NCDs	Respiratory diseases	COPD: low-dose oral theophylline	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	248	4.032258065	10741382.37	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
136	NCDs	Mental and behavioral disorders and neurological conditions	Intensive psychosocial treatment and anti-depressant medication for first-episode moderate-severe cases of depression	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	250	4	69,853,850.29	Other
137	NCDs	Mental and behavioral disorders and neurological conditions	Basic psychosocial treatment and anti-depressant medication for first-episode moderate-severe cases of depression	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	255	3.921568627	56242263.69	Other
138	NCDs	Cardiovascular diseases	Treatment of new cases of AMI with aspirin	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	262	3.816793893	158430.0844	Other
139	NCDs	Neoplasms	Lip and oral cancer treatment radiotherapy + chemotherapy or chemo/hormonal	https://www.sciencedirect.com/science/article/pii/S0929664616300778?via%3Dihub	262	3.816793893	3047393.742	Other
140	Reproductive health	Unspecified reproductive health conditions	Identification and management of infertility (in vitro fertilization, 1% of infertile couples)	https://dx.doi.org/10.2147%2FCEOR.S31972	269	3.717472119	313,040,533.50	Other
141	NCDs	Respiratory diseases	COPD: exacerbation treatment with oral prednisolone	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	273	3.663003663	10196687.22	Other
142	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Management of Fungal skin infections (ringworms)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7758798/	276	3.623188406	17087010.85	Other
143	Infectious and parasitic diseases	Neglected tropical diseases	Chemotherapy for lymphatic filariasis and hydrocele surgery	https://doi.org/10.1590/S1678-9946202163041	292	3.424657534	11682778.31	Other
144	NCDs	Neoplasms	Breast cancer treatment: stage I & II	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	300	3.333333333	12938897.76	Other
145	Nutritional deficiencies	Nutritional deficiencies	Folic acid supplementation	WHO CHOICE: https://www.ijhpm.com/article_4023.html	355.9	2.809778028	4992425.208	Government

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
146	NCDs	Mental and behavioral disorders and neurological conditions	Repair of neural tube defects	10.1016/j.wneu.2014.08.038	357	2.801120448	16984018.57	Other
147	NCDs	Other and unspecified noncommunicable diseases	Colostomy construction and reversal (anorectal malformation, imperforate anus, Hirchsprung's disease)	https://journals.lww.com/dcrjournal/abstract/2007/50110/use_of_colonic_stents_in_emergent_malignant_left.9.aspx	360.7369001	2.772103436	2593571.009	Other
148	NCDs	Neoplasms	Nasopharynx cancer treatment: radiotherapy + chemotherapy,	https://doi.org/10.1016/j.jfma.2016.04.002	378	2.645502646	2495010.34	Other
149	NCDs	Respiratory diseases	COPD: ipratropium inhaler	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	382	2.617801047	13774507.91	Other
150	Infectious and parasitic diseases	HIV/AIDS and other STDs	Prophylaxis for opportunistic infections in HIV+ Adults	https://doi.org/10.1186/s12962-020-00255-9	403.3	2.479543764	1547247.095	GF-ATM
151	NCDs	ENT procedure	Laryngeal polyp excision	http://login.research4life.org/tacsgr1doi_org/10.1111/coa.12473	432.6748595	2.31120431	18512435.17	Other
152	NCDs	Other and unspecified infectious and parasitic diseases	Surgical management of hand infection	https://www.hindawi.com/journals/psi/2014/921625/	437.8	2.284148013	2971786.397	Other
153	Injuries	Injuries	Management of acute hand trauma (tendon and neurovascular)	https://doi.org/10.1155/2014/921625	437.8	2.284148013	10206528	Other
154	NCDs	Mental and behavioral disorders and neurological conditions	AntiPsychotic Medication + Intensive Psychosocial reatment of psychosis (older drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	491	2.036659878	2610620.112	Other
155	NCDs	Mental and behavioral disorders and neurological conditions	AntiPsychotic Medication + Intensive Psychosocial treatment of psychosis (newer drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	521	1.919385797	2771967.944	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
156	NCDs	Other and unspecified noncommunicable diseases	Screening and brief interventions for alcohol use disorders	https://doi.org/10.1186/s12962-020-00255-3	579	1.727115717	0	Government
157	NCDs	Neoplasms	Screening mammography for breast cancer	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	583	1.715265866	13976351.35	Other
158	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Management of Septicaemia	https://academic.oup.com/heapol/article/32/suppl_1/i21/4061543	595.7021137	1.678691374	22357771.78	Other
159	Infectious and parasitic diseases	HIV/AIDS and other STDs	Ensuring quality assured testing of all donated blood for transfusion transmissible infections (TTIs)_ HIV,HBV,HCV and syphilis	http://dx.doi.org/10.1111/j.1537-2995.2009.02351.x	608	1.644736842	800000	GF-TAM
160	NCDs	Neoplasms	Diagnosis and treatment of chronic HBV infection	https://doi.org/10.1016/S2214-109X(16)30101-2	633	1.579778831	11489779.39	Other
161	NCDs	Diseases of the genito-urinary system	Pyeloplasty for the treatment of uretero-pelvic junction obstruction	http://dx.doi.org/10.1016/j.juro.2010.09.118	663.08	1.508113651	5069569.171	Other
162	NCDs	Endocrine and metabolic disorders	Management of Hypothyroidism	https://doi.org/10.2147/CEOR.S350984	758	1.319261214	17598886.07	Other
163	NCDs	Neoplasms	Colorectal cancer treatment: stage I & II	https://doi.org/10.1186/s12962-020-00255-3	783	1.277139208	4049427.169	Other
164	Infectious and parasitic diseases	Malaria	Intermittent preventive treatments (pregnant women)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	795	1.257861635	5182291.154	GF-TAM
165	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Management of febrile seizure (6months to 5 years)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6789090/	821	1.218026797	8363722.08	Other
166	NCDs	Mental and behavioral disorders and neurological conditions	AntiPsychotic Medication + Basic Psychosocial treatment of psychosis (older drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	849	1.177856302	2655213.19	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
167	NCDs	Mental and behavioral disorders and neurological conditions	Mood-Stabilizing Medication + Basic Psychosocial treatment for bipolar disorder (older drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	872	1.146788991	21417163.38	Other
168	NCDs	Mental and behavioral disorders and neurological conditions	Mood-Stabilizing Medication + Intensive Psychosocial treatment for bipolar disorder (older drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	886	1.128668172	25410555.55	Other
169	NCDs	Mental and behavioral disorders and neurological conditions	AntiPsychotic Medication + Basic Psychosocial treatment of psychosis (newer drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	900	1.111111111	2813605.009	Other
170	NCDs	Mental and behavioral disorders and neurological conditions	Basic psychosocial and anti-depressant drug treatment for moderate-severe cases of anxiety disorder	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	931	1.074113856	55765090.43	Other
171	Nutritional deficiencies	Nutritional deficiencies	Nutritional care and support for HIV+ individuals	https://resource-allocation.biomedcentral.com/articles/10.1186/1478-7547-12-10	975	1.025641026	214893.9014	GF-TAM
172	NCDs	Neoplasms	Colorectal cancer treatment: stage III & IV	https://doi.org/10.1186/s12962-020-00255-5	996	1.004016064	5613466.403	Other
173	NCDs	Mental and behavioral disorders and neurological conditions	Intensive psychosocial and anti-depressant drug treatment for moderate-severe cases of anxiety disorder	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	1001	0.999000999	77,353,843.12	Other
174	NCDs	Cardiovascular diseases	Treatment of cases with established ischemic heart disease (IHD) (Treat post acute IHD combination)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	1032	0.968992248	4580301.264	Other
175	NCDs	Neoplasms	Breast cancer treatment: stage III & IV	https://doi.org/10.1186/s12962-020-00255-3	1032	0.968992248	16644980.99	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
176	Nutritional deficiencies	Nutritional deficiencies	Treat malnourished pregnant mothers with therapeutic foods	https://doi.org/10.1371/journal.pone.0191260	1037.304452	0.964037123	1279973.947	Government
177	Infectious and parasitic diseases	Diarrheal diseases	Treatment of severe diarrhoea (children)	https://www.who.int/surgery/challenges/disease-control-priorities.pdf	1062	0.941619586	10876208.43	Government
178	Infectious and parasitic diseases	Neglected tropical diseases	Case management of scabies using scabicides (perimethrin, BBL, ivermectin sulphur)	https://link.springer.com/article/10.1186/1478-7547-6-14	1074	0.931098696	22778890.97	Other
179	NCDs	Neoplasms	Diagnosis and treatment of childhood leukaemia	http://ascopubs.org/doi/full/10.1200/JGO.17.00243	1086	0.920810313	2573564.746	Other
180	NCDs	Neoplasms	Diagnosis and treatment of leukaemia in Adults	https://ascopubs.org/doi/full/10.1200/JGO.17.00243	1147	0.871839582	15592965.28	Other
181	Reproductive health	Maternal conditions	Ectopic pregnancy case management	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/33904699/	1156	0.865051903	4447905.921	Other
182	NCDs	Cardiovascular diseases	Treat post acute Stroke combination	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	1193	0.838222967	4100460.179	Other
183	Infectious and parasitic diseases	Neglected tropical diseases	Early diagnosis and management of CL (clinical examination and skin snip)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8149103/	1200	0.833333333	486565.5148	Other
184	Reproductive health	Maternal conditions	Calcium supplementation for prevention and treatment of pre-eclampsia and eclampsia	WHO-CHOICE: https://www.ijhpm.com/article_4023.html	1310.6	0.763009309	11232922.87	NYI
185	Reproductive health	Maternal conditions	Medical and surgical management of pelvic organ prolapse	https://link.springer.com/article/10.1007/s00192-011-1383-6	1315.789474	0.76	783764.5758	Government
186	NCDs	Mental and behavioral disorders and neurological conditions	Mood-Stabilizing Medication + Intensive Psychosocial treatment for bipolar disorder (newer drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	1352	0.73964497	38763976.86	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
187	NCDs	Mental and behavioral disorders and neurological conditions	Mood-Stabilizing Medication + Basic Psychosocial treatment for bipolar disorder (newer drugs)	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	1410	0.709219858	34651065.83	Other
188	NCDs	Sense-organ disorders	Medical and surgical treatment of glaucoma (Canaloplasty)	https://doi.org/10.1136/bmjopen-2016-013254	1497.519168	0.667771085	1534615.366	Other
189	NCDs	Respiratory diseases	Management of paediatric asthma	https://pubmed.ncbi.nlm.nih.gov/32991222/	1565.3	0.638855172	7761422.05	Other
190	NCDs	Sense-organ disorders	Retinal detachment repair	https://www.aaojournal.org/article/S0161-6420(13)01061-0/abstract	1912	0.523012552	11590967.31	Other
191	NCDs	Neoplasms	Treatment of intrahepatic cholangiocarcinoma, hepatic resection for ICC greater than 6 cm vs. initial systemic chemotherapy	https://doi.org/10.1007/s00268-015-3150-1	2108	0.474383302	1023238.955	Other
192	Reproductive health	Maternal conditions	Female genital anomalies surgeries (Uterine malformation, transverse vaginal septum and imperforate hymen)	https://www.bmj.com/content/328/7432/134	2112.172605	0.473446156	13834151.19	Other
193	NCDs	Neoplasms	Cervical cancer treatment: stage III & IV	https://doi.org/10.1186/s12962-020-00255-3	2227	0.449034576	11538370.68	Other
194	NCDs	Respiratory diseases	Asthma: inhaled short acting beta agonist for intermittent asthma	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	2232	0.448028674	6285904.98	Other
195	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Surgical management of septic arthritis	https://journals.lww.com/jbjsjournal/abstract/2006/11000/cost_effectiveness_of_unicompartmental_and_total.5.aspx	2314.5	0.43205876	1202216.364	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
196	NCDs	ENT procedure	Sinus surgery to remove nasal polyps and tumors	https://dx.doi.org/10.1002%2Flary.24916	2382	0.419815281	2128681.296	Other
197	Infectious and parasitic diseases	HIV/AIDS and other STDs	Post-exposure prophylaxis (PEP) for occupational exposure and sexual assault victims	https://www.unicef.org/southafrica/SAF_resource_violencehivaids.pdf	2812	0.355618777	1499728.665	GF-TAM
198	Reproductive health	Unspecified reproductive health conditions	Post exposure prophylaxis for HIV for rape victims	https://www.unicef.org/southafrica/SAF_resource_violencehivaids.pdf	2812	0.355618777	1499728.665	GF-TAM
199	NCDs	Cardiovascular diseases	Treatment of cases with MI with percutaneous coronary intervention	https://resource-allocation.biomedcentral.com/articles/10.1186/s12962-016-0059-y	3013	0.331895121	38602815.38	Other
200	NCDs	Mental and behavioral disorders and neurological conditions	Diagnosis and treatment of ADHD including methylphenidate	https://doi.org/10.1007/s10198-016-0864-4	3065	0.32625363	65,739,752.00	Other
201	NCDs	Neoplasms	Radical cystectomy for the management of bladder cancer	https://doi.org/10.1002/cncr.24634	3280.983288	0.304786679	4051380.114	Other
202	NCDs	Neoplasms	Treatment of prostate cancer: radiotherapy (stereotactic body radiation therapy vs. intensity-modulated radiation therapy)	https://dx.doi.org/10.1200%2FJOP.2012.000548	3434	0.291205591	11294208.07	Other
203	NCDs	Cardiovascular diseases	Medical management of heart failure with diuretics, beta- blockers, ACE inhibitors and mineralocorticoid antagonists	https://heart.bmj.com/content/104/12/1006	4491.292873	0.222653037	21287206.97	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
204	NCDs	Other and unspecified noncommunicable diseases	Eliminate industrial trans-fats through the development of legislation to ban their use in the food chain	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	5176	0.193199382	536,337,509.47	Government
205	NCDs	Diseases of the genito-urinary system	Relieving acute urinary retention by catheterisation, closed supra-pubic cystectomy	https://www.scielo.br/j/ibju/a/q3dtkKDDY73dg9v9CKSZtQc/?lang=en	5194.618784	0.192506908	832830.1122	Other
206	NCDs	Endocrine and metabolic disorders	Management of Hyperthyroidism	https://doi.org/10.2147/CEOR.S350984	5425	0.184331797	10062657.22	Other
207	Reproductive health	Perinatal conditions	Management of metabolic disorder (hypoglecemia in newborns)	http://pediatrics.aappublications.org/content/123/2/451.full.html	5647.617174	0.177065826	6622997.371	Government
208	NCDs	Mental and behavioral disorders and neurological conditions	Psychosocial interventions for treatment of conduct disorders	https://journals.sagepub.com/doi/10.1080/j.1440-1614.2004.01423.x	5797.684018	0.172482667	32462808	Other
209	NCDs	Endocrine and metabolic disorders	Diagnosis and comprehensive management of type 1 DM	https://www.ijhpm.com/?_action=articleInfo&article=4056&lang	5886	0.169894665	12356754.72	Other
210	NCDs	Neoplasms	Pneumonectomy, chemotherapy and radiotherapy for the management of lung cancers	https://pubmed.ncbi.nlm.nih.gov/14667584/	6303	0.158654609	3053326.358	Other
211	NCDs	Endocrine and metabolic disorders	Standard Glycemic control for the treatment for type 2 diabetes	https://doi.org/10.1186/1471-2458-13-729	6397	0.156323277	62525244.39	Other
212	NCDs	Neoplasms	Diagnosis and treatment of non-Hodgkin's lymphomas in children	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7688753/pdf/41669_2020_Article_204.pdf	6617	0.151125888	1613474.153	Other
213	NCDs	Endocrine and metabolic disorders	Retinopathy Screening + photocoagulation for diabetic retinopathy	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	7192	0.139043382	2682926.595	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
214	NCDs	Respiratory diseases	COPD: exacerbation treatment with antibiotics	https://doi.org/10.2147/COPD.S29820	7564	0.132205182	11908781.93	Other
215	NCDs	Other and unspecified noncommunicable diseases	Management of Idiopathic Thrombocytopenic Purpura (ITP)	https://doi.org/10.1177/147323000803600324	7786	0.128435654	1619539.138	Other
216	NCDs	Other and unspecified noncommunicable diseases	Anal sphincterotomy to repair anal fissures	https://onlinelibrary.wiley.com/doi/10.1111/j.1463-1318.2008.01507.x	8841.620626	0.113101437	2207399.921	Other
217	NCDs	Diseases of the genito-urinary system	Management of Nephrotic syndrome	https://doi.org/10.1093/rheumatology/kem054	9632	0.103820598	208363.8526	Other
218	NCDs	Diseases of the genito-urinary system	Management of Nephritis	https://doi.org/10.1093/rheumatology/kem054	9632.22905	0.103818129	625091.5577	Other
219	NCDs	Endocrine and metabolic disorders	Intensive Glycemic control for the treatment of type 2 DM	WHO-CHOICE: https://pubmed.ncbi.nlm.nih.gov/34273918/	10749	0.09303191	70060409.61	Other
220	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Management of Impetigo	https://doi.org/10.21203/rs.3.rs-1214746/v1	11473	0.08716344	57,699,877.16	Other
221	NCDs	Diseases of the genito-urinary system	Hemodialysis for acute renal failure	https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/414444	14183.9	0.070502471	1720997.731	Other
222	NCDs	ENT procedure	Hearing aid placement (including audiometry)	https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-020-05977-x	16750	0.059703275	252,769,861.43	Other
223	NCDs	Diseases of the genito-urinary system	Kidney transplantation	https://www.researchgate.net/publication/331702607_Annals_of_Advanced_Biomedical_Sciences_Hemodialysis_or_Transplantation_for_Ethiopia_A_Cost_Utility_Analysis_Hemodialysis_or_Transplantation_for_Ethiopia_A_Cost_Utility_Analysis	17645	0.056674839	63,080,621.19	Other
224	NCDs	Neoplasms	Diagnosis and management of ovarian cancer (surgery), primary debulking surgery	https://doi.org/10.2147/CEOR.S91844	17846	0.056034966	6400401.597	Other

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No.	Major Category	Sub-Program	Intervention	ACER Value Reference	ACER	HLY per $1000	Intervention Cost at 80% Coverage	Source of Financing
225	Infectious and parasitic diseases	Other and unspecified infectious and parasitic diseases	Management of bronchiectasis (with antibiotics and rehabilitative care)	https://doi.org/10.1186/s12962-021-00312-5	20419.56	0.048972652	1757274.081	Other
226	NCDs	Respiratory diseases	COPD: exacerbation treatment with oxygen, pulmonary rehabilitation	https://doi.org/10.1371/journal.pone.0156514	20533	0.048702089	1358255.608	Other
227	NCDs	Neoplasms	Diagnosis and treatment of childhood Hodgkin's lymphomas	https://doi.org/10.1080/13696998.2016.1219358	27540	0.036310821	484399.5307	Other
228	NCDs	Neoplasms	Biopsy, surgery, chemotherapy, transarterial radioembolisation vs. Sorafenib for hepatocellular cancer	https://www.valueinhealthjournal.com/article/S1098-3015(16)33765-2/fulltext?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS1098301516337652%3Fshowall%3Dtrue	28984.68255	0.034500982	1160836.521	Other
229	NCDs	Mental and behavioral disorders and neurological conditions	Shunt for hydrocephalus	https://doi.org/10.1007/s00701-017-3115-2	31730	0.031515916	6373647.368	Other
230	NCDs	Diseases of the genito-urinary system	Haemodialysis for chronic kidney failure	https://www.researchgate.net/publication/331702607_Annals_of_Advanced_Biomedical_Sciences_Hemodialysis_or_Transplantation_for_Ethiopia_A_Cost_Utility_Analysis_Hemodialysis_or_Transplantation_for_Ethiopia_A_Cost_Utility_Analysis	47665.83333	0.020979388	39219779.1	Other
231	NCDs	Neoplasms	Colorectal cancer treatment: stage III & IV	https://doi.org/10.1186/s12962-020-00255-9	48460	0.020635576	5613466.403	Other
232	NCDs	Other and unspecified noncommunicable diseases	Management of Haemophilia with blood coagulation factors	https://doi.org/10.1017/S0266462316000544	55204	0.018114629	848378.0492	Other
233	NCDs	Diseases of the genito-urinary system	Peritoneal dialysis for chronic kidney failure	https://doi.org/10.1007/s40258-014-0108-7	71558.26324	0.013974626	29022636.53	Other

Appendix 2: Cost-Effectiveness Thresholds

We explored cost-effectiveness thresholds for different financing sources and intervention coverage levels in Ethiopia under the full New Compact (Table 3 below). At 80 percent coverage, the transition between government and aid financing is estimated to occur around US$48.00 per DALY averted. The transition between aid financing and excluded services occurs around US$262.00.

TABLE 3. Cost-effectiveness thresholds (CETs) at different coverage rates and available resources in Ethiopia, 2021/22

Financing Source	CET (USD per DALYs Averted)	
	50% Intervention Coverage	80% Intervention Coverage
Government	177	48
Government + Channels I and II	3013	203
Government + Channels I and II + GFATM + Gavi	4491	262
Woods et al. thresholds (0.5 GDP per capita)[107]		514
Ochalek et al. thresholds (0.31 GDP per capita)[108]		319

The findings on CETs illustrate how different thresholds could be used by MoHs and by donors.[109] However, care should be taken when interpreting these results, as the package of services included in the analysis is partial, the quality of the data is mixed, and CET estimates from the literature often refer to thresholds for incremental, rather than average, CETs.