BMJ Global Health

Decision-making processes for essential packages of health services: experience from six countries

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To cite: Baltussen R, Mwalim O, Blanchet K, *et al*. Decision-making processes for essential packages of health services: experience from six countries. *BMJ Global Health* 2023;**8**:e010704. doi:10.1136/bmjgh-2022-010704

Handling editor Seye Abimbola

► Additional supplemental material is published online only. To view, please visit the journal online (http://dx.doi.org/10.1136/bmjgh-2022-010704).

Received 15 September 2022
Accepted 2 December 2022

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ABSTRACT

Many countries around the world strive for universal health coverage, and an essential packages of health services (EPHS) is a central policy instrument for countries to achieve this. It defines the coverage of services that are made available, as well as the proportion of the costs that are covered from different financial schemes and who can receive these services. This paper reports on the development of an analytical framework on the decision-making process of EPHS revision, and the review of practices of six countries (Afghanistan, Ethiopia, Pakistan, Somalia, Sudan and Zanzibar-Tanzania).

The analytical framework distinguishes the practical organisation, fairness and institutionalisation of decision-making processes. The review shows that countries: (1) largely follow a similar practical stepwise process but differ in their implementation of some steps, such as the choice of decision criteria; (2) promote fairness in their EPHS process by involving a range of stakeholders, which in the case of Zanzibar included patients and community members; (3) are transparent in terms of at least some of the steps of their decision-making process and (4) in terms of institutionalisation, express a high degree of political will for ongoing EPHS revision with almost all countries having a designated governing institute for EPHS revision.

We advise countries to organise meaningful stakeholder involvement and foster the transparency of the decision-making process, as these are key to fairness in decision-making. We also recommend countries to take steps towards the institutionalisation of their EPHS revision process.

SUMMARY BOX

⇒ Reviewed countries use a similar stepwise approach in organising their decision-making process on essential packages of health services (EPHS) revision, but differ in the way they organise the specific steps.

⇒ To foster fairness of decision making, we advise countries to ensure meaningful stakeholder involvement and be transparent throughout the entire decision-making process.

⇒ In order to have a lasting impact, we advise countries to institutionalise their decision-making process on EPHS revision by establishing a legal framework, creating an adequate governance structure, and allocating sufficient analytical and financial capacity.

⇒ Countries can learn from international experience on revising their EPHS, but they should tailor their revision process according to their own decision-making context.

BACKGROUND

Many countries around the world strive for universal health coverage (UHC), to provide the health services their populations need without causing financial hardship. An essential packages of health services (EPHS) is a central policy instrument for countries to achieve this, as it defines the coverage of services that are made available, as well as the proportion of the costs that are covered from different financial schemes and who can receive these services. Such EPHS can guide both the delivery of care and the associated resource allocation, including human resources, provider payment, procurement and budgeting.[1–3]

Traditionally, analytical work to support EPHS revision has placed emphasis on evidence and analysis of themes such as effectiveness, safety, cost, cost-effectiveness (CE), burden of disease and budget impact of health services.[3] Only recently attention is being paid to the process of EPHS revision. The way a country organises its decision-making process can have far-reaching consequences for the contents, fairness and impact of its EPHS.[4–12]

This paper reviews the experience of six countries (Afghanistan, Ethiopia, Pakistan, Somalia, Sudan and Zanzibar, a semiautonomous part of Tanzania) in terms of how they organised their decision-making process. The

selection of countries was based on their use of Disease Control Priorities 3 (DCP3)-related evidence in EPHS revision,[13] and subsequent involvement in the DCP3 Country Translation Review Initiative. For the review, we developed an analytical framework and a country information template (online supplemental box S1) on the decision-making process for EPHS revision. This was based on intensive discussions using several review rounds among all authors, with reference to guides relevant to EPHS revision.[5–11] Informants were persons leading and involved in the management of EPHS development or revision in the six countries during the period 2019–2022. We also developed general recommendation on how countries can improve their current EPHS revision process, on the basis of review results, discussions among authors and available sources on EPHS revision.[5–11] In doing so, we do not provide a blueprint for EPHS revision and recognise that countries will have their own decision-making process.

Countries differ in their institutional arrangements regarding EPHS revision, and in this paper, we use the term 'governing body' when we refer to the principal agency governing the EPHS, for example, the Ministry of Health or an agency external to it. We interchangeably also refer to 'countries', and this relates to governing bodies in countries. Wherever we use the term 'EPHS revision', it may also refer to EPHS design if a country is yet to establish its EPHS.

ANALYTICAL FRAMEWORK

The analytical framework distinguishes three interrelated topics of a country's decision-making process: practical organisation, fairness and institutionalisation (figure 1).

In order to address practical organisation, we developed a seven-step EPHS revision process, informed by several sources[5–11] and the experience in the six countries around questions such as: what evidence must be collected, for which services, who should decide which services to include, on what basis and how to take the current health system into account.

The fairness of EPHS revision refers to the reasonableness of decisions as perceived by domestic stakeholders, and this is an important requisite for societal support for the final EPHS.[6 14] There is a growing acknowledgement of the need for decision makers to organise processes that are fair and to do so in a pragmatic manner.[6 14] We use the evidence-informed deliberative processes' framework, which distinguishes four elements that countries can use in each step of their decision-making process to foster the fairness of their process: meaningful stakeholder involvement, ideally operationalised through deliberation; evidence-informed evaluation; transparency and appeal.[15]

Institutionalisation is defined as how a set of activities becomes an integral part of a planning system and is embedded in ongoing practices.[11 16] Countries may want to institutionalise the decision-making process so as to facilitate any ongoing EPHS revision and realise a lasting impact on the EPHS.[11 16] The institutionalisation of EPHS revision relates to issues such as legal framework, governance and capacity.

Below we describe the seven steps of the EPHS decision-making process, and provide for each step review results of how the six countries implemented these steps. We also provide review results for the topic of Institutionalisation. Our general recommendations are listed in box 1.

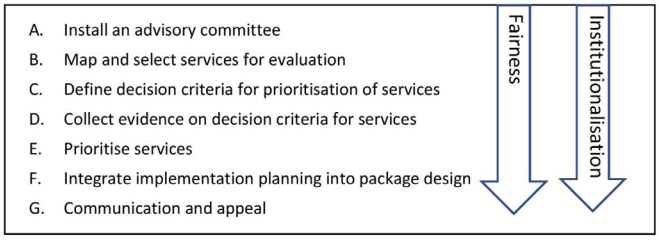

Figure 1 The stepwise EPHS revision process. EPHS, essential packages of health services.

STEP A: INSTALL AN ADVISORY COMMITTEE

Advisory committee

Countries can instal an advisory committee, that is, a central decision-making committee that prepares recommendations on EPHS revision for consideration by the final decision-maker, typically the Ministry of Health.[11] In the development of these recommendations, the committee makes scientific and social judgments on the coverage of services, costs and populations in the EPHS.[4] To avoid cognitive overload, the advisory committee can be supported by subcommittees that develop preparatory recommendations on specific disease programmes. The governing body may also wish to instal technical task forces that can provide assistance to the advisory committee, for example, in terms of evidence collection.[4] Our analysis shows that all the six countries had an advisory committee in place, and that these were often assisted by subcommittees and some form of technical support (online supplemental table S1).

Stakeholder involvement

Given that the advisory committee informs public decision making, it is generally advised that its members should ideally reflect the needs and interests of the broader public.[11] This means that the composition of the committee should mirror the demographic and social diversity of the population and its social values, needs and preferences, and can involve both health experts (such as clinicians, public health professionals, programme managers and patients' organisations) and non-health professionals (such as community members, policy makers, politicians, researchers, development partners and civil society).[17] Here, the critical need for and the value of involving community representatives in advisory committees is often neglected.

Box 1 Recommendations on the implementation of the essential packages of health services (EPHS) decision-making process

Step A: instal an advisory committee

1. Have a governance structure in place that clearly describes the roles and mandates of the various institutions and stakeholders involved.
2. Instal an 'advisory committee' whose main task is to prepare recommendations on EPHS revision to the final decision-maker.
3. Instal 'technical task forces' that can support the advisory committee.
4. Compose the advisory committee in a way that it reflects the diversity of social values present in the population, and involve, in addition to health experts, non-health professionals.
5. Describe the membership and recruitment process of the advisory committee in a publicly available document.
6. Actively involve all relevant stakeholders in the decision-making process—this can be done through participation, consultation or communication.

Step B: map and select services for evaluation

1. Assess which model package (such as the DCP3 HPP or EUHC) is most relevant to the decision-making context.
2. Assess the relevance of included services vis-à-vis the sociocultural and epidemiological context and compare the resulting list of services with the existing package.
3. Make a choice whether to evaluate all services in detail or only concentrate evaluation activities on selected set of services.
4. Involve stakeholders in the selection of services and describe the process in a publicly available document.

Step C: define decision criteria for prioritisation of services

1. Define decision criteria in consultation with stakeholders and consider their values.
2. Describe the decision criteria and their selection process in a publicly available document.

Step D: collect evidence on decision criteria for each service

1. Organise an independent review of quality of evidence by stakeholders and experts.
2. Make the used evidence available publicly.

Step E: prioritise services

1. Present evidence in a way that is easily accessible and understandable by the advisory committee.
2. Use a structured approach to interpret this evidence and to trade-off decision criteria, such as qualitative, quantitative or decision rules analysis.
3. Always include a deliberative component in this structured approach to secure the quality of the decision.
4. Involve stakeholders in the prioritisation of services.
5. Describe the prioritisation process in a publicly available document, and report on the deliberations and the underlying argumentation for specific decisions.

Step F: integrate implementation planning into EPHS revision

1. Establish a plan that describes how services are implemented in terms of various health system aspects such as copayments, delivery platform, health system barriers and required investments.
2. Secure an integrated service delivery, that is, include foundational services for undifferentiated conditions in the package and coordinate services across different levels of the health system to foster continuity of care.
3. Develop the implementation plan in conjunction with stakeholders and make it publicly available.

Step G: communication and appeal

1. Ensure that EPHS coverage decisions are communicated to all relevant stakeholders, using a variety of channels.
2. Establish a protocol for appeal, including the requirements regarding provision of new evidence and clear revision rules.

Institutionalisation

1. Institutionalise the decision-making process for ongoing EPHS revision.
2. Establish an explicit requirement, for example, legal framework that ensures ongoing EPHS revision.
3. Designate an institution for governing ongoing EPHS revision.
4. Describe the EPHS revision process in a formal document.
5. Secure sufficient funds for EPHS revision.
6. Secure sufficient technical capacity for EPHS revision and make plans to improve capacity when insufficient.

DCP3, Disease Control Priorities 3; EUHC, essential universal health coverage; HPP, high priority package.

Such stakeholders can be involved in decision making in three different ways[18]: (1) they can participate in meetings and engage in deliberations with or without voting; (2) they can be consulted, that is, involved in non-deliberative ways, such as through the provision of verbal comments at meetings and (3) they can be involved through stakeholder communication in which stakeholders are only informed about the processes and/or decisions.

Our review showed that in four of the focus countries (Afghanistan, Ethiopia, Pakistan and Zanzibar), advisory committees and subcommittees involved stakeholders such as health professionals, provincial representatives and development partners. In Zanzibar, patient representatives and people from within the community were also involved. Stakeholders actively participated in deliberations in all countries, with stakeholders in Pakistan also having voting rights.

Conflict of interest and transparency

The advisory committee is ideally independent and free of undue external influences.[10] It is therefore important that advisory committees do not include stakeholders who have interests in specific services.[10] If potential conflicts of interests do exist, these can be openly declared[19] (as was the case in Pakistan) and appropriate steps can be taken to resolve conflicts if and when any are identified. Countries can describe the membership and recruitment process in publicly available documents, as was done in most of the six countries (Afghanistan, Pakistan, Sudan, Zanzibar), and typically by means of a written report. In

Somalia, this information was proactively sent to stakeholders.

STEP B: MAP AND SELECT SERVICES FOR EVALUATION

Countries can use model packages as a starting point for their EPHS revision—these describe a set of services that a typical country may want to include in its EPHS. Central to DCP3 are (A) the high priority package (HPP) which includes 108 services and is most relevant for low-income countries and (B) the essential universal health coverage (EUHC) package, which includes 218 services and is most applicable to lower-middle-income countries.[13] However, countries may wish to combine these packages with other recommended packages or listings of services such as the UHC Compendium,[20] in order to have a more comprehensive starting point for analysis. Our review shows that countries used various packages as the starting point of analysis (online supplemental table S2). Three countries (Pakistan, Somalia and Sudan) used the DCP3 EUHC package, Somalia added services from the UHC Compendium reflecting the need to cover services for common symptomatic presentations, and Sudan added services from the WHO-Eastern Mediterranean Region UHC Priority Benefit Package. Afghanistan used the HPP as a starting point for its analysis.

Countries can involve stakeholders in the selection of services for evaluation, and describe the process in a publicly available document.[10] In most countries, stakeholders were involved through membership in (sub) committees. Two countries (Afghanistan, Somalia) made information on the selection of services public.

STEP C: DEFINE DECISION CRITERIA FOR PRIORITISATION OF SERVICES

Decision criteria reflect the broad goals of a country's health system (eg, maximisation of population health, fair distribution of health and financial protection) and underlying values (eg, equity, solidarity and access to good quality care).[11 21] The advisory committee can use decision criteria for the assessment and subsequent appraisal of services, and in this way, recommendations on the inclusion or exclusion of services in the package of essential health services are based on social preferences. Countries are generally advised to define such decision criteria in consultation with stakeholders and to take into account their different needs, interests and values.[11] There are various ways to organise such a consultation, for example, through policy document review, survey or a workshop. Countries can publish decision criteria in a publicly available document.

Our analysis showed that countries most frequently used CE as a criterion (Ethiopia, Pakistan, Somalia, Sudan and Zanzibar), followed by financial risk protection (FRP) and equity (Afghanistan, Ethiopia, Pakistan and Zanzibar), and budget impact (Ethiopia, Pakistan, Somalia and Sudan) (online supplemental table S3). Less commonly used decision criteria concerned feasibility/health system capacity (Afghanistan, Pakistan, Somalia, Sudan), economic impact (Pakistan), and social and cultural acceptability (Ethiopia and Zanzibar). Both Somalia and Sudan used integrated service delivery as a criterion. In five countries, stakeholders were involved in the definition of decision criteria (Ethiopia, Pakistan, Somalia, Sudan and Zanzibar). In Pakistan, decision criteria were based on a policy document review, followed by survey among stakeholders and consultation in workshop (online supplemental box S2). Several countries reported on decision criteria in publicly available documents (online supplemental table S3).

STEP D: COLLECT EVIDENCE ON DECISION CRITERIA FOR EACH SERVICE

Developing an EPHS should ideally be based on explicit criteria and the most updated local evidence available.[5 11] As noted above, some of the most commonly used criteria included burden of disease, equity, FRP and CE. For illustrative purposes, online supplemental box S3 describes the use of local evidence in Afghanistan,[22] and online supplemental box S4 describes the use of CE in the countries.

The governing body can organise a review of the quality of evidence by experts and/or stakeholders before it is used to prioritise services—our review shows that all countries have such a mechanism in place. Countries are generally advised to make public the evidence used in defining the EPHS.[11] Most countries in our review shared the evidence either on a website, in a report or in a document sent to stakeholders (online supplemental table S4).

STEP E: PRIORITISE SERVICES

In the appraisal step, the advisory committee interprets the results of the assessment in a broad perspective and then formulates recommendations for decision-makers. Governing bodies can best present evidence in a way that is easily accessible and understandable by the advisory committee.[10] Subsequently, deliberation/discussion can be used as a way of interpreting this evidence and developing social and scientific judgements. The central challenge in these deliberations is to trade-off the different decision criteria.

A performance matrix can be a useful starting point—this simply presents the performance of a service against the decision criteria.[23] There are different options for how advisory committees can interpret this matrix. First, they can undertake a qualitative approach, which simply involves deliberating on the performance matrix using explicitly defined criteria. Second, they can adopt a quantitative approach that is typically referred to as a multicriteria decision analysis using scoring and weighting techniques. However, in practice, this approach has important methodological challenges such as the neglect of the principle of opportunity costs.[23] Third, they can use an approach with decision rules interpreting the

performance matrix using a set of simple rules, for example, first ranking services on the basis of CE and then using deliberations to assess whether other criteria may affect the ranking. Irrespective of the approach, countries may always want to include a deliberative component in their appraisal process and to report on decisions, including argumentation, in a publicly available document.[23] Our review showed that five countries (Afghanistan, Ethiopia, Pakistan, Somalia and Zanzibar) used a qualitative approach, and one country (Sudan) used a combined qualitative and quantitative approach (online supplemental table S5). All countries used deliberation in these approaches.

Other aspects of prioritisation

Stakeholders involved in the prioritisation of services need to have the necessary capacity and be well trained for the task at hand.[24] All focus countries in our review have involved a wide range of stakeholders in prioritising services. In addition, it is generally recommended that countries consider the available fiscal space in the prioritisation of services.[5]

While, for the sake of fairness, reimbursement decisions are ideally reached by consensus this is not always feasible because stakeholders may, for a variety of reasons, continue to disagree. The advisory committee can also reach a decision by majority voting where consensus is not otherwise achievable.[10] In our analysis, all countries aimed to reach consensus, and in Pakistan, majority voting was used when consensus was not otherwise achieved.

In no country were committee meetings conducted in public. Only in Afghanistan the recordings/proceedings of the committee meetings were made available to the public. In all countries, the prioritisation process was described in publicly available documents.

STEP F: INTEGRATE IMPLEMENTATION PLANNING INTO EPHS REVISION

Countries can establish a plan that describes how services are implemented in terms of various health system aspects, such as copayments, delivery platform, health system barriers and required investments. They may want to make special efforts to secure an integrated service delivery, that is, to include foundational services in the package for undifferentiated conditions such as cough or fever, and to coordinate services across different levels of the health system to foster continuity of care. Such a plan can be developed in conjunction with stakeholders and described in a publicly available document. In our review, four countries (Ethiopia, Pakistan, Somalia and Zanzibar) established an implementation plan as an integral part of their EPHS revision (online supplemental table S6 and online supplemental box S5). In most countries, copayments, delivery platforms, health systems barriers and investments were taken into account, and in five countries, stakeholders were also involved. Five countries made the implementation plan publicly available.

STEP G: COMMUNICATION AND APPEAL

Communication and appeal are important features that enhance the legitimacy of decision making by making the decision and underlying argumentation public. It is generally advised that countries should strive to ensure that EPHS coverage decisions are communicated to all relevant stakeholders, using a variety of channels.[11] Our analysis showed that all countries had communication strategies in place to inform stakeholders.

'Appeal' refers to the need for a mechanism that gives stakeholders the possibility to apply for a revision of a decision, or by providing (new) arguments or evidence and receive a reasoned response.[14] Countries can establish a protocol for appeal, including the requirements regarding provision of new evidence and clear revision rules. Our analysis shows that various countries had appeal mechanisms in place (online supplemental table S7).

INSTITUTIONALISATION

Countries had varying experiences regarding institutionalisation of their decision-making process (online supplemental table S8 and online supplemental box S6 for an example on Sudan). While most countries demonstrated a high political will for ongoing EPHS revision, only Ethiopia established this through regulation. Most countries designated a governing institute for EPHS revision. In addition, countries had recently revised their EPHS and most countries, therefore, had a good description of the decision-making process. This nevertheless needs to be endorsed as an established procedure in the health system and described in a formal document.

CONCLUSION

In this paper, we have reviewed the experiences of six countries in terms of their decision-making processes for EPHS revision. Our analytical framework on the practical organisation distinguished several distinct steps and found that all countries appeared to have applied these. This confirms the relevance and validity of the framework and we advise countries embarking on a similar exercise to follow the same stepwise approach in shaping their decision-making process.

The steps, however, should not be considered as prescriptive or formulaic, and countries are encouraged to adapt the number, order and contents of steps to fit their own decision-making context. In our review, countries indeed differed in their implementation of various steps, for example, on the use of sub-committees to support the central advisory committee. Countries can learn from each other and select best practices accordingly.

Likewise, countries shared many characteristics on how they promoted the fairness of their decision-making process. For example, all countries organised some form of stakeholder involvement, although its practical implementation differed in terms of (A) number of

stakeholders involved (Ethiopia involved no less than 80 stakeholders), (B) type of stakeholders involved (Zanzibar sets a nice example on patient and community involvement) and (C) mode of involvement (Pakistan allowed all stakeholders to fully participate in meetings, with voting power). Meaningful stakeholder involvement is key to fair decision-making processes, and we advise countries to prioritise this aspect when revising their EPHS development or revision process. In addition, all countries were transparent in terms of at least some of the steps of their decision-making process, for example, on the governance structure or on the decision criteria. We advise countries to be attentive to the need for transparency in all steps and describe these in publicly available documents. Where necessary, proactive efforts to inform stakeholders on the decision-making process may be required.

The review on institutionalisation shows that all six countries had a high degree of political will, an institution to pursue the work, the required capacity and an explicit prioritisation process. In addition, financial resources, either from domestic sources or development aid, were secured. However, in the most cases, the work was considered a project and not an ongoing activity embedded in the country's health system. Countries are strongly advised to foster the institutionalisation of their EPHS development/revision process.[12]

All six countries were successful examples of EPHS development and revision. There have been other countries where, despite initial intentions, the process of defining or revising the EPHS has not yet started or, if it has begun, has not led to the final list of services as a package. Therefore, this paper only reviewed successful experiences and did not cover lessons learnt from possible failures.

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Contributors All authors were involved in the study development and data collection/interpretation. RB, OM and RM analysed the data and wrote the first version. All authors contributed to writing the final version. RB is responsible for the overall content as guarantor.

Funding Funding was made available through a grant from the Bill & Melinda Gates Foundation, number OPP1201812

Competing interests None declared.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement The data supporting the findings of this study are available upon request to the corresponding author.

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Supplementary Box S1

Box S1. Country information template

A. Install an advisory committee
   1. Have advisory committees, program area advisory committees, and/or technical working groups been established? Describe membership in terms of number and affiliation.
   2. How were members selected?
   3. Do members need to sign a conflict-of-interest form before they are installed?
   4. How were stakeholders involved? Describe their involvement in terms of communication/consultation / participation without voting / participation with voting, and how this was organised in practice.
   5. Did committee members / stakeholders receive training on the EPHS process? Describe.
   6. Is the membership and recruitment process described in a publicly available document?
   7. Has a link been established with Ministry of Health and Ministry of Finance. Describe.

B. Map and select services for evaluation
   1. How did the country select services for evaluation, i.e. for detailed assessment on the basis of evidence (e.g. compare existing package to DCP high priority package)? Describe.
   2. How many services were evaluated? Describe if this was limited to certain DCP program areas and/or delivery platforms.
   3. Were stakeholders involved in selecting services for evaluation? If so, describe which stakeholder groups and how.
   4. Is the selection of services for evaluation described in a publicly available document?

C. Define decision criteria for prioritisation of services
   1. How were decision criteria defined? Please describe if this is based on e.g. survey, or identification of social values through document analysis, or a combination.
   2. Were stakeholders involved in the definition of decision criteria? If so, describe which stakeholder groups and how.
   3. Which decision criteria were identified?
   4. Were decision criteria operationalised in a way that allows evidence collection on these criteria?
   5. Are defined decision criteria described in a publicly available document?

D. Collect evidence on decision criteria for each service

(Note that, following the scope of the paper, we will not make an inventory of sources and methods of data collection, except for cost-effectiveness)
   1. How was evidence on cost-effectiveness collected? Describe e.g. review and contextualisation process.
   2. Was the quality of evidence reviewed by experts and/or stakeholders? If so, describe which experts / stakeholder groups and how.
   3. Is the collected evidence available in a public document?

E. Prioritise services
   1. How was evidence presented to advisory committee / technical working groups (e.g. through color-coded evidence briefs and/or summary tables)?
   2. Did committee members deliberate on the prioritization of services? If so, describe whether there was a structured process to interpret the evidence and trade-off criteria (e.g. weighing and scoring, or first ranking on cost-effectiveness and then modify ranking in deliberations).

3. How was reference made to the overall available fiscal space? (were costs of prioritised services added up to a total budget, and was an explicit budget constraint used?)
4. Were feasibility concerns included in the prioritisation of services?
5. Were stakeholders involved in the prioritization of services. If so, which stakeholder groups and how (communication/consultation / participation without voting / participation with voting).
6. What is the mandate of the committee – to develop recommendations or to take decisions? If it is to develop recommendations – to whom was it presented for endorsement?
7. How did the committee come to a decision/recommendation? (e.g. consensus or voting).
8. Are the committee meetings public, and/or are recordings / proceedings available to the public?
9. Is the prioritization process described in a publicly available document?

F. Integrate implementation planning into benefit package design
1. Was an implementation plan established in terms of e.g. co-payments (user fees), delivery platform, health system barriers and required health system investments? Describe which health systems aspects were takin into account.
2. Were stakeholders involved in the development of the implementation plan? If so, which stakeholder groups and how?
3. Is the implementation plan described in a publicly available document?

G. Communication and appeal
1. What mode of communication was used to inform stakeholders (including the broad public) on the outcomes of the EPHS decision-making, if any?
2. Are appeal options available for stakeholders wishing to revise decisions, and are these options pro-actively communicated to stakeholders?

Supplementary Box S2

Box S2: In the spotlight: Defining decision criteria in Pakistan

The selection and definition of decision criteria involved several steps. Firstly, the project team, with representatives from the Ministry of National Health Services Regulations and Coordination (MNHSRC) and academic institutes, carried out a review of national health policy documents to identify relevant criteria. Second, the identified criteria were matched to the criteria proposed in the international literature, for which a recent published review was used. Third, the project team further specified the criteria and their definitions for feedback and approval by members of the technical working groups (TWG). This led to the preselection of eight criteria (effectiveness, health gain for money spent, avoidable burden of disease by the intervention, budget impact, feasibility, equity, financial risk protection, and social and economic impact).

Fourth, the MNHSRC conducted a Likert scale survey in which they asked members of the TWG to indicate the importance they attached to these criteria, whether they believed any criteria were missing, and to provide any additional comments or suggestions. In total 52 TWG members responded (response rate 52%). Based on the survey results, and feedback following the first appraisal workshop, several of the criteria were redefined (mainly phrased more in laymen's language). Especially the cost-effectiveness criterion proved difficult for participants to grasp and was rephrased as 'health gain for money spent'. No additional criteria were suggested. While effectiveness was one of the eight original criteria it was not used during the prioritization exercise as the services subjected to deliberation and prioritization were all considered effective, being a requirement for their inclusion in the DCP3 list of recommended interventions.

Supplementary Box S3

Box S3: In the spotlight: Vernacular evidence in Afghanistan

The revision of the Afghanistan health priority package in 2018-2021 generated a particular mix of knowledge sharing and information use, creating a bank of evidence in a way that was unique to this particular development process. Contexts and processes really shape "vernacular evidence" that are produced in a specific place and at a specific time. Evidence is analysed, interpreted, discussed leading to debates producing new understandings and parameters to light. Keen and careful judgement was applied by experts, taking the micro and macro levels of the health system into account, guided by their experience and the dynamics within the group. In humanitarian response in particular, decision-makers will have to use their professional judgement "amidst the uncertainty of whether the existing research evidence can be applied to their unique setting" (Khalid et al. 2020). The IPEHS development is a good illustration of production of vernacular evidence, where the decision-making surrounding available evidence often came down to discussions and experience, rather than published material. At times vernacular evidence was a compromise in light of absence of specific evidence, and shaped by consensus building, shared ethics and morality. It is not less robust than other evidence, in fact, one could suggest that through its adaptations it is more explicit and tailored to the situation at hand. However, despite the "social" vetting of vernacular evidence, it is still at the mercy of authority, of those at the table with the most power.

Adapted from Lange I. et al., The development of Afghanistan's Integrated Package of Essential Health Services (IPEHS): Vernacular evidence, expertise and ethics in a priority setting process, Health Policy and Planning 2022

Reference: Khalid, A. F., Lavis, J. N., El-Jardali, F., & Vanstone, M. (2020). Supporting the use of research evidence in decision-making in crisis zones in low-and middle-income countries: a critical interpretive synthesis. Health research policy and systems, 18(1), 1-12

Supplementary Box S4

Box S4: Using cost-effectiveness analyses for prioritisation and benefit package design

Cost-effectiveness analysis (CEA) is a popular criterion as it provides a useful way of maximising health gains within a budget constraint; however, generating local CEA data can be extremely resource-intensive, especially for LMICs (Glassman et al., 2016)

We reviewed the experiences of six LMICs in developing evidence for CEA using a short questionnaire, and found that given the lack of context-specific CEA studies, countries used one of three approaches to estimate CEA:(1) using existing tools and software to generate CEA estimates, (2) transferring existing evidence on CEA from similar health systems or global databases, and (3) using expert opinion to estimate value for money. For the first approach, whereby CEA estimates are generated using tools, some of the tools used predominantly in Zanzibar, Ethiopia and Somalia, includes the fair choices tool, the WHO-CHOICE tool, and the UHC Compendium respectively (Eregata et al., 2020, 2021). Other countries such as Pakistan and Afghanistan used the second approach, and transferred evidence on incremental cost-effectiveness ratios (ICERs) from global databases like DCP-3, or evidence from countries with the most similar health systems. Additionally, expert opinion and contextualization of published CEA evidence has been also applied in the Ethiopian case (Hailu et al., 2021) A third, slightly different approach was used by Sudan, where the team used expert opinion, as local and international experts provided a rating for each intervention based on its expected value for money.

Overall, it was clear that all countries considered CEA to be an important criterion, but none of the selected countries had an institutionalized process for generating local CEA data. It was interesting to note that countries used different approaches to incorporate CEA, given the lack of locally available evidence on this criterion. Each approach has its own strengths and limitations; for instance, using tools to generate local values for CEA helped provide local and updated estimates, but developing these estimates was still a resource-intensive process, made more challenging by the limited availability of primary data. The second approach to transfer evidence on CEA may be less time-consuming, but raises questions about the generalizability of the ICERs that were used. The third approach using expert opinion is likely the quickest, but has the obvious limitation of relying on the judgement of individuals. Given this variation of approaches, further work comparing these methodologies and tools to generate local evidence on CEA will be useful to provide guidance for LMICs looking to incorporate CEA in their prioritisation process.

References

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Supplementary Box S5

Box S5: In the spotlight: Integrated service delivery approach in the revision of the Somalia's health service package

Frontline health workers deliver care across a range of conditions based on the demand of people. People seek health care for undifferentiated conditions, e.g., cough or fever, and not complaining about a specific disease such as pneumonia or tuberculosis. Therefore, listing interventions based on diseases (even if they have a high burden) might lead to a discrete package that will not be responsive to the demand of people. On the contrary, it should be clear what the health system does for each common demand, even if it is just a simple intervention, same as the provision of analgesics for pain relief due to particular cancer. The other issue is that services should be coordinated across different levels of the health care system and that the lower and higher-level services are aligned. For example, suppose simple lower respiratory infections are treated in the peripheral health centres, but if any complications appear, the case should refer to the hospital.

These two (i.e., the health system responds to the common demands of people and continuity of care across levels of service) are the main components of the integrated service delivery approach used in the revision of the health service package in Somalia. This approach provides a ground for the provision of people-centred services and has the following characteristics: addresses the way people present; includes all high-burden conditions; makes it easier for the user to understand what services are covered and where they are delivered; and ensures people move across the health system and that referral is coordinated with higher-level services.

Supplementary Box S6

Box S6: In the spotlight: Arrangements for institutionalisation of service package in Sudan

In Sudan, a specific document was prepared for institutionalisation alongside the development of service package (Essential Health Benefits Package: EHBP). This document aimed to suggest a set of governance conventions, management actions, and resources needed to "institutionalise" the EHBP and related financial mechanisms from 2020 to 2025. The distinctive feature of this document is that the EHBP will ultimately be compatible with the broader governance of Sudan's health system.

As the method of developing this document, all essential functions and activities needed through the five-year period were identified. Second, the governance arrangements required for these functions and activities were mapped. Finally, advisory groups and technical panels were defined, as required.

The result was a board of national healthcare (chaired by the Federal Minister of Health (MoH), co-chaired by the Federal Minister of Labour and Social Development) for the governance and three subordinate boards for delivery, financing, and policy issues. In addition, EHBP activities will be coordinated by a dedicated EHBP programme team that gets inputs from experts' panels. The panels cover various EHBP development areas such as education and training or monitoring and evaluation.

The responsible bodies for implementation were also defined. The National Health Insurance Fund will hold and disburse "pooled healthcare funds". The Federal and States MoH will cover the sustainable delivery of the EHBP by government-owned health resources, and or in partnership with the private or third sector, and meeting standards and targets for efficacy, safety and values.

Table S1: Summary of country experiences on installing an Advisory Committee (step A)

Indicator	Afghanistan	Ethiopia	Pakistan	Somalia	Sudan	Zanzibar (Tanzania)
What is of the composition of the Advisory Committee?	*National advisory group* with four members: Minister of Public Health, deputy Minister, Director of Information and Evaluation, Director of Health Financing and Economics with support from a group of int experts	National advisory group with 30 members, Regional advisory group with 36 members (3 from each region)	*National advisory committee (NAC)*[2] with 90 members: health professionals, development partners, provincial representation	Intergovernmental committee (7 members: Fed. Minister of Health, State Ministries of Health, advisors, academics, the private sector and international experts from international health partners	Supervisory committee (5 reps. from National Health Insurance Fund and Federal Ministry of Health	*National advisory team* with 15 members from Ministry of Health, Ministry of Finance, tertiary hospital representative, and Office of Chief Government Statistician
Was the advisory committee supported by sub-committees which developed preparatory recommendations on specific disease programs?	Yes. Nine working groups constituted in Afghanistan, including x representatives from MoPH, development partners and provincial directors	Yes. Nine working groups including 80 representatives from (subject matter experts from primary, secondary, and tertiary level, academia, MoH, regional health bureau, and development partners)	Yes. Four TWGs including a total of 183 members	No	Yes. One technical working group, consisting of 9 representatives from the National health Insurance Fund and Federal Ministry of Health and 2 representatives from WHO	Yes. 6 Technical working groups including health professionals (50), program managers (45), and representatives from civil society organisations including patient organizations (55), local government authorities (45), development partners (15), and MoH (15)
Was technical support provided?	By MoPH staff, international experts, WHO, international academic institutes, and international development partners	By international academic institutes WHO, Harvard School of Public Health, and Addis Ababa University	By project team (*UHC-BP secretariat)*, including staff from MoH and (inter)national academic institutes	By MoH technical working groups, and a task force including national and international development partners	By a project team comprising international experts in health economics and UHC development, and 13 clinical expert teams comprising Sudan health professionals	By international academic institutes and project team (*core team*) of 12 members from MoH, MoF and Office of Chief Government Statistician
Did the (sub)committee involve patients or patient representativeness?	No	No[1]	No	No	No	Yes
Did the (sub)committee involve public representatives?	No	No	No	No	No	Yes
How were stakeholders involved in the (sub)committee?	Consultation and participation in deliberations but without voting rights	Participation in deliberations	Participation in deliberations, with voting power	Stakeholders (representatives from service providers, policy makers, purchasers, financiers, academia and private sector) through a	Consultation and participation in deliberations but without voting rights.	Consultation and participation in deliberations

[1] Patient representatives (for cancer, chronic kidney disease, diabetes mellites) were involved in step C (Map and select services for evaluation) and D (Define decision criteria for prioritization of services).

[2] In addition, a Steering Committee (SC) was established involving stakeholders who reported to the Minister of Health. The National Advisory Committee reported to the SC.

				steering committee were involved in the service package development. Voting mechanism was not part of the process		
Did members declare conflict-of-interest?	No	No	Yes	No	No	No
Is the membership and recruitment process described in a publicly available document? If yes, how (report, website)?	Yes	Yes, Direct email communication and an official letter from the Office of the Minister sent to stakeholders	Yes, in a report	Yes, through a letter sent to all stakeholders	Yes, in a report. Only in summary and not including the recruitment process	Yes, in a report
Were stakeholders involved in still other ways, i.e. outside the mentioned sub-committees?	Yes, they were consulted to review the final version of the IPEHS	Yes	No	Yes, stakeholders have reviewed the service package before it was endorsed by the Ministry of Health	No	Yes

Abbreviations: IPEHS=Integrated Package of Essential Health Services; MoF=Ministry of Finance; MoH = Ministry of Health; MoPH = Ministry of Public Health; NAC=National Advisory Committee; TWGs=Technical Working Groups; UHC-BP=Universal Health Coverage-Benefit Package; WHO=World Health Organization

Table S2: Summary of country experiences on mapping and selecting services for evaluation (Step B)

Indicator	Afghanistan	Ethiopia	Pakistan	Somalia	Sudan	Zanzibar (Tanzania)
Which model package was used as starting point?	DCP3 HPP	DCP3 (EUHC or HPP?), WHO-CHOICE	DCP3 EUHC	DCP3 EUHC expanded with service listing in UHC Compendium	DCP3 EUHC expanded with WHO-EMRO UHC-Priority Benefit Package	DCP3 EUHC
Was this model package compared to the existing package?	?	Yes, to the 2005 Essential Health Service Package (ESPH)	Yes it was compared to the existing packages	Yes	Yes	Essential Health Care Package (EHCP)
Were all services evaluated or only a selection?	All services	All services	All services	All services	All services	All services
Were services assessed on their relevance?	Yes. Based on BoD	Yes. Based on BoD	Yes	Yes. Based on the common undifferentiated problems and BoD	Yes	Yes
Were stakeholders involved in the selection of services?	National advisory group and Expert Committee members were involved	Yes, committees	Four technical working group were involved	Yes, experts, donors and providers from public and the private sector	The 13 expert clinical committees	The six technical working groups were involved
Is information on selection of services publicly available? If yes, how (report, website)?	Yes	Yes	Yes, publicly available on website	Not publicly accessible	Yes, available at https://sudan-ehbp.com/essential-health-benefits-package	Report

Abbreviations: BoD = Burden of Disease; DCP3=Disease Control Priorities 3; HPP=highest priority package; EHCP=Essential Health Care Package; EMRO= Eastern Mediterranean Regional Office; ESPH=Essential Health Service Package; UHC=Essential UHC package; WHO=World Health Organization

Table S3: Summary of country experiences on defining decision criteria for prioritisation of services (Step C)

Indicator		Afghanistan	Ethiopia	Pakistan	Somalia	Sudan	Zanzibar (Tanzania)
Selected criterion*	Burden of disease		√		√	√ (Meets health need)	√
	Effectiveness	√		√ (Avoidable burden)		√	
	Quality of evidence			√		√	
	Financial Risk Protection	√ (Affordability)	√	√			√
	Equity	√	√	√			√
	Cost-effectiveness		√	√ (Health gain for money spent)	√ (Likely value for money)	√ (Likely value for money)	√
	Budget impact		√	√	√ (Affordability)	√	√
	Integrated service delivery				√	√	
	Feasibility	√		√	√	√ (to inform potential timing)	
	Socio-economic impact			√			
	Public and political acceptability		√		√ (Political acceptability)		√
How were decision criteria defined and by whom?		National advisory group and International expert group	Literature review, followed by deliberation among MoH leadership and all stakeholders. Final list of criteria was based on decision by MoH.	Policy document review, followed by survey among stakeholders and consultation in workshop	Proposed by expert group followed by stakeholder consultation (MoH staff, program managers and service providers, international partners)	Decision process, criteria and weighting selected in a workshop with the Technical Group and other ministry stakeholders.	Proposal from deliberative meetings were discussed and final list decided by the executive committee of the MOH
Were stakeholders involved in this step?		No	Yes	Yes	Yes	Yes	Yes
Is information on process and criteria definitions publicly available? If yes, how (report, website)?		Yes (how?)	Yes, in report	Yes, in report	The process of work published and endorsed by the MoH	Yes available at https://sudan-ehbp.com/essential-health-benefits-package	..

* The names of the criteria used by the countries were interpreted in terms of common criteria definitions. The original naming of the criterion is provided in between brackets.

Table S4: Summary of country experiences on evidence collection (Step D)*

Indicator	Afghanistan	Ethiopia	Pakistan	Somalia	Sudan	Zanzibar (Tanzania)
Was evidence reviewed before it was used for decision-making?	Yes	Yes	Yes	The evidence was collected from trusted global sources and so considered as reliable.	Yes	Yes
Were stakeholders involved in the collection and review of evidence?	The international expert group and national working groups were involved	Committees and TWGs established at different levels were involved	TWG members were engaged in review of service descriptions and collected evidence	All relevant stakeholders including MOH and partners/donors were involved	Yes, 13 expert groups were engaged to review all services	Yes, all TWGs were engaged in the review of the evidence
Is information on this step publicly available? If yes, how (report, website)?	Yes, on MoPH website	Yes, report	No	The data sources and criteria used are elaborated in a document shared with stakeholders	Not yet but it will be published once the final selection is complete	Yes, report

Abbreviations: MOH=Ministry of Health; MoPH = Ministry of Public Health; TWGs=Technical Working Groups

Table S5: Summary of country experiences on prioritisation of services (Step E)

Indicator	Afghanistan	Ethiopia	Pakistan	Somalia	Sudan	Zanzibar (Tanzania)
Did the committee use a structured approach to prioritise services?	Qualitative approach – deliberations on the basis of explicit criteria.	Qualitative approach – deliberations on the basis of explicit scored criteria	Qualitative approach – deliberations on the basis of explicit scored criteria	Qualitative approach – deliberations on the basis of explicit criteria	Combined qualitative and quantitative approach, including scoring and weighing as starting point for deliberation	Qualitative approach – deliberations on the basis of explicit criteria
Did the committee deliberate to prioritise services?	Yes	Yes	Yes	Yes	Yes	Yes
Did the committee take into account the required budget and available budget (fiscal space) when prioritising services?	The required budget was estimated but not the fiscal space	Yes, in fiscal space	Yes, both required budget and available fiscal space	The required budget was estimated but not the fiscal space	The required budget was estimated but fiscal space was not	Projection for the coming 10 years was made and fiscal space will be done using the FairChoice tool
Did the committee take into account feasibility concerns when prioritising services?	Yes	Yes	Yes	Yes	Yes – in relation to timing	Yes
Were stakeholders involved in prioritising services?	Yes, through all committees as mentioned in Appendix Table 1	Yes	Yes, through all committees as mentioned in Table 1	Yes, through all committees as mentioned in Table 1	Yes, through all committees as mentioned in Table 1	Yes, through all committees as mentioned in Table 1
How did the committee come to a decision?	Consensus	Consensus	TWG members voted on classification of services as low, medium or high priority. If consensus was not achieved, majority vote was used. In NAC and SC consensus was used	Consensus	Consensus	Consensus
How was evidence presented to the committee?	Analysis reports with summaries and excel sheet	Draft report and interactive excel sheet	Evidence sheets which colour coded evidence on the criteria burden of disease, budget impact and cost-effectiveness	Results from the Somalia Health & Demographic Survey 2020, colour coded matrix of the burden of disease analysis and resources mapping and expenditure tracking analysis	Excel sheet	The FairChoices model was used to present evidence on cost-effectiveness, budget impact and health benefit gains in low, moderate and high performance for each delivery platform
Are the committee meetings public?	No	No	No	No	No	No
Are recordings and/or proceedings of the committee meetings available to the public?	Yes	No	No	No	No	No
Is the prioritisation process described in a publicly available document? If yes, how (report, website)?	Yes (how?)	Yes, on a website	Yes, in a report	Yes, in a report available online. The prioritisation has not been finalised yet	Yes, available at https://sudan-ehbp.com/essential-health-benefits-package	Yes, it was well described in the report

Abbreviations: NAC=National Advisory Committee; SC=Steering Committee; TWG=Technical Working Group

Table S6: Summary of country experiences on development of implementation planning (Step F)

Indicator	Afghanistan	Ethiopia	Pakistan	Somalia	Sudan	Zanzibar (Tanzania)
Was an implementation plan developed?	No, due to the arrival of Taliban	Yes	Yes	Yes, the implementation plan was developed as part of the EPHS	No clear implementation plan, though the recommendations are in place	Yes
Were levels of co-payment taken into account?	Yes	Yes	No	The rollout of the package will be done incrementally depending on the available resources and capacity.	Not yet	Currently Zanzibar offers health care services free of charge
Were delivery platform taken into account?	Yes	Yes	Yes	Yes, the package targeted to offers services at all levels	Yes the package explicitly includes delivery platform	Yes
Were health system barriers taken into account?	Yes	Yes	Yes	Yes, this includes consideration of nomadic populations, IDPs, and insecure areas of the country	Yes, in terms of current coverage.	Yes
Were health system investments taken into account?	Were supposed to be calculated (but?)	Yes	Yes, as a percentage of costs of the package	Yes, and the investment case for the health sector was developed with main focus on service delivery and prioritised health system strengthening provisions.	Not yet	Yes
Were stakeholders involved in developing the implementation plan?	Yes	Yes	Yes, through their membership of the Technical Working Groups	Yes, through their membership of the the task force	Not yet	Yes, the plan was developed by core team and shared with experts and program managers for their input
Is the implementation plan (becoming) available in a public document? If yes, how (report, website)?	No	Yes, in report	Yes, on website	Yes, in report	Yes, available at https://sudan-ehbp.com/essential-health-benefits-package	Yes, in report

Abbreviations: EPHS=Essential Package of Health Services; IDPs=internally displaced persons

Table S7: Summary of country experiences on communication and appeal (Step G)

Indicator	Afghanistan	Ethiopia	Pakistan	Somalia	Sudan	Zanzibar (Tanzania)
What mode of communication was used to inform stakeholders on the outcomes of the EPHS decision-making?	Consultation	Official letter, email, public launching, media release, and press release	Official letter, email, Steering Committee meeting/ Inter-ministerial forum, public report, press release	Through health sector coordination meetings, formal launching with stakeholders and media participation, emails and reports shared directly and through MoH website	The EPHS is not yet finalised / approved	Through consultative meetings
Were appeal options available for stakeholders wishing to revise decisions	Through two consultation rounds in 2021	Yes, appeal can be made to the Executive Committee of the Ministry of Health	Yes. Provinces were given opportunity to revise the decisions at national level	Was not part of the process	Not yet.	No
Were appeal options pro-actively communicated to stakeholders?	Yes	Yes	Yes	No	Not yet.	No

Abbreviations: MoH=Ministry of Health

Table S8: Summary of country experiences on institutionalisation

Indicator	Afghanistan	Ethiopia	Pakistan	Somalia	Sudan	Zanzibar (Tanzania)
Is there an explicit requirement (e.g., legal framework) in place that ensures the use of ongoing EPHS revision in the country?	The political will existed, evident from a president's letter but not enforced as an explicit obligation	Yes. There is a resolution and legal framework in place	The concept is elaborated in upstream documents as policy but not as an explicit requirement	Yes, while it is a decision by the Minister of Health, it is still not a written mandatory requirement	Stated by directorates of the Minister of Health, but not yet translated in a formal requirement	There is no specific "explicit requirement" for the package
Is an institution designated for governing ongoing EPHS revision in the country?	Yes	Yes. The Federal Ministry of Health is solely designated	Responsibilities were clear at federal level. At the provincial level, local institutes will be designed.	The Ministry of Health is responsible for guiding and overseeing the revision through a participatory process	A governing structure has been proposed but not established yet	The is led by the Ministry of Health itself with technical supports. Strengthening of existing bodies has already started such as establishing a financing unit in the MOH
Is the ongoing EPHS revision process described in a formal document?	No	Yes. The process is described in a national document	The process is well defined but not described in a formal document	The Ministry of Health developed a concept note describing the revision process	The process is well defined but not described in a formal document	Yes, described in a report
Does this institute have sufficient funds for ongoing EPHS revision activities?	No	The MoH allocates some funding but this is not sufficient.	No	No	It is stated as an activity in the upcoming plan that can guarantee sufficient resources	It relies on development partners
Are there plans to build the required technical capacity?	No	Yes. Training on Health Economics at the Master and PhD level is ongoing	The Federal Ministry envisages the provinces. However, further technical capacity is needed at the federal level	There is no plan yet	It is proposed in the plan	Yes, a team of 12 members established and trained and PhD opportunities obtained