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Original Article

Criteria for Priority-Setting of Health Interventions in Tanzania

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Abstract

Background: Priority-setting in health systems involves difficult trade-offs among competing interventions within limited resources. Explicit criteria can provide a fair, transparent, and efficient process. Although numerous criteria exist in the literature, it remains unclear which are most relevant to Tanzania and how they should be prioritised. This study identified and ranked national priority-setting criteria through a participatory stakeholder process.

Methods: A five-step participatory process was employed: selecting stakeholders, establishing criteria, organising and grouping the criteria, ranking, and validating results. A total of 36 participants listed criteria in order of perceived importance. During analysis, scores were assigned on a scale of 1 (least important) to 9 (most important) and analysed using descriptive statistics and weighted mean scores (WMSs). Participants were categorised as non-health workers, clinical workers, and non-clinical health workers to explore differences in criteria patterns. Validation involved in-depth interviews with 21 stakeholders who had participated in revising Tanzania's National Essential Health Benefit Package (EHBP); none had participated in the initial ranking exercise.

Results: Ten priority-setting criteria were identified. Disease burden ranked highest (WMS 7.0), reflecting both frequent mention and high perceived importance. Five criteria received moderate rankings (scores 4–6): cost of treatment to patients, affordability, health benefits, equity, and political acceptability. Cost-effectiveness, cost to the provider, public acceptability, and feasibility ranked lowest (scores 1–2). Criteria varied across stakeholder groups, with non-health workers prioritising affordability and patient costs, while non-clinical health workers prioritised political acceptability. Twelve equity dimensions were identified, with disease severity most frequently mentioned. Six criteria corresponded directly with those used during the national EHBP revision, while the remainder reflected related but non-comparable considerations.

Conclusion: Locally relevant priority-setting criteria can help align resource allocation with population health needs. The participatory approach used in this study may support transparent and context-sensitive priority-setting in Tanzania and other resource-constrained settings pursuing Universal Health Coverage.

Keywords: Health Priorities, Priority-Setting Criteria, Stakeholder Participation, Health Benefit Package, Universal Health Coverage, Tanzania

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Background

Health systems in low- and middle-income countries (LMICs) often operate under resource constraints, requiring difficult decisions about which health interventions to fund in the national health benefit packages.[1,2] Selecting interventions for inclusion in health benefit packages demands a systematic, transparent, and evidence-informed priority-setting process.[1,3] Priority-setting is the process of systematically selecting and ranking health interventions by importance. This process is essential for ensuring the fair allocation of limited resources and aligning health policies with population health needs and national goals. Priority-setting also enhances the legitimacy of health decisions and promotes equity.[1,4,5]

Priority-setting inherently involves trade-offs between competing interventions. To navigate these trade-offs, decision-makers rely on criteria, defined as standards or factors or dimensions used to assess, rank, and compare alternatives, health interventions.[6,7] Good criteria are clear, measurable, non-overlapping, and collectively cover all important aspects of a decision without duplication or confusion.[7] While literature proposes a wide range of criteria, countries often adapt them to reflect their specific health system values, institutional capacities, and policy goals.[1,8,9] However, identification of criteria does not guarantee their universal acceptance or consistent application in decision-making, as priority-setting is influenced by contextual, ethical, and political factors.[7,10]

Existing literature has identified a range of priority-setting criteria used to inform healthcare decision-making. Among these, cost-effectiveness, equity (ie, prioritising the worse-off), and financial risk protection are among the most widely accepted and are emphasised in the World Health Organization (WHO) "Making Fair Choice" report.[10,11] While some criteria are widely agreed upon, others are considered

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Key Messages

Implications for policy makers

- This study identified essential criteria that policy-makers can utilise to prioritise health interventions in the process of designing a benefits package.
- The burden of disease was identified as the most important criterion, followed by the cost of treatment to the patients, affordability, health benefits, and equity, which are all important criteria for setting priorities in the low-income setting context.
- Policy-makers need to consider equity from multiple dimensions in addition to the economic, including occupation, geography, age, and urban-rural distinctions.
- Utilising criteria established through a participatory process will enhance openness and transparency in the prioritisation process.

Implications for the public

Using context-specific and stakeholder-informed criteria helps ensure that health intervention priorities are responsive to the population needs while promoting equitable access to essential health services. By considering individual needs, societal values, equity concerns, health system constraints, and policy priorities, decision-makers can better align resource allocation with public expectations and health needs. Incorporating diverse stakeholder perspectives may also strengthen the legitimacy, transparency, and acceptability of priority-setting decisions, thereby enhancing public trust in health policy decisions, particularly in resource-constrained settings. Furthermore, locally relevant criteria can support more efficient use of limited resources, improve accountability in decision-making, and contribute to the development of health policies that are both evidence-informed and socially responsive. Such approaches can ultimately improve population health outcomes and help reduce inequities in access to essential healthcare services.

unacceptable due to ethical reasons, such as those based on gender or social status. Other criteria, such as age or rarity of disease, remain contested and reflect differences in ethical values and policy contexts that influence their use in practice.[10] Other commonly used criteria in LMICs included disease burden, severity of disease, affordability, feasibility of implementation, and political and social acceptability.[9] However, priority-setting processes are not inherently fair or legitimate.[12,13] The criteria used, and the ways in which they are identified, interpreted, and applied, can influence the fairness and legitimacy of priority-setting decisions.[12,13]

Although global frameworks guide priority-setting, establishing criteria at the national level remains essential to reflect specific countries' priorities and population needs.[14,15] Political, social and economic contexts are critical in shaping how countries can define priority-setting criteria.[9,16] A study exploring the experiences of six countries—Afghanistan, Ethiopia, Pakistan, Sudan, Somalia, and Zanzibar (a semiautonomous part of Tanzania)—has illustrated this variation. For example, cost-effectiveness was used as a criterion in all countries except Afghanistan. Public acceptability was used as a criterion in both Zanzibar and Ethiopia.[16] At the same time, factors such as limited time, data availability, and technical capacity can hinder the consistent application of criteria.

To date, no standardised process for identifying and applying priority-setting criteria has been established.[1,16] In some countries, criteria are derived primarily from policy document reviews or publicly available sources. Others combine these sources with stakeholders' surveys and, in some cases, consultations.[16] When consultations are conducted, they may or may not involve structured participatory workshops.[16] This variability can weaken the validation and application of the criteria. As a result, decisions often remain contested, particularly in settings with diverse stakeholders and limited institutional capacity.[1] In response, evidence-informed deliberative approaches emphasise the importance of structured stakeholder participation to support identification, reflection and validation of criteria in priority-setting processes.[17,18]

Tanzania defined its first national essential health service package in 1996 as a pilot project, implementing it nationwide in 2000 and revising it in 2013.[19] However, despite these revisions, the country has not utilised a criteria-based priority-setting process for selecting health interventions at national or subnational levels.[20]

Instead, priorities frequently rely on historical allocation or expert judgment and often lack transparency or process documentation. This may disconnect essential health service package design from implementation realities, especially within a decentralised health system such as Tanzania's.[21-23]

The aim of this study is to identify and rank potential priority-setting criteria at the national level through engagement with a diverse group of Tanzanian stakeholders. By incorporating local perspectives, the study sought to uncover contextually relevant and socially legitimate criteria to guide future priority-setting processes. Socially legitimate criteria are those derived through inclusive and transparent processes that reflect local stakeholders' values and perspectives.[12,24] In addition, this research contributes to a broader goal of advancing universal health coverage through an inclusive, evidence-informed priority-setting process, while offering practical insight for countries facing similar challenges in health resource allocation.

Methods

Study Setting and Context

This study was conducted in Tanzania, a country with a population of 61.7 million, of which 70% reside in rural areas.[25] Administratively, the country is divided into 31 regions and 196 districts.[25] The healthcare system functions under a decentralised structure that shifts operational responsibilities from the Ministry of Health (MoH).[26] As a result, the President's Office for Regional Administration and Local Government takes on full responsibility for primary healthcare, including community health, dispensaries, health

centres, and district hospitals.[26] This devolution enables the MoH to concentrate on providing overall technical guidance. It also maintains oversight of secondary and tertiary services, encompassing hospitals at regional, zonal, and national levels.[26]

Tanzania has implemented various strategies to enhance population health outcomes.[27-29] Currently, the country is updating its 2013 National Essential Health Services Package to align with universal health coverage goals. This initiative aims to ensure that "all individuals receive essential quality health services that fulfil their needs without facing financial hardship."[30] To support these universal entitlements, Tanzania endorsed the Universal Health Insurance Act of 2023.[31]

Study Design and Analysis Approach

This study aimed to identify and rank criteria for prioritising health interventions. To achieve this, we adopted and applied elements of an Evidence-Informed Deliberative Process recommended by Baltussen et al.[17,18] The study followed a sequential mixed-methods design, combining stakeholder-derived criteria with qualitative validation of the findings. We identified criteria through a five-step process. (1) identifying stakeholders, (2) listing criteria, (3) organising criteria, (4) ranking criteria, and (5) validating them (Figure 1).

Step 1. Identifying Stakeholders: In this study, purposive sampling was used to select participants. Two groups were defined: study participants and validation participants, with no overlap between them. The study participants (n = 36) were engaged in steps two to four and purposively selected from stakeholders who attended a March 2024 training on priority-setting. Participants were selected based on their professional roles in health policy, health service delivery, health financing, research, civil society, or decision-making. Inclusion was based on workshop attendance and consent to complete a survey on the first day of training. The workshop was convened by the MoH, in collaboration with Muhimbili University of Health and Allied Sciences, Tanzania, and the Bergen Centre for Ethics and Priority-Setting, University of Bergen, Norway.

Validation participants (n = 21) were purposively selected for their direct involvement in revising the national Essential Health Benefit Package (EHBP) and were involved exclusively in step five. They participated in or coordinated at least one of the three national deliberation meetings held in August, September and October 2024. The revision was led by the MoH, in collaboration with the WHO and the Ifakara Health Institute. Validation data were collected using a qualitative case study approach through in-depth interviews.

Step 2. Listing Criteria: The study used open-ended questions to identify the criteria that participants considered most important for a good outcome in the priority-setting process. In this study, a "good outcome" refers to a process that ensures the transparent and equitable allocation of limited health resources in accordance with standards agreed upon by stakeholders. Therefore, the open-ended format allowed them to express their views freely and ensured that context-specific criteria were captured. Participants were asked to consider priority-setting across all disease areas rather than for a specific programme or disease category. The specific question posed to participants was: *"What criteria should be used to prioritise health interventions to support a fair and effective allocation of limited health resources?"* Participants were encouraged to list criteria in order of perceived importance, with the first being the most important. "Perceived importance" refers to participants' judgements about which criteria were relevant to health priority-setting. Each participant responded individually on paper, minimising peer influence and ensuring that expressed views represented individual perspectives and maximised respect for each contribution. The data collection process also captured participants' professional roles and years of experience. Personal identifiers were excluded to promote openness and confidentiality. No formal group discussion or consensus-building was conducted at this stage. Instead, qualitative validation was undertaken in step 5.

Step 3: Organising Criteria: The analysis involved grouping similar criteria such as intervention benefits, impact, and treatment effectiveness. From each group, one representative criterion was retained, and duplicates were removed. The grouping and consolidation of criteria were conducted by the research team. The resulting categories were reviewed jointly to ensure conceptual consistency with existing priority-setting literature. This grouping was informed by established literature on priority-setting in healthcare.[7,14,32] Some entries were not criteria but rather dimensions or attributes of criteria; for example, age, occupation, or urban/rural were considered as equity dimensions rather than standalone criteria, consistent with conceptual distinctions in the literature.[33,34] Furthermore, the study excluded entries related to health systems such as decentralisation and health promotion, which

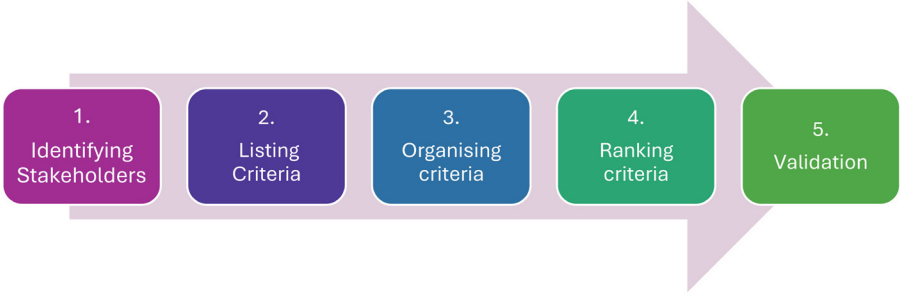


Figure 1. Steps for Stakeholder Informed Criteria-Setting Model (Source: prepared by the authors for this publication).

were not directly applicable to priority-setting.

Step 4. Ranking: Criteria ranking was derived analytically using Microsoft Excel, utilising descriptive statistics to summarise the findings. The analysis followed a multidimensional approach including four components: recognition, variation, valuation, and relative importance.

First, the frequency of each criterion was calculated. Frequency was defined as the number of participants who identified the criterion, indicating the extent to which it was recognised by the total study population. Proportions were then calculated by dividing the frequency by the total number of participants (N = 36). The proportions were subsequently used to categorise the criteria into four groups: very high (>75% of participants), high (50%-75%), low (25%-49%), and very low (<25%). This aligns with standard methods in descriptive statistics, where data are organised into meaningful categories to make interpretation easier.[35]

To explore variation in the distribution of identified criteria across participants, the study population was divided into three professional groups. These included "non-health workers" (those outside the health sector) and health-sector stakeholders. The health-sector stakeholders were further split into "health workers – clinical" (involved in clinical roles) and "health workers – non-clinical." Within each group, the frequency and proportion of each criterion were calculated. The proportions for each group were calculated by dividing the frequency of each criterion value within a group by the total number of criteria reported by that group and expressing the result as a percentage. Subgroup analyses were descriptive and exploratory, given the sample size.

Final descriptive statistics, specifically the relative importance (ranking) of each criterion, were estimated using a weighted mean score (WMS). To derive these values, the following equation was used to determine the final rankings for each criterion:

$$WMS = \frac{\sum_{i=1}^{k} (f_i . w_i)}{N}$$

which WMS = the weighted mean score for a specific criterion; f_i = frequency (number) of participants who assigned score i; w_i = weight corresponding to the assigned score (1-9) n; and N = Total number of participants in the study (36).

Scoring Procedure: The most important criteria, as perceived by the stakeholders, were assigned a score of 9, while the least important were assigned a score of 1. Criteria not listed by participants were assigned a score of 0.

Interpretation of Scores: The WMSs were categorised into three levels: 1-3 indicated low importance (low rank). Scores of 4-6 represented moderate importance, while 7-9 signified high importance (high rank). These cut-offs were defined a priori to facilitate interpretation. They are consistent with the descriptive analysis of ordinal data.[35]

Illustrative example: Participants listed criteria in order of perceived importance rather than assigning scores directly; scores were assigned during analysis to reflect the rank positions. Criteria not listed were assigned a score of zero.

For example, if a criterion receives the following scores:

Score	1	2	3	4	5	6	7	8	9
Frequency	0	0	0	0	3	3	5	5	16

The WMS is calculated as:

$$WMS = \frac{[(\mathbf{0} \times \mathbf{1}) + (\mathbf{0} \times \mathbf{2}) + (\mathbf{0} \times \mathbf{3}) + (\mathbf{0} \times \mathbf{4}) + (3 \times 5) + (3 \times 6) + (5 \times 7) + (5 \times 8) + (16 \times 9)]}{36} = 7.00$$

This indicates high importance. This example is included to enhance the transparency and reproducibility of the weighting procedure.

Step 5. Validating Criteria: Validation was conducted to assess the policy relevance and contextual applicability of stakeholder-derived criteria within an ongoing national priority-setting criteria. This was achieved by examining whether these criteria were reflected in Tanzania's National EHBP revision, thereby providing insight into their practical relevance for decision-making. The EHBP revision was selected because it represents a national priority-setting process and a real-world policy case involving the identification, deliberation, and application of criteria for prioritising health interventions.[28,36] A qualitative case study was conducted through in-depth interviews with 21 key informants.[36] The qualitative component was reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist.[36,37] Full details of this study are available in a separate manuscript.[36]

Results

Description of Study Participants

This study included 36 participants, 29 (81%) of whom were from the health sector and 6 (17%) from the non-health sector at the national level (See Table 1). Nearly half of the participants had 6 to 10 years of experience, with a median of 8.5 years (Interquartile range: 6, 14). They represented a wide range of institutions across health and non-health sectors, including government ministries, research organisations, health insurance companies, non-governmental organisations, patient groups, professional medical and health bodies, healthcare professionals, and academic institutions. This diverse group enabled the collection of criteria that encompass a broad spectrum of perspectives, including those of policy-

Table 1. Description of the Study Participants by Profession and Years of Work Experience (N = 36)

Participant Characteristics	No. (%)
Profession	
Health workers – non-clinical	18 (50)
Health workers – clinical	11 (31)
Non-health workers	6 (17)
Missing data	1 (3)
Year of work experience	
≤5 years	6 (17)
6-10 years	15 (42)
11-20 years	9 (25)
Missing data	6 (17)

makers, implementers, researchers, funders, and service users. Organisations with explicit conflicts of interest (eg, private pharmacies) did not participate in this study.

Participants identified 10 potential criteria for prioritising health interventions, which they identified with varying frequencies (Figure 2). The burden of disease was the most frequently cited criterion, mentioned by 32 (89%) participants, and it was the only one categorised as having a "very high" frequency, indicating widespread recognition. Another group of five criteria—cost of treatment to patients, health benefits, equity, affordability, and political acceptability—was identified and categorised as "high" frequency, reported by between 50% and 75% of participants, corresponding to "high" levels of recognition. This indicates that these criteria were commonly recognised, although not to the same extent as the burden of disease. Notably, no criteria were in the low-frequency range (25% to 49%). This suggests a marked distinction between commonly recognised and less recognised criteria within the study population. The remaining four criteria—cost-effectiveness, cost to the health provider, public acceptability, and feasibility—were mentioned by fewer than 25% of participants, indicating a "very low" level of recognition. This pattern reflects lower levels of recognition rather than lower importance.

Variations of Identified Criteria Across Professional Groups

Participants from three professional groups showed distinct variations in the distribution of the prioritised criteria (Figure 3). These findings indicate variation in how criteria were recognised across professional groups. These proportions represent the relative distribution of criteria within each professional group. These groups included clinical health workers, non-clinical health workers, and non-health workers. The burden of disease was consistently prioritised

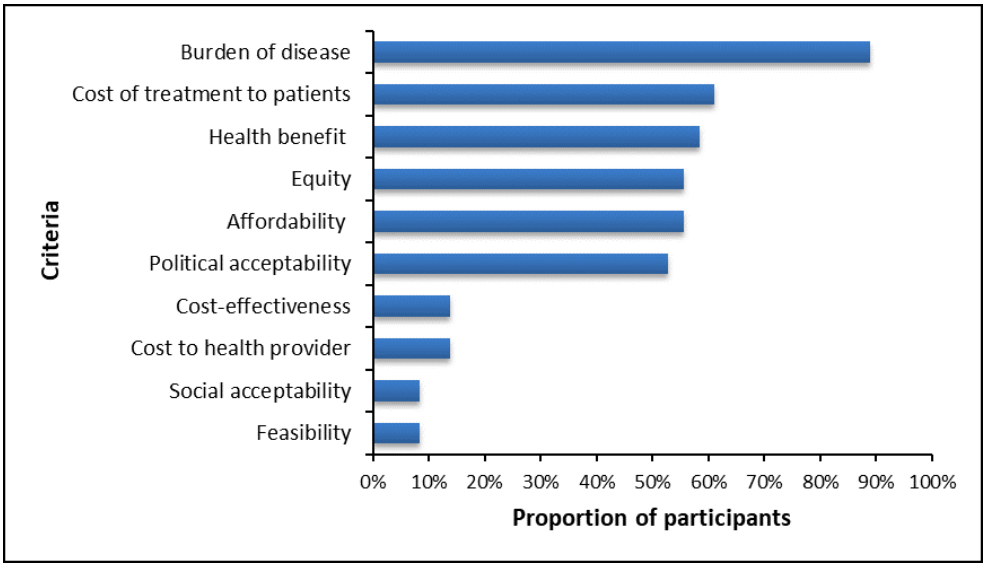


Figure 2. Proportion of Participants Identifying Each Criterion (N = 36). Note: Percentages represent the proportion of participants (N = 36) who identified each criterion, not the proportion among only those who mentioned it.

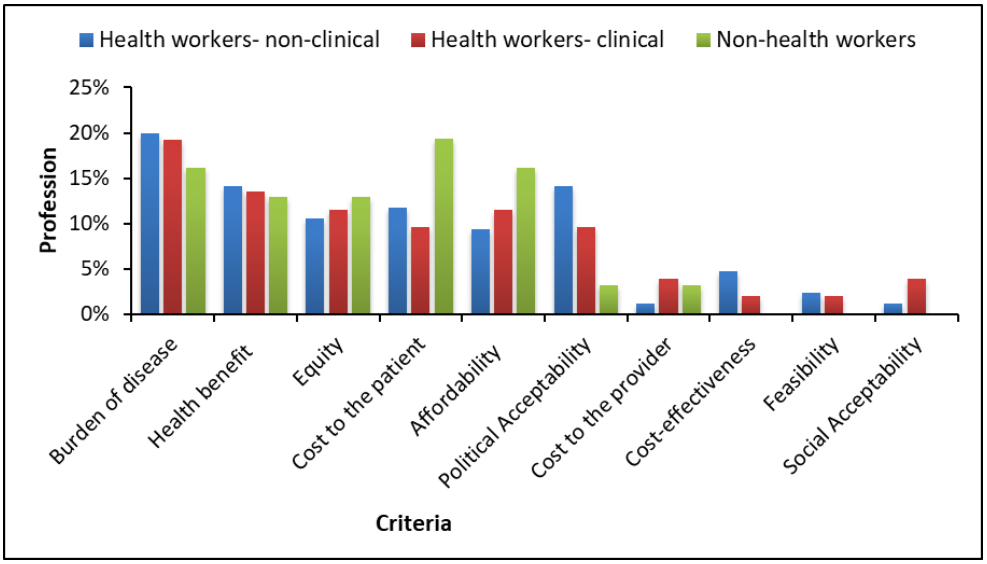


Figure 3. Variation in Criteria Across Professional Groups (N = 36).

as a top criterion across all groups, accounting for 20% of criteria listed by non-clinical health workers, 19% by clinical health workers, and 16% by non-health workers. Health benefits and equity criteria were also consistently represented across groups, with a narrow proportion ranging from 11% to 14%. Variations appeared in "costs to the patient," and "affordability" criteria were more prominent among non-health workers than among health workers, both clinical and non-clinical. In contrast, political acceptability was a more prominent criterion for non-clinical health workers (14%), than by clinical health workers (10%) and non-health workers (3%). The "cost of the provider" criterion had the lowest proportion across all groups. Finally, cost-effectiveness, feasibility, and social acceptability criteria had the lowest relative proportions among health-sector workers. Notably, non-health workers did not mention these specific criteria.

Distribution of Assigned Scores Across Identified Criteria

The distribution of scores across criteria and their frequencies are presented in Table 2. The findings show variation in assigned scores among participants, indicating differences in how they valued the criteria. The pattern in the table suggests that widely identified criteria tend to receive higher and more consistently clustered scores, whereas less frequently identified criteria tend to show more dispersed score distributions. This highlights the need to interpret frequency and assigned scores as complementary but distinct dimensions in understanding priority-setting criteria.

The burden of disease was highest at the top end of the scale, with a frequency of 32, falling within the upper range (7–9), indicating that it was consistently assigned higher values across participants and that over half of participants. Similarly, the cost to patients followed (22 frequency), with rankings also clustered in the upper range (7-9), suggesting that it was highly valued among those who identified it. Meanwhile, health benefit (21), equity (20), and affordability (20) were identified by similar numbers of participants but exhibited broader score distributions, although they still skewed towards mid (4–6) and upper (7–9) ranges. These criteria showed broader score distributions than the burden of disease and the cost of treatment to patients.

In contrast, political acceptability showed the greatest variability, with many responses falling within the mid-range (4–6), indicating moderate and less consistent valuation. The remaining criteria—cost-effectiveness (5), cost to the provider (5), public acceptability (3), and feasibility (3)—were identified by relatively few participants, reflecting lower recognition. Their scores were limited and dispersed, indicating less consistent assignment of importance.

Ranking Criteria by the Weighted Mean Score

The WMSs summarise the relative importance assigned (ranking) to each criterion by combining the frequency of identified criteria and the scores assigned during analysis. Importantly, these findings reflect patterns of relative importance across participants. The burden of disease, which emerged as the only criterion, was classified as "highly important" (WMS of 7.0) (Table 3). This indicates that it was both frequently identified and consistently assigned higher scores across participants. The next level of criteria, classified as "moderately important" (scores 4–6), included the cost of treatment for patients (4.3). This suggests that the criterion was recognised and moderately valued, although it was not consistently assigned the highest scores. Several criteria just below this threshold were considered "low importance": affordability (3.9), health benefits (3.4), and equity (3.2). These scores indicate that these criteria were recognised but assigned lower relative scores compared with higher-scoring criteria.

Conversely, cost-effectiveness (1.1), cost of treatment for the provider (0.6), public acceptability (0.4), and feasibility (0.4) received the lowest WMSs and were all categorised as having "low importance."

Table 2. Distribution of Assigned Scores Across Identified Criteria (N = 36)

Criteria Identified	Aggregated Scoring Order (1= Least Important to 9 = Very Important)									Total Responses
	1	2	3	4	5	6	7	8	9	
Burden of disease	0	0	0	0	3	3	5	5	16	32
Cost of treatment to patients	0	0	1	0	2	3	8	5	3	22
Health benefit	0	1	2	2	5	3	3	3	2	21
Affordability	0	0	1	0	3	5	2	4	5	20
Equity	0	1	0	2	3	7	2	3	1	19
Political acceptability	0	0	1	7	2	4	3	2	0	19
Cost-effectiveness	0	0	0	0	0	1	0	2	2	5
Cost of treatment to the provider	0	0	1	0	4	0	0	0	0	5
Public acceptability	0	1	0	0	0	2	0	0	0	3
Feasibility	0	0	1	0	1	0	1	0	0	3

Note: Participants listed criteria in order of perceived importance, and scores were assigned during analysis. Numbers represent the number of participants corresponding to each score (1 = least important, 9 = most important) for each criterion. A value of 0 indicates that the participant did not list the criterion and therefore received no assigned score. Not all participants listed all criteria, and some responses were reclassified as equity dimensions; therefore, total counts vary across criteria. Low frequencies indicate that fewer participants identified the criterion and should not be interpreted as evidence of uniformly low ranking across all participants.

Table 3. Weighted Mean Scores of Identified Criteria (N = 36)

Criteria	WMS
Burden of disease	7.0
Cost of treatment to patients	4.3
Affordability	3.9
Health benefit	3.4
Equity	3.2
Political acceptability	2.8
Cost-effectiveness	1.1
Cost of treatment to the provider	0.6
Public acceptability	0.4
Feasibility	0.4

Abbreviation: WMS, weighted mean score.
Note: WMSs were calculated based on scores assigned during analysis, derived from participants' ordered lists of criteria. Scores ranged from 1 (least important) to 9 (most important). Higher scores indicate greater relative importance. WMS categorised: 7–9 = high importance; 4–6 = moderate importance; and 1–3 = low importance.

Table 4. Frequency of Equity Dimensions Identified (N = 36)

Equity Dimensions	Frequency
Severity of disease	22
Occupation	8
Age groups	6
Place of residence	5
Equality/inequality	5
Level of poverty	3
Financial challenges to patients	2
Rural/urban	1
Location (area with few health facilities)	1
Social challenges	1
Financial impact	1
Economic productivity	1

Identified Equity Dimensions

Participants identified 12 equity dimensions. The most frequently cited was severity of disease (22), followed by occupation (8), age groups (6), place of residence (5), and inequality (5) (Table 4).

Validating Criteria

The criteria used in the EHBP revision were derived from the literature and adopted through a stakeholder consensus-building process during a deliberative priority-setting workshop. The process resulted in eight agreed-upon criteria for prioritising health interventions.[36] Six out of ten stakeholder-derived criteria—disease burden, equity, cost-effectiveness, feasibility, political acceptability, and public acceptability were directly comparable to those used in revising the national EHBP.[36] The other four criteria, "cost of treatment of the patient," health benefits, affordability, and "cost to the health provider," did not have direct equivalents among the criteria used in the EHBP revision. Likewise, the remaining criteria from the validation study, including financial risk protection, budget impact, socio-economic impact, and harm-benefit balance, were not directly comparable to the stakeholder-derived criteria.[36] Overall, these findings indicate partial correspondence between stakeholder-derived criteria and those used in revising the national EHBP.

Several others reflected similar underlying concerns related to financial protection, resource use, and health outcomes, despite differences in their definitions and applications. For example, "cost of treatment to patients" corresponds conceptually to "financial risk protection" as both address how healthcare costs can lead to financial hardship. High treatment costs may threaten financial protection by increasing the risk of catastrophic health expenses.[14] Similarly, affordability corresponds conceptually to budget impact as both assess whether a health intervention can be accommodated within available the health system resources.[38] Health benefits correspond conceptually to harm-benefit balance as both consider the expected consequences of health intervention for population health, although harm-benefit balance explicitly incorporates potential harm alongside benefits.[14,15] Cost to the health provider is related to considerations of cost-effectiveness because resource requirements influence decisions about the efficient use of limited healthcare resources.[14] Participants described cost-effectiveness as a criterion for comparing the costs of interventions with their expected health outcomes, emphasising the efficient use of limited resources to achieve greater health benefits.[36]

Discussion

This study identified ten criteria for prioritising health interventions in Tanzania. They can be grouped into four broad categories: societal, individual, health system, and political-related criteria.[11,32,39] Grouping the criteria in this manner highlights the inherent tensions that decision-makers must navigate. It implies that priority setting involves managing trade-offs between these competing domains. For example, health systems' needs for cost-effectiveness must be balanced against the individual demand for financial protection. Furthermore, the decision-makers must consider the societal requirement for equity alongside the need for political support. Specifically, societal criteria extend to broader communities, including disease burden, equity, and public acceptability, whereas, individual categories focus on patient benefits and cost criteria. Health system criteria encompass provider concerns, including cost-effectiveness, affordability, and feasibility. Finally, political criteria address the importance of political will in the decision-making process.

Within the societal category, disease burden was consistently identified as the top priority criterion. The high level of recognition, consistent placement in higher-scoring categories, and strong WMSs indicate that disease burden is not only widely acknowledged but also consistently assigned greater relative importance than other criteria. This reflects patterns observed in Ethiopia and Zimbabwe, where disease burden heavily influences resource allocation.[40-42] Some frameworks prioritise disease burden as an initial step before considering any other criteria.[14] However, its prominence here suggests a shared understanding and reflects a decision-

making process that prioritises interventions with the greatest population health impact. Prioritising disease burden is considered foundational to reducing morbidity and mortality.

However, equity also emerged as a critical parallel criterion. Equity was widely recognised but showed greater variation in how it was valued across score categories. This study also identified several equity dimensions, including disease severity, poverty, age, and place of residence. These findings are in line with the WHO frameworks prioritise the 'worst-off' and reduce unfair inequalities.[14] In this study, the severity of disease was the most frequently identified equity dimension. It prominence indicates that participants prefer to prioritise interventions targeting individuals with the most serious health conditions. This reflects both clinical urgency and ethical considerations. Such interventions are crucial in preventing disability and premature mortality.[14,43,44]

Disease severity is more commonly conceptualised as an equity dimension than a standalone criterion because it prioritises those worst-off in terms of health status.[34] This is reflected in initiatives such as Tanzania's PEN-Plus programme, which prioritises severe non-communicable diseases associated with high mortality, long-term impairment, and limited access to specialised care.[43,45,46] These findings suggest that prioritising disease severity may be a practical way to operationalise equity by directing resources towards those who are worst off. Indeed, several high-income countries have integrated the severity of diseases into their health priority legislation.[47]

Previous research highlights the lack of standardised guidance for applying equity. For instance, Ethiopia successfully utilised the Delphi technique. A panel of experts assessed specific dimensions to guide the equitable distribution of healthcare. They explicitly defined the "worse-off" groups. These included children under five, women of reproductive age, the poor, and rural residents.[33] In contrast, Tanzania has attempted to prioritise the elderly. The country introduced an exemption policy for treatment costs. However, the implementation of this policy remains inconsistent.[23] Together, these examples suggest that the challenge is not recognising equity as a priority but translating equity principles into consistent decision-making practices. This suggests that without clear operational frameworks, equity risks remain symbolic. It fails to become an actionable metric integrated into the priority-setting process. Consequently, health inequalities may persist despite broad agreement on the importance of equity.

The emergence of public acceptability signals a shift from expert-driven decision-making towards more deliberation and participatory approaches. This reflect growing recognition that priority-setting decisions should incorporating public values This is in line with the literature emphasising that stakeholder involvement enhances the legitimacy, social acceptability, and sustainability of health decisions. It builds the trust necessary for the sustainability of health interventions.[48-50] This finding highlights a critical opportunity to institutionalise community engagement within Tanzania's priority-setting mechanisms.[48,49]

The findings regarding individual-related criteria focused on patients' financial burdens and clinical outcomes. The high recognition and consistent scoring in the upper categories of the criterion on treatment costs highlight the strong consideration of patients' financial vulnerability. Notably, research shows that catastrophic expenditure affects even insured households.[51] Therefore, this criterion is not only a preference but also a call for financial risk protection. This highlights that for interventions to be accessible; they must also be affordable at the point of care. Health benefits, including effectiveness and clinical outcomes, were also prioritised. The variation and dispersion in scoring for health benefits suggest differences in how stakeholders conceptualise and measure outcomes. This is in line with other literature showing that interpretation of health benefit varied widely, ranging from immediate symptom relief to long-term health gains, such as quality of life and healthy life-years gained.[14] This variability suggests that while stakeholders value effectiveness, they lack a unified metric to support consistent application of this criterion in decision-making.

Translating individual health gains into system-wide policy requires a focus on cost-effectiveness.[9,14] However, in this study, the cost-effectiveness criterion was mentioned with low frequency. Notably, although less frequently identified, cost-effectiveness tended to receive higher scores from those who recognised it, indicating that it is highly valued by a subset of stakeholders. This observation aligns with Tanzanian research reporting the underutilisation of economic evaluation due to a lack of technical capacity.[22] This pattern suggests that cost-effectiveness serves as a technically informed criterion shaped by specific expertise rather than a broadly shared consideration. This highlights an urgent need for capacity-building and accessible communication to facilitate informed decision-making. The limited recognition of cost-effectiveness may indicate that economic evidence remains concentrated among technical experts rather than being broadly integrated into routine decision-making.

However, the affordability criterion was frequently mentioned and consistently scored in the upper categories. This finding mirrors experiences in Ethiopia and other LMICs, where aligning intervention costs with resource availability is viewed as a prerequisite for sustainability.[38,52] This suggests that fiscal space influences how resources are allocated. Consequently, prioritisation is limited to interventions that can be implemented within the current resource limits. Feasibility and provider costs were less frequently mentioned and received lower rankings. Nonetheless, feasibility is a key determinant of whether an intervention can be successfully implemented.[15] While stakeholders focused on the financial limits, the operational burden on the health system appears underappreciated. This pattern suggests a disconnect between identifying priorities and assessing their operational feasibility. This gap may contribute to challenges in implementing selected interventions, as decisions may focus more on selecting desirable interventions than on assessing whether they can be realistically delivered at scale.

The emergence of political acceptability as a criterion implies that priority setting cannot rely on technical evidence alone but is inherently a political process. This reality is

mirrored in Tanzania's exemption policy for the elderly. Its implementation has been inconsistent due to the absence of an enforceable legal framework.[23] Conversely, the COVID-19 response across Africa demonstrated the power of robust political will. It acted as a catalyst for rapid, multisectoral coordination.[53] These contrasting observations suggest that politics exerts a complex, context-specific influence on health decision-making. Political commitment functions as a critical variable that can either operationalise or obstruct evidence-informed policies. These findings reinforce the view that priority-setting is inherently political. This suggests that evidence may inform decisions, and political factors often determine whether priorities are implemented.

The validation indicated that stakeholder-derived criteria remained relevant when considered within a national policy context. These considerations were not always expressed or applied consistently throughout the EHBP revision process. This approach differs from most studies that validate priority-setting criteria through consensus-building methods, which seek to establish agreement on the relevance and importance of proposed criteria.[7,54-56] The differences observed between the two sets of criteria suggest that stakeholder priorities may be represented differently in policy processes. This highlights the importance of examining not only which criteria are considered relevant, but also how they are interpreted and applied in practice. Consequently, validation through real-world policy processes can complement consensus-based approaches by providing insight into the practical application of priority-setting criteria.

Strength and Limitation

This study offers several strengths that enhance the credibility and relevance of its findings. First, it engaged a diverse group of stakeholders from both the health and non-health sectors. This diversity enriched the data significantly. It provided a comprehensive view of priority-setting criteria from multiple perspectives across the Tanzanian health system. Second, the use of weighted means scoring allowed for a deeper interpretation of the importance and ranking of criteria. The approach distinguished which criteria were frequently mentioned. Crucially, it also captured the intensity of importance assigned to each criterion, as reflected in the scoring distribution. Another strength lies in validating stakeholder-identified criteria against the National benefit package deliberation process. This improved methodological triangulation and strengthened the policy relevance of the findings. It also provided insight into the practical applicability of the identified criteria for national health planning.

However, this study has limitations that should be acknowledged. First, the sample size (n = 36) was relatively small, though adequate for exploratory analysis. It may not fully capture the breadth of views across all relevant actors in the Tanzanian health system. This is particularly relevant for the non-health sector and service user groups. They were underrepresented and may hold distinct perspectives on health priorities. Second, not all participants completed the full scoring matrix. This resulted in variability in the number of responses per criterion. Such incomplete data could potentially bias the ranking outcomes and limit comparability across criteria.

Third, criteria, such as "health benefit" and "equity," were subject to differing interpretations among participants. These variations highlight the complexity of defining priority-setting concepts. They also signal the need for more standardised definitions to ensure consistency in their application. These suggest the need for cautious interpretation. Lastly, social desirability bias may have influenced responses, particularly among participants, eg, those familiar with health policy norms, potentially leading to an overemphasis on politically or ethically acceptable criteria.

The validation relied on a single national policy process. Furthermore, the criteria used during the EHBP revision were not assumed to represent a gold standard and may have been shaped by contextual and institutional factors. Therefore, validation should be interpreted as an assessment of policy relevance and applicability rather than verification against a normative benchmark. However, these limitations do not detract from the study's key contributions. Rather, they underscore the need for structured, participatory, and context-sensitive frameworks. Such frameworks must bridge technical, political, and societal considerations.

Conclusions

This study developed a practical, stakeholder-informed model to identify and rank criteria for health priority-setting in Tanzania. It captures locally relevant values spanning multiple levels. These include individual, societal, health systems, and political considerations. By integrating urgent population needs with financial protection, the model offers a transparent mechanism to navigate complex resource trade-offs. For policy-makers, this facilitates a shift toward fairer, more efficient decision-making that accounts for both clinical evidence and political feasibility. Although tailored to the Tanzania context, this participatory approach remains adaptable to other low-resource settings. This study makes a distinct contribution to existing literature. It provides a replicable and transparent approach to criteria identification. Future research should examine how these criteria are applied in real-world policy. Specifically, studies should assess their effects on equity and health outcomes. As countries progress towards universal health coverage, locally based criteria are essential. They are essential to building fair and sustainable health systems.

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Disclosure of artificial intelligence (AI) use

We used Microsoft Copilot to edit the English language during manuscript preparation. The tool was not used to generate scientific content, conduct analyses, interpret findings, or draw conclusions. The authors developed, reviewed, and approved all aspects of the study design, data analysis, interpretation, and manuscript content and take full responsibility for the manuscript's accuracy and integrity.

Ethical issues

The study was approved by the National Health Research Ethics Committee (NatHREC) at the National Institute for Medical Research (NIMR) in Tanzania (Ref. vol IX/4533) and the Regional Committees for Medical and Health Research Ethics in Norway (Ref. 611486). Informed consent was obtained from all the interviewees. The consent form included statements regarding the study's purpose, confidentiality, and the participant's right to withdraw.

Conflicts of interest

Ritha A. Willilo participated as a facilitator supporting the priority-setting process but had no decision-making authority and did not influence the outcomes. Other authors declare that they have no conflicts of interest.

Disclaimer

The views expressed in this article are those of the authors and do not necessarily reflect those of their affiliated institutions or the funding agency.

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