Perspective in Economic Evaluations of Healthcare Interventions in Low- and Middle-Income Countries: One Size Does Not Fit All

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Abstract

As developing nations are increasingly adopting economic evaluation as a means of informing their own investment decisions, new questions emerge. Is adopting a broader perspective to include, say, the non-health-related benefits of healthcare interventions, a wise strategy? Is it what LMICs governments want? Would it attract more internal and external funding to health? Is breaking down the funding silos—disease by disease, sector by sector—possible or even desirable? Does the choice of perspective in economic analyses matter for countries in pursuit of Universal Health Coverage (UHC)?

Our answer is that it all depends. Specifically, it depends on the question economic analysis or health technology assessment (HTA) is being invited to address, on the health aspirations of the country in question, on feasibility in terms of the information and analytical capacity available in a country, and on the local cultural, historical, and political landscape.

The right answer to the question "which perspective?" is the one tailored to these local specifics. We conclude that there is no one-size-fits-all and that the one who pays must set or have a major say in setting the perspective.

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1. The Second US Panel on Cost-Effectiveness in Health and Medicine is out!

Principled advice on the perspective to be adopted in economic analysis (EE) can be traced back at least as far as 1980, with the publication, at the initiative of Senate Committee on Labor and Human Resources and commissioned by the then Office of Technology Assessment (OTA), of The Implications of Cost-Effectiveness Analysis of Medical Technology (OTA 1980). Amongst their 10 "basic principles" of analysis were those in the box below.

- All foreseeable benefits/effects (positive and negative outcomes) should be identified and, when possible, should be measured...

- All expected costs should be identified and when possible, should be measured and valued in dollars
(OTA 1980, p.6).

This what would today be termed a societal perspective.

What became known as the first US panel on cost-effectiveness in health and medicine also recommended a societal perspective, one that offered decision makers as wide as possible an understanding of the costs and consequences of alternative actions including any that fell beyond the boundaries of the healthcare system (Gold 1996). Such a wide perspective, the argument often goes, would allow decision makers to assess the impact of a healthcare intervention on curbing crime or boosting productivity or on the welfare of family members or informal carers. Only in this way would true consistency between decisions be achieved, the full distributional implications of alternative investment options identified, and healthcare interventions valued appropriately (Jönsson 2009). A narrower perspective, by contrast, would likely lead to underinvestment. This concern drives disease advocates and the healthcare products industry in developed economies to lobby for a broader perspective than that of the healthcare sector, when decisions are being made about the services covered by public health insurance schemes.

Two years ago, the Panel met again, having a refreshed membership, with the objective of updating its previous advice. In their new book, they continue to recommend a societal perspective, this time coupled with a narrower healthcare sector perspective, better aligned with a single public payer (Neumann et al. 2016). To help decision makers understand better the potential case for the societal perspective, the Panel now also recommended an "impact inventory table" to identify non-health effects of interventions in sectors such as education, criminal justice, the environment, and effects on general productivity. In an exposition of the issues targeting mostly high-income country settings and specifically the US system, Peter Newman, a leading Panel member, describes an unresolved inconsistency. Those in the US who advocate a broad societal perspective, so that the non-health-related benefits of new pharmaceuticals undergoing economic evaluation are not undervalued, also strongly object to any attempt to unify the fragmented public and private US payer landscape which currently denies the possibility that such a comprehensive assessment can be made (Neumann 2017). The hope that the societal perspective might actually be commonly adopted in the US therefore seems somewhat forlorn. Interestingly, in the British National Health Service—one of the archetypal single public payer systems—the societal approach has been considered by

government and explicitly rejected. By law, the National Institute for Health and Social Care Excellence (NICE) must have a payer/NHS perspective in all of its EEs.

With the passage of the Health Intervention and Technology Assessment WHA Resolution in 2014 (WHO 2014), and in the absence of up to date guidance on how such an approach to EE can be operationalised in LMIC settings given their informational, institutional and technical capacity weaknesses, how national governments and payers deal with EE, is an important and under-researched question, as outlined in a 2017 open letter by Tony Culyer (T. Culyer 2017) and related exposition of the WHO's deficiency in this space, by Glassman (Glassman 2017).

In any event, the approach of the Panel and of many other theorists seems to assume that EEs are conducted only on behalf of the public sector and only in order to serve the public interest. This is wrong. EE can be applied in any context, with any maxim and and using any scope of costs and consequences.

> EE is applicable in many decision contexts, of which the public sector and serving the public interest are but two.

2. There is no right answer: the perspective is always a matter of context

In 2016, a group of economists, health service researchers, policy analysts and funders came together, funded by the Bill and Melinda Gates Foundation (BMGF), to produce a Reference Case for EEs carried out in LMIC settings. They found that fewer than 1 percent of EE studies in LMICs (Santatiwongchai et al. 2015) took a societal perspective. The iDSI Reference Case[1] was the product of this collaborative effort. It adopts a more nuanced and process-focused approach. Rather than defining a specific perspective, it recommends that "…all available evidence relevant to the decision problem" should be included in the analysis. What constitutes "relevant" ought to be determined upfront and in a "transparent and systematic way" in consultation with decision makers.

Underlying all the preceding statements of perspective is the presumption that EE is being conducted on behalf of an agency representing the public interest, typically a ministry of the government or a payer agency working on behalf of the government. While that is a common source of demand for EE, as we have already noted, it is not a restriction on the application of EE that it is only ever to be used in the service of a public agency. At its most general, EE is a method of assisting decision makers (public or private sectors; profit or non-profit) to define the objectives of a possible investment and to explore alternative means of realising those objectives. The objectives are set by the principals (the decision makers) in this agency relationship, not the agents (the analysts). Similarly, the acceptability of quantitative measures of the objectives, and the pros and cons of alternative means of delivering them are ultimately for the principals to decide. It follows that the perspective will also be that of the principal, the role of the analyst being to explore with the principals the consequences of possible perspectives.

[1] Further info: http://www.idsihealth.org/resource-items/idsi-reference-case-for-economic-evaluation/

Thus, if the EE is being commissioned by, say, a manufacturers' association, in order to facilitate a judgment of who gains and who loses from a proposed workplace health and safety intervention, with a view to negotiating compensating deals with those affected (management and workers), the scope (i.e. perspective) of the study will be designed to reflect the concerns of each of the two broadly defined affected parties. The notion of a societal (in the sense of all-encompassing) perspective would, in such a case, be completely irrelevant. Or to take another example, an EE whose focus was to be on the outcomes of an intervention only for a specific sub-group of the population (say, rural or urban) does not suggest the sense in focusing on society outcomes as a whole. In other words, perspective is a matter of context. The perspective will be implied by the question to which the EE is intended to provide an answer.

Perspective is a matter of context. In particular, the perspective will be implied by the question to which the EE is intended to provide an answer.

The societal perspective is most likely to be invoked in cases where the public interest is claimed as the context. However, this raises the fundamental questions: what *is* the public interest and *who* decides what it is? The first of these has evidently been the subject of academic and philosophical investigation for millennia and need not detain us here, because EE can be conducted in such a fashion as to be consistent with virtually any definition of the public interest. Rather than struggle with the question "what is the public interest?" we therefore propose that this is not a question for EE analysts to answer. On the contrary, it is an essential question for them to *ask* and for decision makers to have a clear view on it. The analyst's job is to help decision makers make clear what is otherwise often only implicit or fudged. As to the second question, we can assert confidently that it is not for EE experts to determine the public interest in any specific context. That is for the principals, who are likely, when claims of the public interest are made, to be decision makers accountable in specified ways to "the public." The method of accountability may be variable. In some instances, it will be determined by an ultimate authority, like a Parliament or a dominant Party. In many cases, the authority to decide may be delegated. In all cases, however, the role of EE analysts, is to advise. Only decision makers decide.

Rather than struggle with the question "what is the public interest?," we propose that this is not a question for EE analysts to answer. On the contrary, it is an essential question for them to *ask*!

3. Perspective of economic analysis in low and middle-income countries: start with identifying the end user(s)!

So, what is the right answer? What should the perspective be in LMICs? And if it all depends on the end client of the analysis, who is this client in developing country settings, especially in transitioning economies, where there are a multitude of payers including foreign development partners, countries' own national and state governments, public insurance funds, private insurance funds (though usually small and fragmented), as well as individuals and their families, especially the poorest, who pay out of pocket? One could expect that commissioners of EEs in LMICs are either the government in the

form of ministries of health or finance at national or regional/provincial levels, or governmental agencies with specific accountability for designing and managing public health insurance schemes. However, the largest single funder of EEs on TB, malaria, HIV and vaccines in LMICs was the BMGF, with one in every four studies between 2000 and 2013 funded by the Foundation (Santatiwongchai et al. 2015). The same analysis (unpublished data – communication with authors) showed that only 5 percent of EEs on HIV/AIDS were commissioned by LMICs themselves, and the figure was 7 percent and 13 percent for malaria and TB, respectively.

Whose perspective is most important in the case of national funds or international funders with a disease or technology specific remit? These are often major players such as the Global Fund for malaria, TB and HIV; PEPFAR for HIV/AIDS; GAVI for vaccines; the newly launched Global Financing Facility[2] for Maternal and Child Health; or BMGF funds ring-fenced to certain causes, notably to polio eradication.[3] Is the answer the same when so-called global public goods (Summers and Yamey 2013) like outbreak surveillance, tackling AMR, or R&D for neglected conditions where the market is too small to incentivise private investment?

Getting the perspective right is all the more important as donor and recipient countries, development partners and philanthropists are signalling an interest in ensuring value for money in the allocation and use of foreign aid or their own domestic spend. The World Health Assembly in its 2014 HITA Resolution (WHO 2014) called on countries to introduce Health Intervention Technology Assessment as a means of rationalising spending in health. The UK's DFID flagged up Value for Money as a key prerequisite for its own investment in the Global Fund in a first of its kind performance agreement in September 2016. (DFID 2016) UNITAID and the Global Fund are working on renewed and refined Value for Money strategies with related efficiency performance indicators. The Global Fund's strategy builds on its Market Shaping Strategy (GFATM 2015)and calls for more systematic use of CEA and HTA at central and country levels. GiveWell,[4] a non-profit charity dedicated to finding outstanding giving opportunities for individual donors through cost-effectiveness analysis, claims to influence the channelling of hundreds of millions of dollars of charitable giving. Initiatives such as the Copenhagen Consensus[5] advise national governments on how to maximise the return on their investment in alternative policies. Lists of cost-effective interventions keep on getting published, including a recent one with 93 best buys (Horton et al. 2017).

Many studies fail to state the perspective from which they have been conducted. In many cases the desired perspective will differ as between country-level decision makers, private and public donors. In many high-level Value for Money strategies and related discussions, the narrative lacks the discipline of a Reference Case, which invariably specifies a need to define, defend and stick to a stated perspective. Instead, Value for Money statements often bundle together issues of cash-flow transparency and limiting corruption; human rights and advocacy; distributional concerns and spill-overs; forecasting and investing. This confusion makes it impossible to compare interventions

[2] Further info: https://www.globalfinancingfacility.org/

[3] Further info: https://www.gatesfoundation.org/What-We-Do/Global-Development/Polio

[4] Further info: https://www.givewell.org/how-we-work/our-criteria/cost-effectiveness

[5] Further info: http://www.copenhagenconsensus.com/

systematically, to assess their quality, to challenge their assumptions and their findings, or to learn from mistakes and the better practice of others.

What approach ought therefore to be adopted in EEs intended to inform decisions about healthcare interventions in LMIC settings? Should it be the same as in more mature, better defined and consolidated payers in North America or Europe? Would a societal perspective make more sense in the development setting than say in the English NHS or US's United Healthcare?

4. One argument for and three presumptions against a broad societal perspective

The best argument for adopting a societal perspective is that only if the societal approach is adopted will decision makers be confronted with a full information set of the costs and consequences of alternative actions; anything less comprehensive will necessarily be subject to omitted variable bias, probably of unknown sign and size, causing either over- or under-investment in new technologies (as well as in old ones). Other arguments are, however, also often made (e.g. in Jönsson 2009) which are mostly arguments against specific alternative perspectives or claims on behalf of economists' normal practice.

However, there are three underlying presumptions that lead us to reject the case for the societal perspective, which are further elaborated below (T. Culyer 2014).

4.1 Presumption 1: More information is always better

To insist upon the societal perspective is to ignore the information costs of EEs. Conscientiously to search out the most precise estimates of all conceivable costs and consequences of a decision (which is what the societal perspective, literally interpreted, requires) is to presume that the value of the expected improvement in the quality of the decision in question (somehow measured) is always and everywhere greater than the cost of acquiring the additional information that turns a narrow perspective into a societal one. This point, which does not hinge on anyone's preferred measure of decision quality, seems so evident that it scarcely needs further elaboration: what economist could conscientiously so disown the marginal balancing of cost and benefit as applied to the practice of EE itself? In turning a narrow perspective into a societal one, it is preposterous to assume that the value of the expected improvement of a decision is always and everywhere greater than the cost of acquiring the additional information that does the turning. But any compromise on the comprehensiveness of the dataset necessarily makes the analysis, to a greater or lesser extent, less than fully societal. At what point, one might ask, does it cease to be societal? Some specification that is less than societal seems to be the inevitable consequence.

This is all the more relevant in developing country settings where the analytical and informational costs of carrying systematically an all-inclusive analysis from a societal perspective will almost certainly outweigh its benefits. Most LMICs lack basic epidemiological data such as deaths by cause, incidence of NCDs, unit cost and resource use data, any data on preferences or baseline distribution of health outcomes and costs, which makes it hard to adopt a broader perspective (Chalkidou 2017).

4.2 Presumption 2: Analysts' value judgments are better than other people's

The second presumption, by some analysts, including economists, is that they make better social value judgements than other people. This includes judgements about perspective. What is understood to be societal by Western economists may fall well short of local norms and perceptions of people living in LMICs (or indeed, other HICs). Inherent in capturing and quantifying the "societal" is a series of major and usually empirically untested value judgments. Aggregating individual values by simply summing individual willingnesses to pay makes enormous assumptions about patients' abilities to judge as well as giving a high weight to people with the highest willingness to pay, who will also be the wealthiest and have the lowest burden of disease. Decision making by consensus panels also involves great leaps of faith. In a recent prioritisation exercise of public sector interventions for the government of Bangladesh, life was valued at a bit over $8,500 (Lomborg 2017). Is this credible? The methods section of the project[6] describes numerous expert opinion gathering exercises but does not offer enough information to understand the origins of this figure, though one may suspect some form of a WTP experiment or extrapolation from similarly reached figures in other, possibly HIC, settings. There also is no reference to a standardised methods manual for setting out the rules of the EE.

Lack of sensitivity analysis or some form of acknowledgement of uncertainty around any of these value of life estimates is worrying. If there were a willingness to pay $8,500 to postpone a death, it does not follow that this is also the government's willingness to pay. Moreover, the idea that LMICs have the technical competencies, access to appropriate local data sources, the healthcare budget and the political will to conduct such analyses strains belief.

It seems reasonable to suppose that any widening of the scope of an EE has the potential to increase the amount of uncertainty attaching to conclusions. In some cases, confidence might be increased, as when a wider scope enables more complete modelling of important relationships. In other cases, especially when methods are disputed or controversial value judgments are deployed, the uncertainty might increase, so sensitivity analyses become even more important than cases of more limited scope.

In the absence of credible (or any) information on extensions to scope, the potential of gaming increases. Those with a stake in seeing money spent in a specific area will benefit by providing very uncertain, inflated cost or benefit information favouring spending in that area with small chance of being rebutted by counter-evidence. In cases where EE is used to inform reimbursement of products and services, as in the English National Health Service, pharmaceutical manufacturers lobby for a broader societal perspective because they believe that it will improve the value and market outlook of their products. A recent government-led initiative for broadening NICE's perspective failed when stakeholders simply could not agree on a framework due to the complexities and data

[6] Further info: http://www.copenhagenconsensus.com/bangladesh-priorities/bangladesh-priorities-methodology

hungry nature of such a broader economic analysis (Rafferty 2014) (Claxton et al. 2015). That said, there are cases where a broader perspective is warranted.

Narcotics, alcohol, tobacco, contraception have non-healthcare implications (criminal justice, productivity…) that are significant and which may not be excludable. CEA has included these in the past even in cases where a healthcare sector perspective was the norm. One analysis done by NICE did adopts a broader perspective than healthcare (Jackson 2009). To adopt a societal perspective as a general rule, however, increases the risk of gaming as methods are less standardised, data gaps more in number and probably wider, and the broader societal (non-healthcare) benefits of displaced) are hardly ever considered.

A perspective for EE is a statement of the types of costs and consequences, together with their distribution across people and places, that are to be taken into account. For economists or any other analysts to seize the authority to stipulate a perspective is presumptuous. Stipulating perspectives is not a task for which they are equipped by technical training, by their ethical rectitude or by political authority granted through due process. Economists and behavioural scientists are often quite good at *eliciting* the implicit perspectives and values of decision makers and other stakeholders, which is a useful—indeed highly desirable—early step in any EE study, but this is not at all the same as stipulating them. In eliciting them they may also encourage decision makers to reconsider their own presumptions and even to weigh the case for adopting a societal perspective. But the process is not, or ought not to be, one of persuading decision makers to accept the value judgements that happen to be those preferred by the economist or epidemiologist (or, indeed any other analyst) unless they have (very unusually) been granted that authority through a due process.

In the case of economists, a specific philosophical view is often the foundation of their advocacy of the societal perspective: one that is consequentialist, that is based upon preferences, and that is individualistic. In this approach, it is a matter of principle to combine the preferences of all individuals in a society over all the possible consequences of the decision in question in order to make a preference ranking. Merely to state this, is to call it into question as a realistic basis for public decision making in health policy (or, indeed, any other policy). We are not arguing against the careful consideration of consequences and of individuals' preferences, but we think they need careful weighing.

- Are ill-informed preferences to count the same as well-informed ones?
- Are preferences based on biased advertising or self-interested professional advice authoritative?
- Ought idiosyncratic religious prohibitions or compulsions underlie public investment decisions?
- Are selfish preferences to count the same as generous ones?
- Are preferences about processes to count the same as preferences about outcomes?
- Are preferences about very minor matters to be dug out as assiduously as those concerning major matters?
- Is experienced utility to count the same as remembered utility or decision utility?

Preferences may also need supplementing: we may want (or decision makers may want) to be satisfied that other types of consequence, like the greater social integration of

minority communities or displaced populations, which are not normal arguments of economists' social welfare functions, are also given appropriate consideration. The same goes for transformations and changes between states which can themselves be causes of great good or distress aside from the states to which or from which a person is transitioning. The same might be true of changes in the location of care or the pathway through which it is delivered: outcome may remain the same but one is unlikely to be indifferent to manner in which the change is managed and adaptation to it assisted (or not).

Ironically, the societal perspective as classically understood by many (mostly European and North American) economists may thus be rather less comprehensive than may be thought proper even by the same economists who urge adopting the "societal" perspective.

4.3 Presumption 3: Context-free analysis is the way to do it

If economists and other analysts are not an appropriate source for the value judgments underlying EE, what is and who are? Advocates of the societal perspective ignore the political and constitutional context of health policy. Context matters in all applications of EE, whether LMIC or HIC but, in the case of the LMICs, three aspects of context are particularly important: the international political consensus, the common presence of disease "silos" as a focus of international donors, and sensitivity to the imposition of external value judgments fuelling perceptions that a country's autonomy is being usurped by unaccountable outsiders.

4.3.1 The international consensus on UHC

The international impetus for Universal Health Coverage (UHC) proceeds apace. Although he has held his role for less than three months, the new Director General of the WHO has made it clear that the WHO will be pushing hard for universal health coverage (Adhanom Ghebreyesus 2017). UHC is defined by WHO as "ensuring that all people can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship (WHO 2018). WHO also urges the use of EE (cost-effectiveness analysis or 'health technology and intervention analysis') as an instrument for prioritising interventions to be covered in a public benefits package and the rolling out of social insurance to the population. Better health, fair distribution and financial protection are key elements of UHC. It follows that there is a presumption that member countries subscribe—at least in broad terms—to these public social value judgments and an aspiration for UHC becomes a part of the universal, context-free values, when applying EE, especially in LMICs. It remains open, however, as to whether the UHC commitment commits its adherents to a societal perspective. In one basic sense it does—by reference to "all people." But how soon, in what out-rolling sequence, with what budgets, over what services, in consideration of what social and cultural constraints, in the light of what costs and what positive and negative effects on health and other relevant objects of policy—all these are matters for local determination in specific local contexts.

The political aspiration for UHC embodies a global set of social value judgments largely set by WHO regardless of a member country's identity. They are context-free.

4.3.2 Silos

The societal perspective is antagonistic to single disease or single sector prioritisation—what analysts commonly call disease silos. The risk is that there might be gross over-investment in some favoured silos whereas greater impact on population health could be achieved by spreading investments more widely (e.g. through investing in education or in job creation)—technically so as to bring the incremental cost-effectiveness ratio to equality across sectors. But this is to ignore context: do we really want to bring down the public sector silos? Given the fragility of much healthcare spending in most LMICs and their heavy dependence on out-of-pocket payments despite global advocacy to mobilise and commit more local resources to health, the silos may be a relatively sturdy framework of sustained stability that protects the most vulnerable. Consider South Saharan Africa (SSA). Healthcare is hardly a priority for many SSA country governments, with 19 of 45 countries actually having reduced their percent of spending on health over 2000-2014 according to a WHO analysis (Kaplan and Mathers 2016). Out of pocket spending still makes up 60-70 percent of spending in India and up to 50 percent in China, and in the poorest countries, over 75 percent of pharmaceutical expenditure was out of pocket in 2006 (WHO 2016).

4.3.3 National integrity

In most LMICs there is a well-developed antipathy to external interference in prioritisation and management processes, at best tolerated only when it is the price of substantial and apparently beneficial aid. This resentment is often targeted at foreign governments and international donor agencies. It seems extraordinary that economists should further interfere by prescribing methods of EE that offend country-specific value systems, for example, through advocacy of individualistic utilitarian values. In virtually all jurisdictions, and for reasons well-rehearsed by health economists over many years, arrangements have been adopted to combat the anti-social consequences of unregulated healthcare finance and provision: manifest inequity of financial burdens falling disproportionately on those least able to bear them (the "gradient"), externalities, publicness, imperfect agency, supplier-induced demand, monopoly, transaction costs of insurance, arbitrary management of moral hazard and adverse selection. In most jurisdictions, one consequence of these "market imperfections" is the creation of ministries of health with ministers appointed by a due process and accountable, at least in democracies, to a parliament or generally elected assembly of society's representatives. Governments characteristically set budgets across broad categories of economic activity (health, education, the environment, etc.) and also set the rules determining how those budgets are to be spent, the consequences to be taken into account in allocating expenditures, and the processes of accountability for decisions that have been taken. One conspicuous consequence of these processes is that decision makers in such ministries nearly always adopt a narrow perspective like that of a ministry concerned only with its own costs and only with such health benefits as flow from its own resources and even persist in it despite the "arguments" of economists.

More powerful than the influence of economists in LMICs is that of donors: philanthropic and rich country governments directly or through multilateral development banks, the Global Fund, GAVI, PEPFAR/USAID, the Bill and Melinda Gates Foundation, among others. Many are advocates for specific diseases: a specific and common form of narrowness of perspective that can compete with, complement, or crowd out domestic funding sources for those diseases and generally distort local priorities. Additionally, in an era of countries transitioning away from aid dependence, mandatory co-financing requirements imposed by donors can further distort domestic funding decisions. The extent of this influence could distract from opportunities that might otherwise arise for use of EEs.

Although many countries rely on aid to keep their healthcare systems running, even the poorest and most fragile states on average depend on less than 25 percent of their total healthcare spending on external sources (Soucat 2017). That said, for some countries such as Malawi, Ethiopia or the DRC the percentage is much greater and for many more the percentage of spending on commodities (pharmaceuticals, vaccines, diagnostics) especially for managing TB, HIV and malaria (as opposed to salaries or infrastructure often finances locally) is also much greater. In those cases, the perspectives of funders tend to be even narrower (disease and technology specific) than those of Ministries of Health though accountability lines towards local population are less clear.

A perspective is always context-specific.

4.4 Remember Keynes

So, who, apart from a few economists, would allow economists to assert that the only right perspective is societal, let alone accord it any degree of credibility? At the end of the day, what's wrong with being pragmatic by risking—but thoughtfully!—some degree of omitted variable bias? And what's wrong with taking one's moral authority from a democratic process, as NICE does for example, or the members of WHO do, rather than a priori from the somewhat questionable quasi-utilitarian welfarism upon which much of cost-benefit analysis still rests? What's wrong with a dash of economic humility? Remember Keynes:

"If economists could manage to get themselves thought of as humble, competent people, on a level with dentists, that would be splendid!" (Keynes 1931, pg. 373)

5. Conflict over perspective

There is evident scope for conflict over perspective which may arise for a number of reasons, of which the more common are likely to be (a) value judgments not shared, (b) context not agreed and (c) interests not shared. Seeking a shared set of values on the part of the principal shareholders is a first task for analyst when scoping an EE. Sometimes it may be possible to reach agreement at a more general level than that over which there is disagreement. For example, if there is disagreement about the inclusion of costs falling on the education sector there may be agreement to include any costs falling on non-healthcare sector when they are "significant" or likely to switch a decision. A related

solution might be to adopt a perspective provisionally and conduct appropriate sensitivity tests for the impact of the alternative perspective. If they are unsuccessful in getting agreement the only courses available seem to be either to abandon the project or to conduct two projects in parallel.

Disagreements over context might arise when there is conflict over whether a stipulation in a Reference Case is to cover all cases (context-free) or specific cases (context-specific). For example, the iDSI Reference Case requires (context-freely) a specific discount rate (3 percent). There may be many reasons in various jurisdictions for wanting a different rate or, indeed, different rates for costs and benefits. This amounts to a question of "ownership." If a funder (of the analysis or the intervention to be analysed) sets a stipulation that is unacceptable to a recipient and cannot agree to allow exceptions, then either the recipient goes without or the funder goes away. Such cases are most likely to arise if the part of the perspective statement over which there is disagreement has been mis-specified as context-free or context-specific. A solution may therefore be to modify the Reference Case (though most EEs do not adhere to standardised methods). The interests of funders and recipients of grants for EE in LMICs may evidently conflict. For example, one may want a short quick burst of activity followed by departure and the other a longer-term commitment; one may be constitutionally committed to treatments or prevention of a specific disease, like AIDS, malaria or TB while the other seeks a broader spectrum across the diseases constituting the bulk of the burden of disease. Differences of this sort, some which may be fundamental—even existential—ought to be resolved long before the design of any EE is begun as they plainly impact hugely on both the context-free and the context-specific elements of any Reference Case.

A Reference Case contains both context-free stipulations, like "conduct sensitivity analyses" and context-specific ones (like use a 3 percent discount rate for costs and benefits)."

6. Who decides, who pays?

It makes a difference whether the conclusions of an EE are merely advisory or imply action. Taking a societal perspective can be politically problematic in the latter case. NICE's guidance to its committees on cost benefit analysis reveals its anxiety about budgetary constraints when a wider perspective is adopted, precisely because the decisions NICE makes are acted upon and have a real impact on budgets.

> "Recommendations for interventions informed by cost–benefit analysis: When considering cost–benefit analysis, the Committee should be aware that an aggregate of individual 'willingness to pay' (WTP) is likely to be more than public‑sector WTP, sometimes by quite a margin. If a conversion factor has been used to estimate public sector WTP from an aggregate of individual WTP, the Committee should take this into account. In the absence of a conversion factor, the Committee should consider the possible discrepancy in WTP when making recommendations that rely on a cost–benefit analysis.

> The Committee should also attempt to determine whether any adjustment should be made to convert 'ability-to-pay' estimates into those that prioritise on the basis of need and the ability of an intervention to meet that need."

It should come as no surprise therefore that most national level Reference Cases recommend a healthcare system perspective and that, despite calls by global organisations, taskforces and networks for a societal perspective, EEs commissioned by governments in both richer (e.g. UK) and poorer (e.g. Thailand) countries have predominantly adopted a payer (or healthcare sector) as opposed to societal perspective. In fact, only one third of national guidelines on EE from across HICs and LMICs recommend a societal perspective as the main or only perspective to be used in the analyses and almost half of the HIC guidelines specify a payer perspective.

Perspectives recommended by national methodological guidelines

Perspectives	High-income country guidelines	Low- and middle-income country guidelines	Total
Payer	14 (47%)	4 (36%)	18 (44%)
Healthcare sector	6 (20%)	3 (27%)	9 (22%)
Societal	10 (33%)	4 (36%)	14 (34%)
Total	30 (73%)	11 (27%)	41 (100%)

The latter is important as HICs are much more likely to use EE to inform reimbursement decisions. (A. Culyer et al. 2018) Perhaps reflecting this decision-maker preference, the most recent edition of the US Panel Reference Case now recommends both a societal and a healthcare payer:

> "As the Second Panel recognized, a societal perspective is useful because it reflects the broad public interest. However, the Second Panel also acknowledged that no particular decision maker or budget holder has such a perspective. Thus, the Panel recommended that CEAs report two reference case analyses, one based on a health care sector perspective (which more closely resembles the purview of health payers) and one on a societal perspective." (Neumann 2017)

As countries transition towards aid independence, negotiating directly with manufacturers, or are increasingly expected to co-finance donor commitments and WHO norms and targets, the issue of perspective becomes all the more important. A societal perspective can make things look more cost-effective and therefore "better buys." Without equally valuing both losses and gains from a certain investment decision (which is informationally hard to do even in HICs with well-developed systems (Claxton et al. 2015), and as only a minority of interventions (usually commodities) end up being subject to EE, a societal perspective is likely to have an inflationary impact on already tight budgets.

The budget holder must be the one who sets or has a major say in setting the perspective of the EE meant to inform how the budget is spent.

7. We conclude

1. The perspective of an EE is a statement of the point(s) of view from which the analysis is conducted. More than one perspective may be adopted when the purpose of a study is to bring out the significance of different points of view.

2. A Reference Case will stipulate principles to which any specific study must adhere, and adhere demonstrably (context-free principles) and principles over which clients and analysts have discretion but, again, to which they must demonstrably adhere (context-specific).

3. A perspective should always be fit for purpose and not be imposed arbitrarily.

4. A societal perspective includes all foreseeable effects of an intervention (positive and negative outcomes) and all expected costs, which should be identified and, when possible, valued.

5. A societal perspective, as commonly applied, does not in fact include all possible costs, harms or benefits, for example, by omitting costs and harms from transitions.

6. A societal perspective is not appropriate when the purpose of an EE is to assess the impact of an intervention on sub-sets of the population and subsets of costs and consequences.

7. Choice of a perspective is not primarily a matter for analysts but for the intended end-user of the EE and for the funder (of the study and of the subsequent use of the intervention) who are accountable for the use of their resources.

8. For most LMICs the set of social values underlying sustainable development goals and the WHO's support for UHC are context-free and therefore universally to be adhered to.

9. A perspective may have to be limited by practical political and infrastructural constraints, and data availability, that vary from one jurisdiction to another.

10. Issue of conflicting interests, whatever their source, should be addressed explicitly and preferably early in the planning of an EE.

11. A Reference Case developed by policy makers locally, building on efforts such as NICE's, the US Panel, HITAP's, the WHO and most recently iDSI's, may be the best first step in exposing and resolving any such conflicts or misunderstandings. Such a Reference Case approach, specific to their context and scope of operation, should also guide the policies of global development partners such as the Global Fund and UNITAID and underpin their VfM strategies.

12. The choice of perspective is important not only when selecting new interventions through Health Technology Assessment but also in considering the displacement of inefficient services in the existing system.

13. International norm-setting agencies like the WHO and funding conduits like GF and UNITAID should set explicit standards, like a reference case, which the EEs they are concerned with ought to follow.

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