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PRACTICAL APPLICATION

Reflecting Social Values in HTA Methods: A Case Study of South Africa

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Abstract

Background and Objective South Africa proposes the creation of a new health technology assessment (HTA) agency. In anticipation, the South African Values and Ethics for Universal Health Coverage (SAVE-UHC) value assessment framework has been created to make explicit the attributes of social value to inform priority setting. However, operationalising these values in an HTA process requires technical economic evaluation-based methods and little consideration has been given to appropriate approaches to determine these. We therefore used a novel pragmatic approach to identify economic evaluation methods to incorporate the SAVE-UHC value attributes in HTA methods.

Methods We mapped the SAVE-UHC elements to value attributes described in an existing value assessment framework to help identify previously described methods. A survey of experts and a workshop were conducted to supplement the methods identified in the mapping. The combined results were compiled as a list of ways the SAVE-UHC elements could be measured, valued and incorporated into economic evaluation methods.

Results The results revealed a comprehensive list of approaches to measuring and valuing the SAVE-UHC elements. The results were further categorised into health and the distribution of health, financial risk, healthcare utilisation, well-being, healthcare costs, performance indicators and constraints.

Conclusions South Africa is in the process of institutionalising HTA to guide prioritisation of new healthcare technologies. This research presents a wide range of methods that could be used in South Africa to implement SAVE-UHC. The approach could also be used in other countries seeking to implement their own value assessment frameworks and identify appropriate methods to incorporate them in HTA processes.

1 Introduction

Policymakers aim to use scarce resources fairly and efficiently in an effort to achieve universal health coverage (UHC) [1–4]. In many countries, the decisions about which health services to prioritise are the purview of health technology assessment (HTA) agencies who make recommendations on whether services represent value for money. Evaluation requires decision makers to make technical judgements of clinical and cost effectiveness that account for social value judgements based on values that are important to society.

Key Points for Decision Makers

South Africa is introducing health technology assessment processes in decision making, yet it is unclear what methods exist to ensure broader South African values are reflected.

A pragmatic mapping of the literature supplemented with a survey and workshop identified numerous approaches defined as metrics and approaches to measuring value to aid interpretation of how the broader values may be captured.

The extensive results and the approach to identification offers a resource for South African decision makers and those interested in the practical application of defining health technology assessment methods.

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Almost all high-income countries use HTA processes and guidelines [5, 6] to aid healthcare decision making with perhaps the most notable example being the National Institute for Health and Care Excellence (NICE) in England and Wales. An increasing number of national HTA institutions have emerged in middle- and low-income countries over the last two decades such as the Health Intervention and Technology Assessment Program (HITAP) in Thailand and the Health Technology Assessment Institute in Colombia. Broadly, the development of HTA processes comprises three components: (1) *Setting the values*, which involves identifying and determining the values on which the process should be based; (2) *Defining the technical methods*, which allow the development of evidence based on the values; and (3) *Decision making*, which reflects the process of bringing the evidence together to make a recommendation whether to introduce a treatment.

The development of these processes varies across HTA agencies. For example, the identification of values as criteria of choice has occurred through a combination of deliberative public engagement, surveys, focus groups and interviews in the case of NICE [7] and expert deliberation to interpret and implement implicit societal values in the absence of explicit values as in the case of the German Institute for Quality and Efficiency in Health Care [8]. The process of identifying the methods used to support HTA decisions has been operationalised through reviews of contemporary research and the relevant methodological literature (e.g. Pharmaceutical Benefits Advisory Committee in Australia [9]), expert consultation (e.g. NICE [10]), consultation with other HTA agencies (e.g. the Health Technology Assessment Institute in Colombia used NICE processes [11]) or the development of bespoke methods to address shortcomings with existing methods (e.g., HITAP developed a region-specific preference-based measure [PBM] for East and Southeast Asia known as Asia PBM 7 dimensions) [12]. Finally, decision making involves numerous aspects to contextualise the evidence base [13] including weighted stakeholder preferences and a multicriteria decision analysis (e.g. HITAP [14]), the use of thresholds and weights to incorporate the relative social value of different criteria of choice (e.g. NICE [10]) and deliberative processes (e.g. National Committee for Health Technology Incorporation [Conitec] in Brazil [15]).

It is the identification of methods to capture previously defined attributes of value that forms the focus of this study. A cost-effectiveness analysis is the preferred approach to assessing value for money of health interventions by HTA agencies [16]. It combines estimates of the additional benefits and costs of an intervention and typically involves capturing health gains in units of quality-adjusted life-years (QALYs). In a cost-effectiveness analysis, the health gains are often compared to an estimate of the health gains that could have been achieved had those resources been used elsewhere in the health system, often referred to as the 'opportunity cost' [17]. The value-laden assumptions in this approach are that health is an attribute of value, it is the choice criterion that is important and it should be measured. Further, it is assumed that the concept of health can be adequately captured and measured by QALYs and that equal weight is placed on all QALYs (and on those gained and lost in terms of direct benefits and opportunity costs). Yet, when attributes of value broader than health are included in a cost-effectiveness analysis to inform health resource allocation, it is not clear what methods are most suited to incorporate those attributes of value into the evaluation.

The focus of this study is on the application of quantitative methods within an HTA process and the extent to which methodological development allows for incorporation of broader attributes of value beyond health. We illustrate this using a case study of South Africa, a country that has recently proposed the creation of an HTA body [18] by providing an overview of current quantitative methodological approaches that could be applied to a set of attributes of value that were developed for the South African context. It is hoped this paper acts as a resource for countries in the process of setting up HTA processes and for those countries updating existing processes.

2 Case Study: South Africa

South Africa proposed the creation of a HTA body as part of the National Health Insurance bill and its effort towards UHC [18]. In anticipation, a 'value framework' was created to inform the National Health Insurance and ensure decision making reflected ethical considerations, local norms, social values and laws [19]. The framework is referred to as the South African Values and Ethics for Universal Health Coverage (SAVE-UHC) framework and it consists of 12 domains or attributes of value (Table 1) [19, 20].

The domains were decided by an independent multidisciplinary working group. The SAVE-UHC framework was not developed with the aim of defining economic evaluations, and as such this needs to be taken into consideration. For example, cost effectiveness may not be a criterion on its own as effectiveness reflects other criteria of importance such as health benefits and harms; and the budget impact should reflect both affordability but also opportunity cost, which are both related to cost effectiveness.

Table 1 Description of the 12 domains in the South African Values and Ethics for Universal Health Coverage (SAVE-UHC) framework

Domains	Description
S1 Burden of the health condition	The number and distribution of people affected and seriousness of the health condition
S2 Health benefits and harms	The expected health benefits or harms
S3 Cost-effectiveness	Getting the most health benefits for the available resources
S4 Budget impact	Total financial cost as it relates to the resources available in the health budget
S5 Equity	Fair distribution of benefits and burdens of the health scheme across members of the population
S6 Respect and dignity	People's experience of respect and dignity and their ability to make meaningful choices
S7 Personal financial impact	Impact on out-of-pocket expenses of income-generating activities
S8 Impact on personal relationships	Effects on people's ability to form or maintain important relationships
S9 Ease of suffering	Impact on experience of pain and suffering
S10 Impact on safety and security	Effects on exposing or protecting people from violence or harms
S11 Solidarity and social cohesion	Potential of decision to create, intensify or help heal social rifts
S12 System factors and constraints	How aspects of the health system or other systems may affect the delivery, uptake and impacts of the intervention

3 Methods

We sought to provide a summary of the available methods for operationalising the SAVE-UHC value attributes through a pragmatic mapping of the literature designed by the authors, a survey of experts and a workshop to supplement the mapping. We defined values into 'metrics', 'valuations' and 'methods'. Metrics are considered objective measures used to express the quantity of something, valuations are ways in which the metrics may be valued or their relative importance to other values may be determined, and methods are any specific economic evaluation method described. For example, QALYs could be considered an example of a metric as they measure quality of life and length of life. The valuation of QALYs could occur through eliciting an individual willingness to pay for a QALY to express the value of the measured QALYs in monetary units. The method to utilise the QALY measurement and valuation could be through a cost-effectiveness analysis and incremental cost-effectiveness ratio-based decision rules.

3.1 Pragmatic Mapping of the Literature

The first step was to identify methods that allow the provision of evidence in line with the value attributes of the SAVE-UHC framework. The literature describes many frameworks developed to provide evidence on the impact of interventions for priority setting [21]. A notable example is the International Society for Pharmacoeconomics and Outcomes Research Value Flower, referred to as the 'ISPOR value flower' (ISPOR-VF) [22, 23]. The value flower provides a description of the core and additional value attributes, which can be considered in an HTA and provides details of potential methods that could be used to provide evidence on said values. The ISPOR-VF can be seen in Appendix 1 of the Electronic Supplementary Material (ESM).

To link the described methods of the ISPOR-VF to the SAVE-UHC value attributes, we conducted a mapping exercise to consider the extent to which the ISPOR-VF elements overlap with the SAVE-UHC value attributes. As the value attributes defined in the two frameworks are not identical, we categorised each element as a 'good match' for the SAVE-UHC value, a 'partial match' or 'no match'. Three authors (PM, CH, YQ) independently conducted the mapping exercise. Disagreements were resolved through consensus and discussion with other authors (SG, SW). There is the potential for overlap between the third element of SAVE-UHC 'S3 cost-effectiveness' and other elements (i.e. outcomes such as health benefits and harms or equity on one side of the evaluation and costs on the other side) as the latter could be considered a function of cost effectiveness. As such, S3 is not treated as an independent domain in the analysis of results, as the aim is to consider how cost effectiveness can incorporate broader social values.

3.2 Expert Survey

Expert views were sought to identify other relevant methods. A survey was sent to academic experts identified by the authors as having knowledge in economic evaluations, ethics or HTA (all based in the UK) and to South African stakeholders. The survey was further distributed through an international mailing lists for health economics [24] as well as to Thailand's HTA body HITAP, as it represented an example of an upper middle-income country that has

an established HTA agency. The survey was distributed between 23/07/2024 and 04/09/2024. The aim was to identify appropriate methods, so there was no need for representative sampling or a minimum sample size.

3.2.1 Survey

The authors considered a survey to be an appropriate method for collecting data as the authors aimed to gather information on individual input from a large cohort. The survey was designed by the authors, developed using Qualtrics (Provo, UT) and utilised free text to elicit open responses. The survey was structured as a hypothetical case study and invited participants to consider the range of methods known to them for conducting an economic evaluation of a new vaccination. The survey then presented each of the 12 SAVE-UHC domains in turn, provided a brief description of how the vaccination may impact aspects of that domain, and invited participants to list as many (i) metrics and (ii) approaches to valuation as they could think of based on their interpretation. Participants were invited to suggest methods on each domain. A copy of the survey can be found in Appendix 2 of the ESM. All participant responses were anonymised using the Anonymise Response function in Qualtrics.

3.2.2 Analysis

Formal analysis of the results was not required. The results were compiled as a list of metrics, approaches to valuation and methods for each SAVE-UHC domain as described by participants. The anonymisation of responses precluded analysis of the countries, expertise or affiliations of respondents.

3.2.3 Ethical Considerations

The research was granted ethics approval by the University of York Health Sciences Research Governance Committee and the University of Witwatersrand Human Research Ethics Committee (Non-Medical). Participation was voluntary and participants were free to stop the survey at any time.

3.3 Workshop

Finally, we conducted an online stakeholder workshop on 18/09/2024 to discuss the methods identified in the mapping exercise and survey. We invited the original working group who developed the Framework and a variety of public health and HTA experts identified by the authors as having knowledge of HTAs. A total of eight external participants joined from academic and public institutions in South Africa and the UK as well as from the World Health Organization and HITAP. The workshop centred on evaluating the usefulness, acceptability and practicality of each identified method. The workshop also explored the challenges associated with measuring value elements, particularly when these elements cannot be quantified or when the necessary data for measurement are unavailable or impractical to collect. Expert views were elicited through facilitated discussions and a consensus was reached through collaboration and open discussion.

4 Results

Table 2 shows the results of the mapping exercise from the ISPOR-VF elements to the SAVE-UHC domains. It was not possible to find a match for all SAVE-UHC domains using the ISPOR value elements, with four good matches, five partial matches and two domains with no match. However, there was significant overlap that suggested that methods proposed for the ISPOR-VF would be relevant for SAVE-UHC for many domains. The unmatched elements were value of hope, scientific spillover and real option value.

The combined results from the mapping, survey and workshop are presented together (Table 3) to provide a list of how to measure, value and operationalise each SAVE-UHC domain. The results from the survey are based on 27 responses. A full description of the terms identified in Table 3 can be found in the Glossary (Appendix 3 of the ESM) along with a brief overview of how the identified metrics, values and methods can capture the SAVE-UHC domains. During the analysis, the metrics and approaches to valuation were categorised to find themes to aid interpretation. The categories identified are health and the distribution of health, financial risk, healthcare utilisation, well-being, healthcare costs, performance indicators and constraints.

An overview of the categories and their contribution to the measurement and valuation of each SAVE-UHC domain can be seen in Fig. 1. For example, the results reveal that the measurement of burden of the health condition could comprise metrics that capture health and the distribution of health, financial risk and healthcare utilisation, whereas system factors may comprise metrics that capture performance indicators and constraints.

A summary of the identified methods that could be used to operationalise each domain can be seen in Fig. 2. The results reveal that a CEA can be used to capture many of the SAVE-UHC domains but would not capture all, for example equity would not be captured. For equity, a distributional CEA [25], an extended CEA [26], equity weighting or a specified social welfare function [27, 28] could be used.

Table 2 Mapping of SAVE-UHC domains to ISPOR value elements

SAVE-UHC domains	ISPOR value elements match	
	Good match	Partial match
S1 Burden of the health condition	V1 QALYs gained	V8 Severity of disease V11 Equity
S2 Health benefits and harms	V1 QALYs gained	V4 Family spillovers
S4 Budget impact	V2 Net costs	–
S5 Equity	V11 Equity	–
S6 Respect and dignity	–	–
S7 Personal financial impact	–	V3 Productivity V7 Insurance value: financial risk protection
S8 Impact on personal relationships	–	V1 QALYs gained V4 Family spillovers
S9 Ease of suffering	–	V1 QALYs gained V8 Severity of disease V11 Equity
S10 Impact on safety and security	–	V6 Fear of contagion and disease
S11 Solidarity and social cohesion	–	V11 Equity
S12 System factors and constraints	–	–

ISPOR International Society for Pharmacoeconomics and Outcomes Research, *QALYs* quality-adjusted life-years, *SAVE-UHC* South African Values and Ethics for Universal Health Coverage

S3 Cost effectiveness has been removed

Note, QALYs gained can refer to the incremental QALYs attributed to an intervention (vs comparator) under consideration and to the loss of QALYs attributed to the disease (vs no disease), hence the overlap with both S2 and S1, respectively

Descriptions of the methods are provided in Appendix 3 of the ESM along with an overview of how some of the identified metrics, valuations and methods capture the SAVE-UHC domains.

5 Discussion

The aim of this research was to identify methods to operationalise broader attributes of social value beyond health in HTA processes. We used the SAVE-UHC ethics framework to illustrate a case where attributes of social value have been set and technical methods need to be identified. The set of attributes relevant to any value framework may differ across settings and cultures, but the approach we took here would generalise to operationalise frameworks generated in other settings. The research identified a wide range of results that were separated into metrics, approaches to valuation and methods.

The focus of the technical methods includes the assumption that health is a core element of value and broader social values are operationalised alongside health. The use of the ISPOR-VF to conduct the first stage of our pragmatic approach to identify methods places a strong emphasis on the use of QALYs to capture health, as the ISPOR-VF explicitly recognises the strength of the QALY as a starting point for value discussions [22, 23]. Hence, many of the technical methods identified in this study focus on a composite measure of health such as QALYs being the single element of value. The health metric need not be QALYs and could be a similar measure of health, for example disability-adjusted life-years [29], but a generic measure of health is required to facilitate comparisons across disease areas and consider the opportunity cost that accounts for the whole healthcare system and not just a specific disease area. Our study focusses on cost-per-QALY frameworks and hence a CEA was the predominant method of economic evaluation to reflect HTA processes [16]. However, estimating the net monetary value of all costs and outcomes in monetary terms would represent a single measurement of value and facilitate the incorporation of non-health aspects of value. A cost-benefit analysis is a method of economic evaluation that would incorporate a broad range of benefits (such as the metrics identified in our study) and value them in monetary units. Yet, a cost-benefit analysis has seen limited HTA use in practice [16], likely attributed to ethical concerns regarding the monetary valuation of health and challenges regarding the identification of the opportunity costs.

A challenge for HTA agencies when conducting exercises to define the technical methods is the potential for double counting. For example, our results identify the use of a suitable fear indicator, which could be valued by eliciting the willingness to pay to reduce fear to capture *S10 Impact on safety & security*. If this is to be added to the value of a

Table 3 Description of the approaches to measuring and valuing the SAVE-UHC domains with proposed methods of economic evaluation

SAVE-UHC domains	Metric	Valuation	Method
S1 Burden of the health condition	Health: Preference-based instrument, e.g. EQ-5D Composite measure of health, e.g. QALYs Mortality indicator Disease severity indicator Preventable cases Rarity/unmet need indicator Population distribution of health Family/carer health spillovers Financial risk: OOP payments Individual productivity Utilisation: Hospitalisations	Health: Monetary valuation: Stated preference (WTP, DCE, TTO) Revealed preference Composite measure of health, e.g. QALYs Composite measure weights/modifiers (e.g. QALY weights) to weight health outcomes (e.g. by severity or SES) Consumption value of health Marginal productivity of health Financial risk: Monetary valuation Wages	CEA (including NHB, NMB) GRACE ECEA DCEA Equity weighting Social welfare function
S2 Health benefits and harms	Health: Preference-based instrument, e.g. EQ-5D Composite measure of health, e.g. QALYs Mortality indicator Population distribution of health Family/carer health spillovers Utilisation: Hospitalisations Well-being: Extended measures of well-being, e.g. PALY	Health: Monetary valuation: Stated preference (WTP, DCE, TTO) Revealed preference Composite measure of health, e.g. QALYs Composite measure weights/modifiers (e.g. QALY weights) to weight health outcomes (e.g. by severity or SES) Consumption value of health Marginal productivity of health Well-being: Monetary valuation: Stated preference (WTP, DCE, TTO)	CEA (including NHB, NMB)
S4 Budget impact	Costs: Healthcare costs	Costs: Monetary valuation	CEA (including NHB, NMB)
S5 Equity	Health: Population distribution of health Rarity/unmet need indicator Utilisation: Coverage Financial risk: OOP payments	Health: Composite measure weights/modifiers (e.g. QALY weights) to weight health outcomes (e.g. by severity or SES) Inequality aversion parameter Utilisation: % coverage at a given budget Financial risk: Monetary valuation	ECEA DCEA Equity weighting Social welfare function
S6 Respect and dignity	Health: Preference-based instrument, e.g. EQ-5D Bolt-on dimensions to preference-based instruments, e.g. satisfaction to EQ-5D Utilisation: Barriers to treatment indicator	Health: Composite measure of health, e.g. QALYs Utilisation: WTP to overcome barriers to treatment	–
S7 Personal financial impact	Financial risk: OOP payments Productivity Financial risk protection through insurance	Financial risk: Monetary valuation Wages WTP for financial risk protection/insurance	CEA (NMB) GRACE
S8 Impact on personal relationships	Health: Preference-based instrument, e.g. EQ-5D Composite measure of health, e.g. QALYs Family health/carer spillovers Financial risk: Family spillover measures of productivity Well-being: Social function measure (e.g. using a survey)	Health: Composite measure of health, e.g. QALYs Financial risk: Lost wages Well-being: WTP for improvement in social function/ability	CEA

Table 3 (continued)

SAVE-UHC domains	Metric	Valuation	Method
S9 Ease of suffering	Health: Preference-based instrument, e.g. EQ-5D Composite measure of health, e.g. QALYs Mortality Disease severity indicator/modifier Domain specific health assessments (e.g. HADS, pain scale) Disease-specific measures of health (e.g. Flu-PRO) Rarity/unmet need indicator Population distribution of health Financial risk: OOP payments Individual productivity	Health: Monetary valuation: Stated preference (WTP, DCE, TTO) Revealed preference Composite measure of health, e.g. QALYs Composite measure weights/modifiers (e.g. QALY weights) to weight health outcomes (e.g. by severity or SES) Consumption value of health Marginal productivity of health Financial risk: Monetary valuation Wages	CEA (including NHB, NMB) GRACE ECEA DCEA Equity weighting Social welfare function
S10 Impact on safety and security	Health: Preference-based instrument, e.g. EQ-5D Disease transmission indicator Well-being: Suitable fear indicator (e.g. using a survey)	Health: Monetary valuation: Stated preference (WTP, DCE, TTO) Revealed preference Composite measure of health, e.g. QALYs Well-being: WTP to eliminate fear	CEA
S11 Solidarity and social cohesion	Health: Preference-based instrument, e.g. EQ-5D Rarity/unmet need indicator Population distribution of health Well-being: Social cohesion indicator (e.g. using a survey) Financial risk: OOP payments	Health: Monetary valuation: Stated preference (WTP, DCE, TTO) Revealed preference Composite measure of health, e.g. QALYs Composite measure weights/modifiers (e.g. QALY weights) to weight health outcomes (e.g. by severity or SES) Financial risk: Monetary valuation Wages	ECEA DCEA Equity weighting Social welfare function
S12 System factors and constraints	Performance indicators: Waiting times Constraints: Capacity constraint measure	–	–

CEA cost effectiveness analysis, *DALY* disability-adjusted life-year, *DCE* discrete choice experiment, *DCEA* distributional cost-effectiveness analysis, *ECEA* extended cost-effectiveness analysis, *EQ-5D* EuroQol Five Dimension, *EW* equity weighting, *FLU-PRO* influenza patient-reported outcome, *GRACE* generalised risk-adjusted cost effectiveness, *HADS* Hospital Anxiety and Depression Scale, *NHB* net health benefit, *NMB* net monetary benefit, *OOP* out-of-pocket, *PALY* productivity-adjusted life-year, *QALY* quality-adjusted life year, *SAVE-UHC* South African Values and Ethics for Universal Health Coverage, *SES* socioeconomic status, *SWF* social welfare function, *TTO* time trade-off, *WTP* willingness to pay

S3 Cost effectiveness has been removed

QALY for example using an augmented CEA [30], then care must be taken when considering the way QALYs were measured and the extent to which fear may already be measured and valued. If EQ-5D [31] is used, then fear may be partially captured in the 'anxiety and depression' domain. Summing both values risks double counting the benefits of the intervention and biasing the results of the economic evaluation in favour of the intervention.

The challenge of aggregation is not limited to the potential for double counting. It also introduces the need for value judgements regarding aggregation. The existence of the SAVE-UHC domains helps negate value judgements about what to systematically include in the cost-per-outcome framework but does not dictate how the measured outcomes should be combined and traded off. All economic evaluation methods include implicit value judgements, but making these explicit is important for HTA processes as it is likely to have many implications not least the choice of the appropriate opportunity cost. Methods have been suggested for the aggregation of multiple value elements while making explicit the value judgements [32], including methods identified in the results such as a distributional cost-effectiveness analysis [25] and an extended cost-effectiveness analysis [26]. It may not be possible to measure, value and incorporate all SAVE-UHC domains via a single method and the evidence base may include important qualitative evidence.

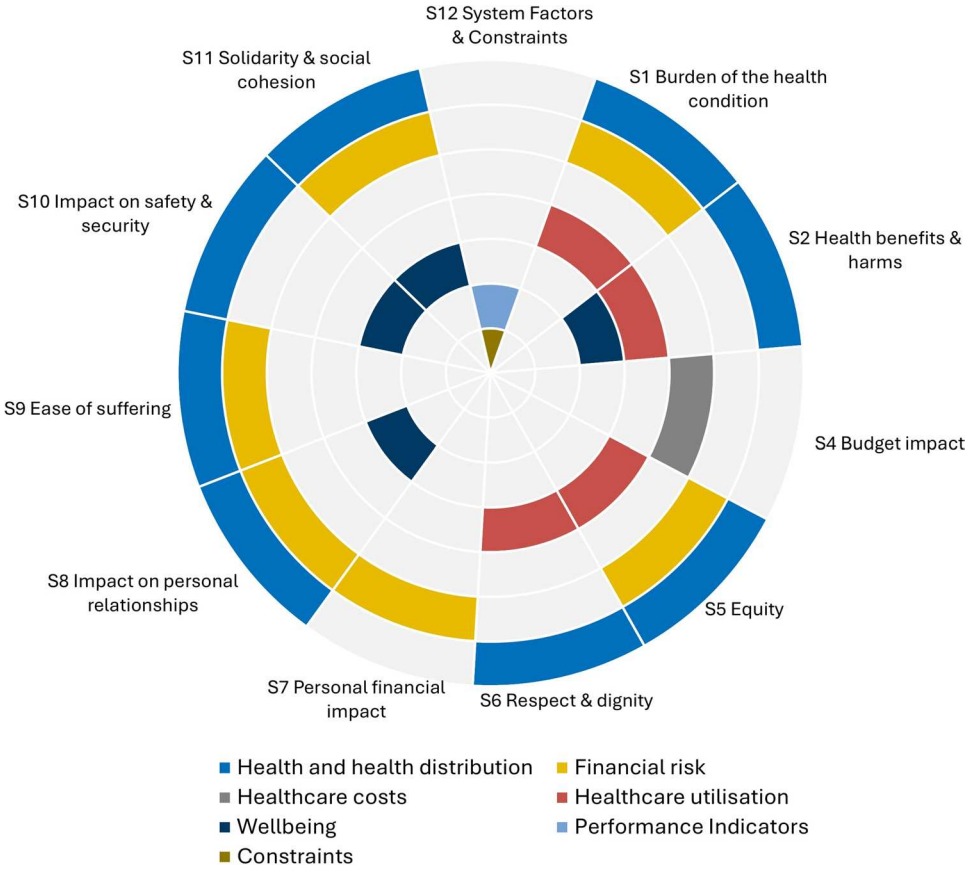

Fig. 1 Categories of metrics used to measure the South African Values and Ethics for Universal Health Coverage (SAVE-UHC) domains.

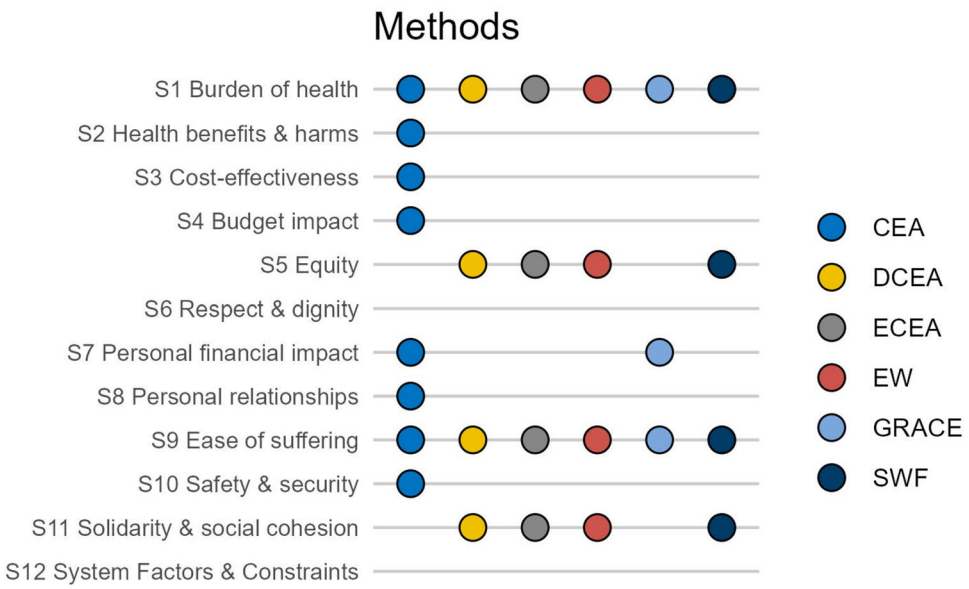

Fig. 2 Methods identified in the mapping and survey. Note, a cost-effectiveness analysis (CEA) includes an augmented CEA. *DCEA* distributional cost-effectiveness analysis, *ECEA* extended cost-effectiveness analysis, *EW* equity weighting, *GRACE* generalised risk-adjusted cost-effectiveness, *SWF* social welfare function

Thus, the role of deliberative processes within an HTA remains an important component going forward to account for wider values in HTA decisions [33].

One method described in the literature as allowing the aggregation of various dimensions is multi-criteria decision analysis [32] yet we omitted this from our results. We did not consider it to meet the criteria of a method of economic evaluation as its use in practice violates key requirements of an economic evaluation [34]. It can be considered a means of bringing together different domains rather than an approach to capturing the value of individual domains and

therefore represents a method that could facilitate deliberative processes.

5.1 Limitations

The identification of methods through mapping rather than a systematic review of the literature represents a potential limitation. First, the mapping results may be different depending on the views of the authors conducting the mapping. In this study, we addressed this through three authors conducting the mapping and reaching a consensus with mediation through two additional researchers. Second, our approach may not identify all of the ways to measure and value health interventions but the reliance on a widely cited value assessment framework in the ISPOR-VF [22] was considered to provide a range of methods while acknowledging core health components. We acknowledged this limitation by supplementing the mapping with an expert survey. The use of multiple approaches to identifying technical methods reflects the way in which HTA processes are operationalised including reviews of research methods, research exercises involving stakeholders and expert workshops [35]. The overlap of the ISPOR-VF and the SAVE-UHC values was evident as all but two domains were considered to have a good or partial match to ISPOR-VF elements. If those setting the technical methods within a HTA agency consider the remit of ISPOR to align poorly with their own social values, then similar methods to our study could be conducted by mapping to a different value assessment framework or multiple value assessment frameworks. A recent systematic review identified 57 value assessment frameworks that could inform a similar approach [21].

The mapping method relied on disagreements to be resolved through consensus, albeit they seldomly occurred. An example is the inclusion of V11 Equity as a match for S7 Personal financial impact. One author considered it to be a partial match given the presence of equity-informative methods such as an extended cost-effectiveness analysis [26]. However, it was removed from the final mapping results through consensus as S5 Equity is a separate domain and the equity effect of personal financial impacts would be captured in S5 Equity. The impact of disagreements is likely to be minimal as the nature of the research was to be descriptive through the generation of a list of potential methods rather than prescriptive. In the example provided, an extended cost-effectiveness analysis was still included in the results.

Responses to the survey were anonymous, and so we cannot describe or control for the attitudes of the survey respondents regarding novel elements of value. To mediate the impact of personal views on appropriate methods, the survey question asked respondents to identify methods they are aware of to capture the domains and not which methods should be used. Further, the survey used to elicit potential technical approaches from experts used a case study to aid the research exercise. The case study was of a hypothetical vaccination programme in South Africa. Although many of the technical methods identified offer broad approaches to measuring, valuing and incorporation into an economic evaluation, it is feasible that the results of the survey may differ should an alternative case study be used.

6 Conclusions

This pragmatic mapping of the literature and expert survey highlight an approach to identifying potential methods and describes those methods for the purpose of capturing social values broader than health in HTA decisions. As South Africa introduces HTA processes, the identified methods may aid HTA to better capture the value of interventions consistent with societal values. Countries contemplating introducing HTA processes may adopt a similar approach to defining the technical methods when value judgements have been elicited while acknowledging the role for a deliberative process in an HTA.

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Declarations

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Conflicts of interest/competing interests Peter Murphy, Celeste Holden, Yirui Qian, Simon Walker, Evelyn Thsehla and Susan Griffin have no conflicts of interest that are directly relevant to the content of this article.

Ethics approval The research was granted ethics approval by the University of York Health Sciences Research Governance Committee (HSRGC/2024/626/C) and the University of Witwatersrand Human Research Ethics Committee (Non-Medical) [H24/06/14].

Consent to participate Not applicable.

Consent for publication Not applicable.

Availability of data and material All data extracted and used are described in the article.

Code availability Not applicable.

Authors' contributions SG and SW conceptualised the study. PM, CH and YQ conducted the pragmatic mapping with supervision from SG, SW and ET. All authors contributed to the design of the survey and workshop. PM prepared and analysed the results. The first draft of the manuscript was written by PM and CH and all authors commented on the manuscript. All authors read and approved the final manuscript.

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