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Explication of the Process and Methods Used[§]

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Abstract

To make progress towards universal health coverage (UHC), countries should prioritise and define the type and mix of health services that respond to the needs of their populations. Ethiopia revised its essential health services package (EHSP) in 2019. This paper describes the process, methodology and involvement of stakeholders and experts and presents the key features of the new EHSP. Ethiopia's EHSP was developed through a participatory approach. A predefined roadmap document guided the revision process. A total of 35 consultative workshops were convened with experts and the public to define the scope of the revision, develop a list of health interventions, agree on the prioritisation criteria, gather evidence and compare health interventions. Seven prioritisation criteria were employed: disease burden, cost effectiveness, equity, financial risk protection, budget impact, public acceptability and political acceptability. In the first phase, 1,749 interventions were identified, which were regrouped and reorganised to identify 1,442 interventions as relevant. The second phase removed interventions that did not match the burden of disease or were not relevant in the Ethiopian setting, reducing the number of interventions to 1,018. These were evaluated further and ranked by the other criteria. Finally, 594 interventions were classified as high priority (58%), 213 as medium priorities (21%) and 211 as low priority interventions (21%). The current policy is to provide 570 interventions (56%) free of charge while guaranteeing the availability of the remaining services with cost-sharing (38%) and cost-recovery (6%) mechanisms in place. As the health care budget expands, more services will be assigned as high priority and more services will be provided free of charge. In conclusion, the revision of Ethiopia's EHSP followed a participatory, inclusive and evidence-based prioritisation process. The interventions included in the EHSP were comprehensive and were assigned to health care delivery platforms and linked to financing mechanisms.

Keywords: Essential health service package, universal health coverage, health benefit package, priority-setting, multi-criteria decision making, progressive realisation of UHC, Ethiopia, sub-Saharan Africa.

Introduction

In 2015, all United Nations Member States adopted the Sustainable Development Goals (SDGs) to guide policies and actions across all sectors that are important to development. SDG-3 is the health goal, and SDG target 3.8 specifically concerns achieving universal health coverage (UHC) for all segments of the population (United Nations, 2015). The World Health Organization (WHO) defines UHC as a condition in which ‘all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship’ (World Health Organization, 2014b). To make tangible progress towards UHC, countries should clearly define the essential health services that they can deliver to their population within the available budget and without financial risk whilst also clearly defining how they plan to scale up coverage, reduce direct costs and expand the range of services delivered in the future (Hogan et al., 2018; Rieger et al., 2017; Wagstaff & Neelsen, 2020).

The selection of high-impact, priority interventions is important but has never been easy. Hard decisions must be made in situations with limited resources and high demands on health services. The decision should take into account the current level of human and financial resources available as well as practical constraints (Kapiriri, 2013; Norheim, 2016). WHO and others recommend systematic priority-setting that employs explicitly defined and agreed upon prioritisation criteria, using evidence from all available sources and relying on participatory and democratic processes (Chalkidou et al., 2016; Glassman et al., 2016; Jamison et al., 2018; World Health Organization, 2014a). Explicit priority setting is more important than ever to agree on essential universal health services and reach consensus on how to finance them, whether through full public financing, cost-sharing or cost-recovery (World Health Organization, 2014a).

The revision of the Ethiopian essential health services package (EHSP) can be seen as a key activity to accelerate the progressive realisation of UHC for all Ethiopian citizens (Federal Ministry of Health of Ethiopia, 2018). In 2018, a decision was made to revise the EHSP, which Ethiopia had first developed in 2005 (Federal Democratic Republic of Ethiopia Ministry of Health, 2005). Since then, the disease burden profile of the country had changed due to a growing number of non-communicable diseases (NCDs) to which the package did not adequately respond (Misganaw et al., 2017). Furthermore, the population’s demand for health services had increased substantially, and several interventions had been introduced to the health system on an ad-hoc basis without formal evaluation (Federal Ministry of Health of Ethiopia, 2015). Arguably, rolling out health interventions without a well-defined assessment of their costs and impact on health, equity and financial risk could lead to the inclusion of ineffective interventions that replace services more crucial to UHC targets.

Recognising the importance of clearly defined health intervention priorities to achieving UHC, the Ministry of Health (MoH) of Ethiopia revised the EHSP from May 2018 through November 2019 (Federal Ministry of Health of Ethiopia, 2019a). This paper describes the revision process, the key methodology, the involvement of stakeholders and experts and the most important features of the new Ethiopian EHSP.

The paper is organised as follows: First, we describe the country context and the scope and objectives of the revised EHSP. Second, we describe the elements of the revision process (Figure 1), including its organisation (the governance of the revision process), the identification of relevant health interventions, the selection of prioritisation criteria, evidence synthesis, the comparing and

ranking of interventions, the impact of costing and budget and the formulation and revision of the intervention list. Third, we describe the final revised EHSP. Finally, we compare and discuss the Ethiopian process and results with similar work in other countries.

Country context

Ethiopia is the second-most populous nation in Africa, with a total population of about 108 million (Central Intelligence Agency, 2020). Approximately 83% of the population lives in rural areas, and their livelihood is mainly dependent on subsistent agriculture. Almost a quarter of the population lives below the poverty line, and the country's per capita income is only US\$953 (International Monetary Fund, 2020; Ministry of Finance and Economic Cooperation of Ethiopia, 2017). Furthermore, per capita health expenditure in Ethiopia is very low at only US\$33 in 2016/2017 (Federal Ministry of Health of Ethiopia, 2019b).

Ethiopia is a federal state organised into nine semi-autonomous regions and two chartered cities (Addis Ababa, the capital, and Dire Dawa, a major city in eastern Ethiopia). The federal MoH is responsible for the formulation of health policies—including the definition of the EHSP—for the health sector. The regional health bureaus are the main implementers of the programmes (Federal Ministry of Health of Ethiopia, 2015).

Scope and objectives of the revised EHSP

The scope of the revised EHSP reflects the national health policy and its SDG-UHC commitments while taking into account the constraints of resource availability and economic growth. The EHSP has four basic features. First, it was designed to address the health needs of the Ethiopian population across the whole life course regardless of income, gender or residence (urban/rural). Second, it was designed to be delivered at all levels of service (i.e., primary, secondary and tertiary). Third, the package was designed to serve for five years (2020–2025). Fourth, it includes promotive, preventive, curative and rehabilitative interventions.

The primary objective of the revised EHSP is to reduce the burden of disease in Ethiopia by making available affordable, high priority interventions. It also aims to protect people from catastrophic health expenditures, increase equitable access to health services, improve the efficiency of the health system and increase public participation and transparency in decision-making in the health sector.

Governance of the revision process

The MoH initiated the revision of the EHSP, and eight inception meetings were held from June–August 2018 to outline the EHSP revision plan, define the revision roadmap and determine the scope and objectives of the revised EHSP (Federal Ministry of Health of Ethiopia, 2018). The existing MoH governance structure for decision-making was applied. All directorates at the MoH and representatives of all regional health bureaus were involved throughout the process to ensure inclusiveness and transparency. Additionally, national and international experts (WHO and Disease Control Priorities–Ethiopia) provided technical support throughout the process.

An EHSP core team, comprising a health economist, health systems specialist and epidemiologist, was organised by the minister to execute and coordinate the work. The role of the core team was to facilitate the development of the entire package, including the development of a prioritisation protocol, the collation of data, evidence synthesis, stakeholder engagement, costing and fiscal space analysis. A technical working group (TWG) was established comprising 30 senior experts

on various health system dimensions. The TWG supported the core team in the preparation of the revision roadmap, which helped to establish a common understanding among the stakeholders on the steps necessary to achieve an evidence-based revision of the package. As a result, a detailed plan of the revision process and the methods to be used was presented by the TWG to the MoH leadership and approved (Figure 1). The core team and TWG followed, with slight modifications, the steps of the health benefits package design recommended by Glassman et al (Glassman et al., 2017).

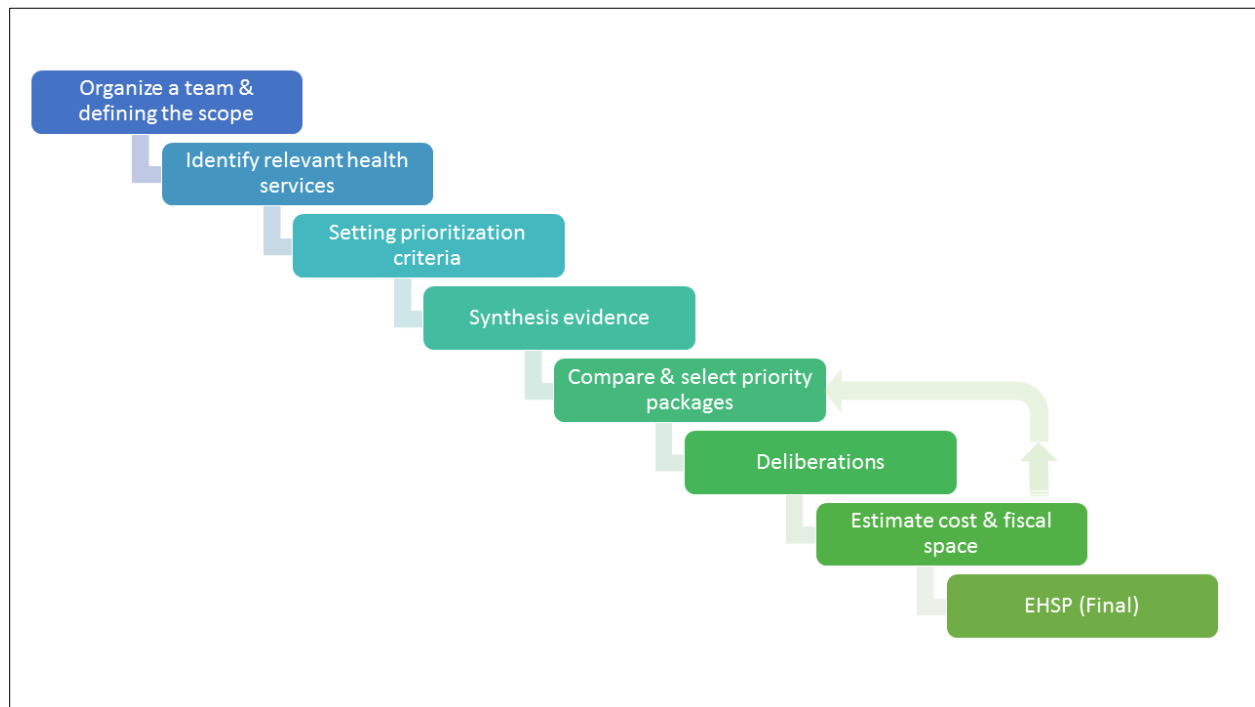


Figure 1. The roadmap for the revision process of Ethiopia’s EHSP.

Identification of relevant health interventions

The first step was to create a list of health interventions for consideration, including the promotive, preventive, curative and rehabilitative interventions relevant to Ethiopia. An exhaustive search of the Ethiopian health sector’s plans, strategies and national publications was conducted along with reviews of the WHO intervention compendium (forthcoming) and the third edition of Disease Control Priorities (DCP3) (University of Washington, 2018). Subsequently, a two-day workshop was held to identify additional interventions. Eighty experts from various programme areas, primary health care practitioners, doctors and specialists identified and proposed all health services relevant to the Ethiopian context.

Stakeholder engagement

The acceptability and legitimacy of the EHSP will depend not only on the type and quality of evidence used to define the package but also on the transparency and deliberativeness of the revision process. Legitimacy and trust crucially depend on a deliberative process with stakeholder involvement (Norman Daniels & Sabin, 2008). Stakeholders were actively engaged in matters ranging from setting prioritisation criteria and identifying health interventions to the prioritisation and ranking of the interventions. The stakeholders included local experts, such as primary health

care practitioners, doctors and specialists, as well as public representatives, including a women's association, a youth association and various professional associations. The latter included the Ethiopian Medical Association, Ethiopian Society of Obstetrics and Gynaecologists, Ethiopian Surgical Association, Ethiopian Radiology Association, Ethiopian Public Health Association, Ethiopian Public Health Officer Association and Ethiopian Environmental Health Association as well as disease-specific interest groups, including the Diabetic Association, the Union of People Living with HIV, the Cardiac Disease Association, the Cancer Disease Association, the Kidney Disease Association, and the Association of People Affected by Leprosy (Supplement I). A total of 35 consultative workshops were convened with experts and the public to define the essential health service package.

Prioritisation criteria

The prioritisation criteria were prepared by reviewing the literature, national health policy documents and relevant strategic health sector documents. Also considered were the criteria for the prioritisation of health services recommended by WHO's Consultative Group on Equity and Universal Health Coverage, including maximising the total health gains for a given investment, giving priority to health services that target or benefit the less fortunate and providing financial risk protection, particularly to the poor (World Health Organization, 2014a). Broadly, such a prioritisation approach is based on three elements: data, dialogue and decision (Terwindt et al., 2016). Ten consultations and deliberative meetings were held on the proposed criteria with global and local experts, public representatives and professional associations.

After the deliberations, seven prioritisation criteria were selected, namely the burden of disease, cost effectiveness, equity, financial risk protection, budget impact, public acceptability and political acceptability. Disease burden was used to identify the relevant conditions and risk factors of particular importance in the Ethiopian context. The cost effectiveness criterion was used to quantitatively rank and compare health interventions according to the health gains that they would yield per dollar spent. The equity and financial risk protection criteria were used to further compare health interventions and to give higher values to health benefits for the less fortunate and to interventions that protect against catastrophic out-of-pocket health expenditures. In addition, the public and political acceptability of the interventions were taken into account through the qualitative deliberative process and a dialogue with policy makers.

Assessment and synthesis of evidence

Cost-effectiveness evidence was estimated using a mix of methods, including both new, context-specific analysis and a literature review. For 159 interventions, WHO's CHOosing Interventions that are Cost-Effective (CHOICE) methodology for generalised cost-effectiveness analysis (GCEA) was used to estimate average cost-effectiveness ratios (ACERs) using local input data. For 393 interventions, we used CEA evidence from the literature, such as the DCP3 (University of Washington, 2018), the Tufts CEA Registry (Tufts Medical Center, 2018), and peer-reviewed articles after applying appropriate contextualisation to the Ethiopian context using general transferability criteria based on the Consolidated Health Economic Evaluation Reporting Standards 10-point checklist. The articles were searched using keywords constructed with a combination of the name of the intervention, the study location (with priority given to studies done in Ethiopia or another low-income setting) and time (prioritising recent studies). Two independent reviewers appraised the studies, and those deemed to meet a minimum standard of quality were accepted for inclusion in the evidence base. For the rest of the interventions, expert opinions were

applied (Table 1). For the CEA, the health system perspective was taken, and only data that were transferable to the Ethiopian context were used. When cost information was originally from another setting, the currency difference was adjusted using the appropriate exchange rate and inflated to USD 2019 using the GDP deflator. All costs were discounted at 3% per year. Healthy life years (HLY) gained, Disability Adjusted Life Years (DALYs) averted and Quality Adjusted Life year (QALYs) gained were the main health outcome measures and were discounted at 3% per year (Drummond et al., 2009; Husereau et al., 2013).

Table 1. Summary of the sources of evidence for prioritisation in the Ethiopian EHSP, 2019.

Criterion	Evidence synthesis method
Disease burden	Global Burden of Diseases (GBD), 2017 study
CEA	GCEA study using WHO-CHOICE OneHealth Tool, literature search and transferability
Equity	Expert opinion using the Delphi method
FRP*	Expert opinion using the Delphi method
Budget impact	Costing and budget impact analysis Annual cost per capita
Public acceptability	Deliberative meetings with public representatives.
Political acceptability	Deliberative meetings with policy makers; decisions by EC, MC, and JSC

* Financial risk protection

The interventions were first ranked according to cost effectiveness and then adjusted if the interventions had a high equity score and/or financial risk protection (FRP) score. The scores for equity impact and FRP were assigned through the Delphi process with input from subject matter experts, professional associations and public representatives. The equity score and FRP score ranged from 1 (lowest) to 5 (highest), with 1 indicating no equity impact/no financial risk and 5 indicating that it would be inequitable not to include the intervention and that people would pay large sums out of pocket. Therefore, all the interventions were ranked in descending order based on their priority score, and the most cost-effective, equitable and financially protective health interventions were ranked accordingly and included in the EHSP as high-, medium- and low-priority interventions (Federal Ministry of Health of Ethiopia, 2019a).

Budget impact

The gap between aspirational targets and available financial and physical resources is a rate-limiting factor in the implementation of EHSPs in many countries. The set of services to be made available was determined by the expected available budget. Therefore, conducting a costing exercise for the whole EHSP and, in particular, per health intervention was an important step.

The costing was done using the OneHealth Tool (OHT) for which the default setup includes 438 of the 1,018 interventions (World Health Organization & Avenir Health, 2020). We manually estimated the costs of the remaining 580 interventions in the EHSP using an Excel spreadsheet (Microsoft Corporation, 2018). The OHT's default data on the cost of drugs, supplies and the default population model for Ethiopia were updated with local country-level data (University of Washington, 2018).

The budget impact and the number of interventions the health system needs and can provide depend on both the number of individuals in need and the intervention coverage. The population

in need was estimated from the total number of individuals affected by the condition and the proportion of those who needed the appropriate intervention. We used estimates of prevalence and incidence data from national-level estimates and employed baseline UHC coverage data as published by Eregata et al., supplemented by expert judgements when necessary (Eregata et al., 2019).

Deliberation and decisions on the intervention list

The core team undertaking the evaluation presented the full results to the policy makers at MoH for review, for discussion of whether to include or exclude certain interventions and for approval. The final decision was taken by the executive committee (EC) of the MoH, which is the higher-level decision-making body in the sector.

Results

Interventions in the final revised EHSP

In the first comprehensive list, 1,749 interventions were included for consideration. This initial list was then further revised to avoid duplication and merged to 1,442 interventions. Various directorates of the MoH then commented on the intervention list. We further compared the interventions with the magnitude of the burden of disease or the risk factor they targeted. After removing interventions unmatched by the burden of disease or not relevant in the Ethiopian setting, the number of interventions was reduced to 1,223. Finally, another regrouping and reorganising of health interventions yielded 1,018 interventions that were ready for evaluation and comparison based on the other criteria (Supplement II). The interventions by major programme are presented in Figure 2.

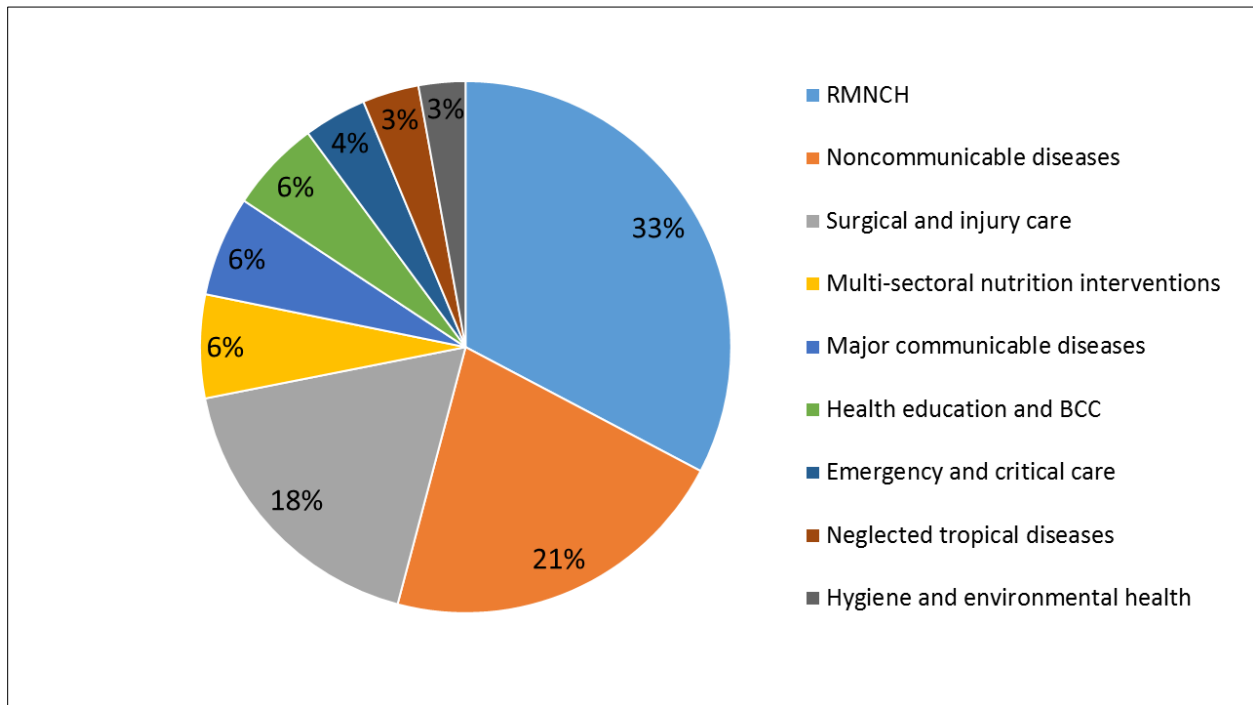


Figure 2. The proportion of interventions by major programme area.

Notes: BCC = behavioural change communication; NCD = non-communicable diseases; NTD = neglected tropical disease; RMNCH = reproductive maternal neonatal child health.

The interventions by sub-programme area are presented in Table 2.

Table 2: Interventions by major programme area and sub-programme area.

Major programme areas and sub-programme areas	N	%
RMNCH	333	32.7
Nutrition	130	12.8
Child health	88	8.6
Sexual and reproductive health	60	5.9
New-born health	34	3.3
Maternal health services	21	2.1
NCD	218	21.4
Cancer	68	6.7
Cardiovascular disease	28	2.8
Diabetes mellitus	6	0.6
MNSUD*: Childhood mental disorders	11	1.1
MNSUD: Substance use disorders	14	1.4
MNSUD: All	4	0.4
MNSUD: Mental disorders	20	2.0
MNSUD: Neurological disorders	4	0.4
NCDs: All	33	3.2
Non-communicable eye health problems	8	0.8
Renal diseases	8	0.8
Respiratory diseases	14	1.4
Surgical and injury care	181	17.8
Anaesthesia	16	1.6
Surgical care	165	16.2
Multisectoral nutrition interventions	64	6.3
Multisectoral nutrition interventions	64	6.3
Major communicable diseases	62	6.1
HIV/AIDS	24	2.4
Tuberculosis	10	1.0
Malaria	13	1.3
Sexually transmitted infections	11	1.1
Leprosy	4	0.4
Health education and BCC	57	5.6
Health education and promotion	57	5.6
Emergency and critical care	39	3.8
Emergency and critical care: All	5	0.5
Pre-hospital emergency care	8	0.8
Basic emergency care	2	0.2
Advanced emergency care	24	2.4
NTDs	35	3.4
NTDs	35	3.4
Hygiene and environmental health services	29	2.8
Hygiene and environmental health	29	2.8
Grand Total	1,018	100.0

* MNSUD = Mental Neurological and Substance Use Disorder

Level of priority

A decision was taken to make available all 1,018 interventions in the EHSP. Among them, 594 (58%) were categorised as high priority, 213 (21%) as medium priority and 211 (21%) as low priority interventions (Figure 3).

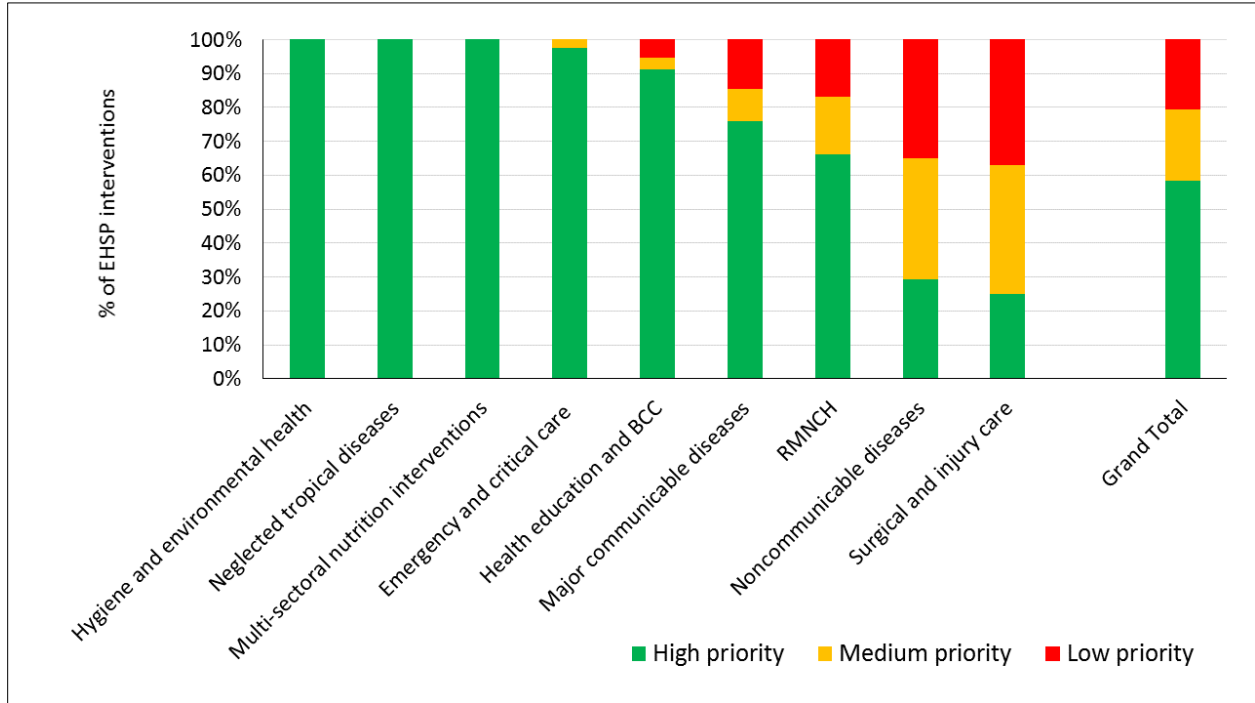


Figure 3. EHSP interventions by major programme area and level of priority.

Delivery platforms

About 60% of the interventions will be delivered through what, in Ethiopia, is defined as primary care (which includes community-based interventions, health posts, health centres and primary hospitals), about 20% at the secondary level of care and about 20% at the tertiary level (Figure 4). When we disaggregate the programme areas, 70% of the RMNCH interventions will be delivered at the primary care level while only 30% will be delivered at the secondary or tertiary level of care. For hygiene and environmental health, 84% of the interventions will be delivered as primary care, and, for health education and promotion, the figure is 86%. On the other hand, 53% of the more advanced NCD and surgical interventions will be delivered in secondary and tertiary hospitals.

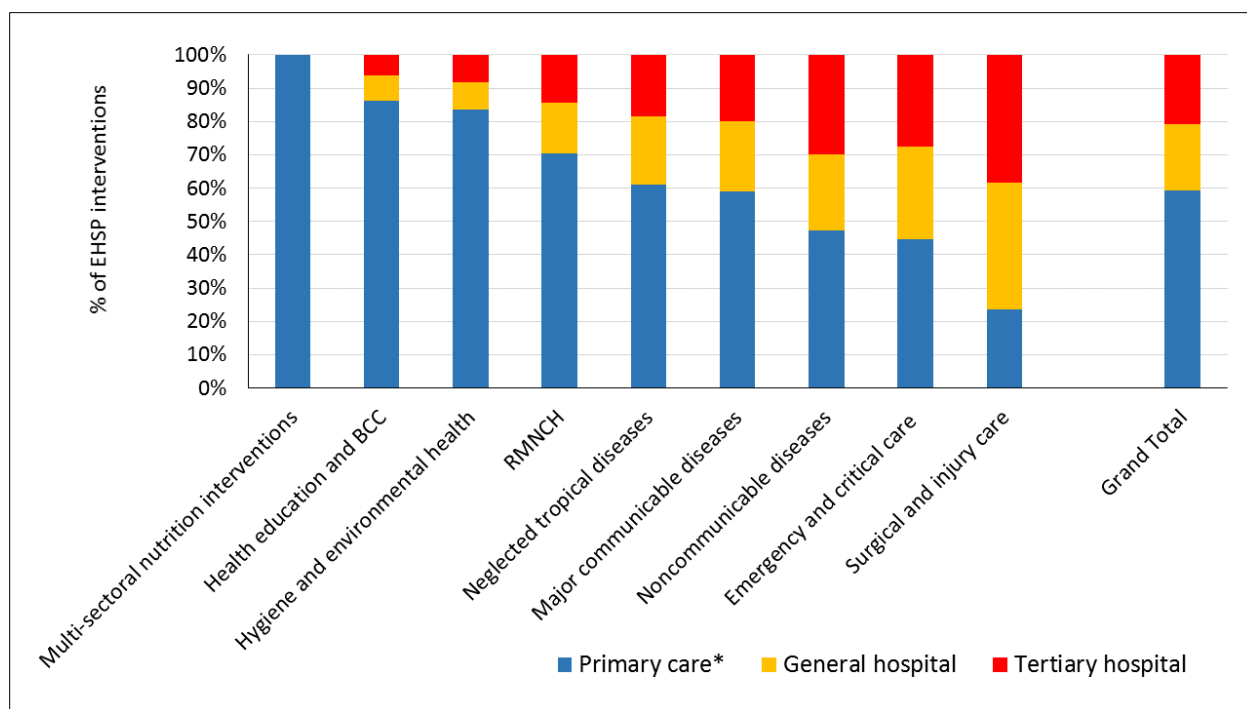


Figure 4. EHSP interventions by major programme area and delivery platform.

* Primary care includes community-based interventions, health posts, health centres and primary hospitals.

Payment mechanism

The current policy is to provide 570 interventions (56%) free of charge while the remaining services will have a guaranteed availability but with cost-sharing (38%) and cost-recovery (6%) mechanisms in place (Figure 5). All the interventions under the programme areas of multisectoral and health education will be provided free of charge while all the interventions under emergency and critical care will be provided with cost-sharing.

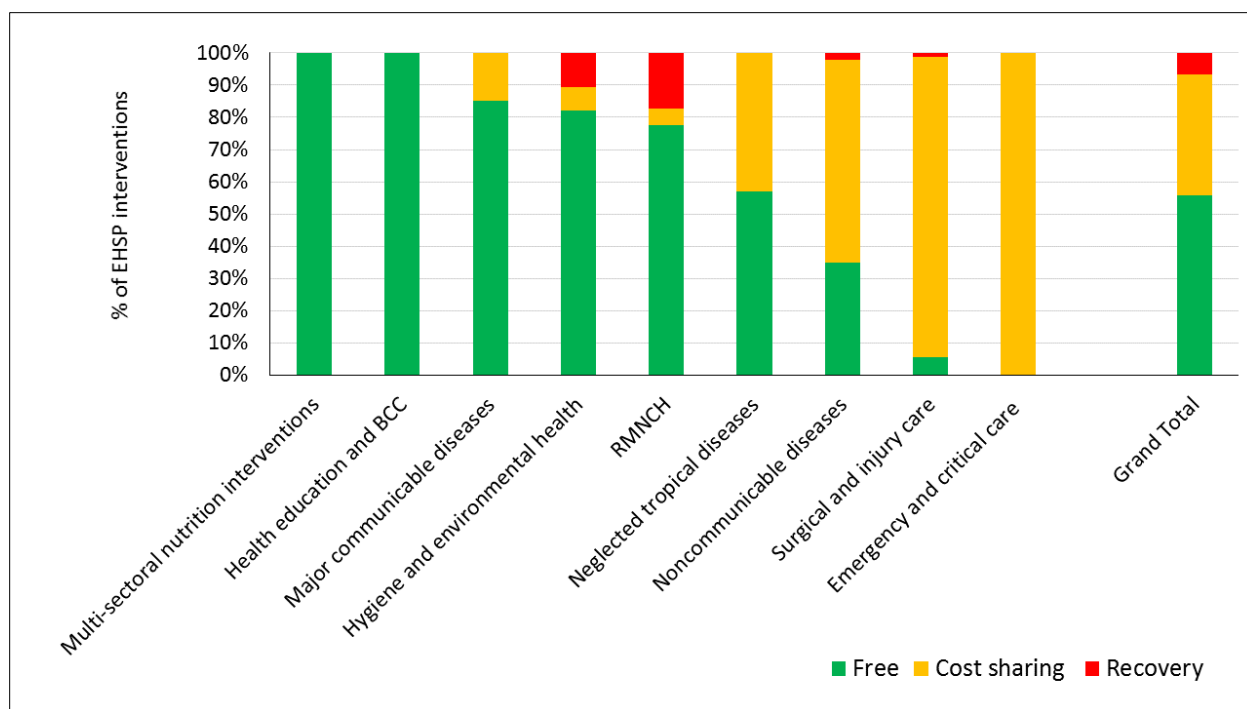


Figure 5. EHSP interventions by major programme area and payment mechanism.

Discussion

With a long-term goal of reaching UHC, Ethiopia revised the EHSP in 2019 (Federal Ministry of Health of Ethiopia, 2019a). In light of the globally recommended approaches and principles for designing a good EHSP (Chalkidou et al., 2016; N. Daniels, 2000; Glassman et al., 2017; Norheim et al., 2014; World Health Organization, 2014a), we discuss the process of revision, the key methodology, the involvement of stakeholders and experts and the key features of the new Ethiopian EHSP.

Participatory process

As recommended by Norman Daniels in the ‘accountability for reasonableness framework’, an effort was made to ensure that the whole process of EHSP revision in Ethiopia was as open, fair, participatory and inclusive as possible (N. Daniels, 2000). The revision process took about 1.5 years (from May 2018 through November 2019). Most of the internal and external stakeholders were actively engaged from the inception to the finalisation of the EHSP. Five rounds of workshops were conducted with policy makers at the regional and federal levels in the health sectors, including ministers, state ministers, directors general, directors, technical experts, regional health bureau heads and deputy heads. As described in the Ethiopian health sector governance framework in the Health Sector Transformation Plan (HSTP), these groups are responsible for decision-making in the health sector, both technically and at the policy level (Federal Ministry of Health of Ethiopia, 2015). Therefore, they discussed and defined the scope and goal of the revised EHSP, the selection criteria, the proposed payment mechanism, the level of health care delivery and the budget impact of the package. The final, prioritised list of interventions was approved by the same group (Federal Ministry of Health of Ethiopia, 2019a).

Two rounds of dialogue were conducted with external stakeholders, including public representatives, professional unions and disease-specific patient organisations. The first meeting discussed the prioritisation criteria and the second discussed the selection of interventions, the proposed payment mechanism, the service delivery platforms and the final validation of the prioritised EHSP. Consultation directly with the public at the grassroots level remained limited, however.

Use of multi-criteria decision-making

Cost effectiveness has long been the most commonly applied prioritisation criterion in defining health benefits package decision-making processes in many countries (Blumstein, 1997; Jamison DT et al., 1993). Recently, multi-criteria decision-making (MCDM) has become a widely accepted approach because UHC is not merely about maximising health (Baltussen & Niessen, 2006); FRP, equity impact and budget impact are also important and must be considered. Public and political acceptability are likewise important considerations. In this regard, the Ethiopian EHSP was revised through an MCDM process (Federal Ministry of Health of Ethiopia, 2019a).

Linking with service delivery and financing mechanisms

A well-designed EHSP should inform policy makers how to better organise the health system in terms of payment mechanisms, delivery platforms, specific implementation plans and monitoring and evaluation methods (Federal Ministry of Health of Ethiopia, 2015; Glassman et al., 2017). In this regard, the interventions in the EHSP are aligned with clearly defined levels in the current service delivery platform. Because translating the intervention lists into real-world service provision requires linking with financing arrangements, the revised EHSP also provides possible ways to finance the package. The costs of the interventions were estimated to determine the budget impact, and the expected available resources in the next 10 years were estimated using basis-case, low-case and high-case scenarios (Federal Ministry of Health of Ethiopia, 2019a).

Experiences of other countries

The process of revising the Ethiopian EHSP shared many similarities with other African, Asian and Latin American countries' experiences in terms of using evidence-based MCDM, involving a wide range of stakeholders and maximising public participation in decision-making (Giedion et al., 2014; Hayati et al., 2018; Kapiriri, 2013; Sundewall J & Brady E, 2019). For instance, an MCDM process using disease burden information, effectiveness, cost-effectiveness analysis, equity impact, FRP and budget impact was employed in benefit package revisions in Mexico, Chile, Thailand, the Philippines and Ghana (Awoonor-Williams et al., 2013; Frenz et al., 2014; Gonzalez-Pier et al., 2006; Limwattananon et al., 2012; Wong et al., 2017). In Malawi and Zimbabwe, however, only cost effectiveness and disease burden information were used to set priorities (Hansen & Chapman, 2008; Ochalek et al., 2016).

Regarding public participation and stakeholder engagement, evidence from both high-income and low-income settings indicates that engaging all stakeholders from the initial stage of the revision process through the final stage is not only vital to increasing the acceptability of the final health service package but also helpful in addressing the concerns of various groups (Sabik & Lie, 2008). As in the Ethiopian case, the revision process in Chile, Thailand and Malawi was participatory (Frenz et al., 2014; Ochalek et al., 2016; Tangcharoensathien et al., 2019). In the Ethiopian revision process, however, the public participation did not involve the direct participation of the citizenry. In the next round of revision of the EHSP, we recommend that town hall meetings be conducted to elicit public opinion directly.

The main difference between the Ethiopian EHSP and those of many other countries is the comprehensive scope of the interventions in the package. In the Ethiopian EHSP, 1,018 interventions, ranging from multisectoral population-level policy interventions (e.g., enforcing the taxation of alcohol, cigarettes, *khat* and sugary beverages) to specific and specialised clinical services (e.g., palliative care for colorectal cancer) were included. Unlike in the Ethiopian case, the benefits package in some other countries was neither comprehensive nor explicit. For example, the Mexican EHSP used to include only 64 interventions (Gonzalez-Pier et al., 2006) and later expanded, and Zimbabwe's EHSP has only 65 interventions (Hansen & Chapman, 2008). In Malawi, 67 interventions are included (Ochalek et al., 2016). Having an explicit, comprehensive health service package is an opportunity to ensure the inclusion of important interventions from all programme areas in the benefits package (Chalkidou et al., 2016; N. Daniels, 2000). This is especially important in settings such as Ethiopia, where the institutional and technical capacity to continuously update the package is limited.

Limitations

We believe that lessons learned from the revision of the Ethiopian EHSP can be useful to other low-income countries. The revision aimed to be an extensive, participatory, inclusive, evidence-based, democratic and transparent decision-making process. There were, however, limitations related to data sources and analytic approaches that merit consideration when applying the findings of this study in other settings.

The first limitation was that, because of the limited available data on the equity and FRP impacts of the interventions, the Delphi technique was applied to systematically generate equity and FRP scores based on expert opinion. This approach is a good way to synthesise expert opinion when other data are not available. Although the application of the Delphi technique provided the opportunity to explore the equity impact and FRP from a wider perspective (i.e., including socioeconomics, geography, gender, age, etc.), it is less precise and prone to various types of biases. Therefore, more studies on equity impact analysis and more FRP studies should be conducted. Had more extended cost-effectiveness analyses been conducted, we would have had more relevant evidence available. Furthermore, methods development could advance the application of the Delphi method and other nominal group techniques in a way that could provide a better estimate of the equity and FRP impact of interventions.

A second limitation was the lack of contextualised cost-effectiveness analyses. Although we extracted cost-effectiveness information for a large majority of the interventions from peer-reviewed articles of good quality and from a comprehensive systematic review provided by DCP3 and others, the transferability and standardisation of the results remain imperfect because of factors including inconsistent designs (discounting, perspective, currency, etc.) and inconsistent and non-transparent reporting.

A third limitation concerns our general approach to benefit package design. There are three approaches to defining an EHSP: positive listing, negative listing and a mix of the two approaches. We applied a positive listing approach. A mixed approach might have been better in a situation in which there were significant data limitations on the cost and impact of several interventions. High-cost interventions with modest health impacts (such as, e.g., new immunotherapies for cancer) can be listed in the negative list based on evidence from high-income countries, and this could have informed decision makers about what not to invest in (Tangcharoensathien et al., 2019). Because health needs, disease patterns and health care technology change quickly over time, however, the

MoH has a plan to institutionalise a continuing health technology assessment (HTA) mechanism to review new technologies and update the list of interventions on an ongoing basis.

Lack of expertise in health economics and HTAs in the country can be another limitation, but the long-term investment in the Disease Control Priorities–Ethiopia project has largely circumvented that limitation in this setting. Therefore, continuous capacity building and the training of health economists are crucial to strengthening the use of evidence in strategic purchasing for UHC in Ethiopia and other low- and middle-income countries.

Conclusion

The revision of Ethiopia’s EHSP used a participatory, inclusive, evidence-based prioritisation process. The interventions included in the EHSP were comprehensive, assigned to health care delivery platforms and linked to financing mechanisms.

References

- Awoonor-Williams, J.K., Bawah, A.A., Nyongator, F.K., Asuru, R., Oduro, A., Ofosu, A., et al. (2013). The Ghana essential health interventions program: a plausibility trial of the impact of health systems strengthening on maternal & child survival. *BMC Health Serv Res*, 13 Suppl 2, S3.
- Baltussen, R., & Niessen, L. (2006). Priority setting of health interventions: the need for multi-criteria decision analysis. *Cost effectiveness and resource allocation*, 4, 14.
- Blumstein, J.F. (1997). The Oregon experiment: the role of cost-benefit analysis in the allocation of Medicaid funds. *Soc Sci Med*, 45, 545-554.
- Central Intelligence Agency. (2020). *The World Fact Book*. Washington, D.C: Central Intelligence Agency.
- Chalkidou, K., Glassman, A., Marten, R., Vega, J., Teerawattananon, Y., Tritasavit, N., et al. (2016). Priority-setting for achieving universal health coverage. *Bull World Health Organ*, 94, 462-467.
- Daniels, N. (2000). Accountability for reasonableness. *BMJ (Clinical research ed.)*, 321, 1300-1301.
- Daniels, N., & Sabin, J.E. (2008). *Setting limits fairly : can we learn to share medical resources? Second edition*. Oxford: Oxford University Press.
- Drummond, M., Barbieri, M., Cook, J., Glick, H.A., Lis, J., Malik, F., et al. (2009). Transferability of economic evaluations across jurisdictions: ISPOR Good Research Practices Task Force report. *Value Health*, 12, 409-418.
- Eregata, G.T., Hailu, A., Memirie, S.T., & Norheim, O.F. (2019). Measuring progress towards universal health coverage: national and subnational analysis in Ethiopia. *BMJ Glob Health*, 4, e001843.
- Federal Democratic Republic of Ethiopia Ministry of Health. (2005). *Ethiopian Essential Health Service package 2005*. Addis Ababa: Ministry of Health of Ethiopia.
- Federal Ministry of Health of Ethiopia. (2015). *Health sector transformation plan 2008 - 2012 EFY*. Addis Ababa, Ethiopia: Ministry of Health of Ethiopia.
- Federal Ministry of Health of Ethiopia. (2018). *Roadmap for the revision of Essential Health Service Package for Ethiopia*. Addis Ababa, Ethiopia: Ministry of Health of Ethiopia.

- Federal Ministry of Health of Ethiopia. (2019a). Essential Health Services Package of Ethiopia 2019. Addis Ababa, Ethiopia: Ministry of Health of Ethiopia.
- Federal Ministry of Health of Ethiopia. (2019b). National Health Accounts 2016/17. Addis Ababa, Ethiopia: Ministry of Health of Ethiopia.
- Frenz, P., Delgado, I., Kaufman, J.S., & Harper, S. (2014). Achieving effective universal health coverage with equity: evidence from Chile. *Health Policy Plan, 29*, 717-731.
- Giedion, U., Bitran, R.A., Tristao, I., Inter-American Development, B., Social, P., & Health, D. (2014). *Health benefit plans in Latin America : a regional comparison*.
- Glassman, A., Giedion, U., Sakuma, Y., & Smith, P.C. (2016). Defining a Health Benefits Package: What Are the Necessary Processes? *Health Systems & Reform, 2*, 39-50.
- Glassman, A., Giedion, U., & Smith, P.C. (Eds.) (2017). *What's in, what's out? Designing benefits for universal health coverage*. Washington DC: Center for Global Development.
- Gonzalez-Pier, E., Gutierrez-Delgado, C., Stevens, G., Barraza-Llorens, M., Porrás-Condey, R., Carvalho, N., et al. (2006). Priority setting for health interventions in Mexico's System of Social Protection in Health. *Lancet, 368*, 1608-1618.
- Hansen, K.S., & Chapman, G. (2008). Setting priorities for the health care sector in Zimbabwe using cost-effectiveness analysis and estimates of the burden of disease. *Cost effectiveness and resource allocation, 6*, 14.
- Hayati, R., Bastani, P., Kabir, M.J., Kavosi, Z., & Sobhani, G. (2018). Scoping literature review on the basic health benefit package and its determinant criteria. *Globalization and health, 14*, 26.
- Hogan, D.R., Stevens, G.A., Hosseinpoor, A.R., & Boerma, T. (2018). Monitoring universal health coverage within the Sustainable Development Goals: development and baseline data for an index of essential health services. *The Lancet Global Health, 6*, e152-e168.
- Husereau, D., Drummond, M., Petrou, S., Carswell, C., Moher, D., Greenberg, D., et al. (2013). Consolidated Health Economic Evaluation Reporting Standards (CHEERS)--explanation and elaboration: a report of the ISPOR Health Economic Evaluation Publication Guidelines Good Reporting Practices Task Force. *Value Health, 16*, 231-250.
- International Monetary Fund. (2020). Ethiopia: GDP per capita, current prices U.S. dollars per capita. International Monetary Fund.

- Jamison DT, Mosley WH, Measham AR, & Bobadilla JL. (1993). Disease control priorities in developing countries. Oxford [England]: Published for the World Bank [by] Oxford University Press.
- Jamison, D.T., Alwan, A., Mock, C.N., Nugent, R., Watkins, D., Adeyi, O., et al. (2018). Universal health coverage and intersectoral action for health: key messages from Disease Control Priorities, 3rd edition. *Lancet*, 391, 1108-1120.
- Kapiriri, L. (2013). How effective has the essential health package been in improving priority setting in low income countries? *Soc Sci Med*, 85, 38-42.
- Limwattananon, S., Tangcharoensathien, V., Tisayaticom, K., Boonyapaisarncharoen, T., & Prakongsai, P. (2012). Why has the Universal Coverage Scheme in Thailand achieved a pro-poor public subsidy for health care? *BMC Public Health*, 12 Suppl 1, S6.
- Microsoft Corporation (2018). Microsoft Excel.
- Ministry of Finance and Economic Cooperation of Ethiopia. (2017). Ethiopia's progress towards eradicating poverty : an interim report on poverty analysis study (2015/16). National Planning Commission.
- Misganaw, A., Haregu, T.N., Deribe, K., Tessema, G.A., Deribew, A., Melaku, Y.A., et al. (2017). National mortality burden due to communicable, non-communicable, and other diseases in Ethiopia, 1990-2015: findings from the Global Burden of Disease Study 2015. *Popul Health Metr*, 15, 29.
- Norheim, O.F. (2016). Ethical priority setting for universal health coverage: challenges in deciding upon fair distribution of health services. *BMC Med*, 14, 75.
- Norheim, O.F., Baltussen, R., Johri, M., Chisholm, D., Nord, E., Brock, D., et al. (2014). Guidance on priority setting in health care (GPS-Health): the inclusion of equity criteria not captured by cost-effectiveness analysis. *Cost effectiveness and resource allocation*, 12, 18.
- Ochalek, J., Claxton, K., Revill, P., Sculpher, M., & Rollinger, A. (2016). Supporting the development of an essential health package principles and initial assessment for Malawi. York, UK: Centre for Health Economics, University of York.
- Rieger, M., Wagner, N., & Bedi, A.S. (2017). Universal health coverage at the macro level: Synthetic control evidence from Thailand. *Soc Sci Med*, 172, 46-55.

- Sabik, L.M., & Lie, R.K. (2008). Priority setting in health care: Lessons from the experiences of eight countries. *Int J Equity Health*, 7, 4.
- Sundewall J, & Brady E. (2019). Prioritizing essential packages of health services in six countries in Sub-Saharan Africa. Swedish International Development Cooperation Agency (Sida).
- Tangcharoensathien, V., Patcharanarumol, W., Suwanwela, W., Supangul, S., Panichkriangkrai, W., Kosiyaporn, H., et al. (2019). Defining the Benefit Package of Thailand Universal Coverage Scheme: From Pragmatism to Sophistication. *International Journal of Health Policy and Management*, 9, 133-137.
- Terwindt, F., Rajan, D., & Soucat, A. (2016). Priority- setting for national health policies, strategies and plans. In G. Schmets, D. Rajan, & S. Kadandale (Eds.), *Strategizing national health in the 21st century: a handbook*. Geneva: World Health Organization.
- Tufts Medical Center. (2018). The Global Health Cost Effectiveness Analysis (GHCEA) Registry. Boston: Center for the Evaluation of Value and Risk in Health.
- United Nations. (2015). Sustainable Development Goals. New York: United Nations Department of Public Information.
- University of Washington. (2018). Disease Control Priorities 3. Seattle, USA: University of Washington Department of Global Health
- Wagstaff, A., & Neelsen, S. (2020). A comprehensive assessment of universal health coverage in 111 countries: a retrospective observational study. *Lancet Glob Health*, 8, e39-e49.
- Wong, J.Q., Uy, J., Haw, N.J.L., Valdes, J.X., Bayani, D.B.S., Bautista, C.A.P., et al. (2017). Priority Setting for Health Service Coverage Decisions Supported by Public Spending: Experience from the Philippines. *Health Systems & Reform*, 4, 19-29.
- World Health Organization. (2014a). Making Fair Choices on the Path to Universal Health Coverage: Final Report of the WHO Consultative Group on Equity and Universal Health Coverage. Geneva: World Health Organization.
- World Health Organization. (2014b). What is universal health coverage? Geneva.
- World Health Organization, & Avenir Health. (2020). One Health Tool.