LETTER TO THE EDITOR

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Incremental Cost-effectiveness Thresholds for Policy Decision-makers: Is ICER the Most Appropriate Measure to Use?

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Dear Editor,

In his recent publication, Al-Zakwani highlighted the paramount importance for decision-makers to make more efficient use of their limited resources.[1] He presented different approaches and mechanisms to identify the threshold for taking a decision after calculating the incremental cost-effectiveness ratio (ICER).[1] While we support his motivation, we would like to highlight here that ICER is no longer the most favorable option for comparing different interventions. Although it is the most commonly reported summary measure for economic evaluation, alternative measures based on the net benefit (NB) or net health benefits concepts are equally important and currently preferable.[2] The following paragraphs clarify how NB can overcome some of the limitations of ICER.

Firstly, ICER is not easily employed for comparisons between more than two alternatives. It is a pairwise measure, and calculating multiple ICERs is necessary to compare each pair. Additional calculations are required to address strategies ruled out through dominance and extended dominance.[3] On the other hand, NB is not pairwise, and its value for each strategy does not depend on the other strategies. Therefore, it does not require checking for dominance or extended dominance.

Secondly, the interpretation of ICER might be unintuitive when comparing more than two strategies, as different decision rules need to be applied based on the direction (positive vs. negative) and the quadrant of the incremental cost-effectiveness plane.[4] Relative to ICER, NB is straightforward; the most cost-effective strategy is the one with the highest NB, regardless of the number of strategies being compared.

Thirdly, ICER cannot be used to rank strategies or to quantify the extent by which a strategy is more or less cost-effective compared to the others. It solely identifies the most cost-effective strategy, as the second most cost-effective strategy may have been ruled out through dominance or extended dominance.[4,5] However, NB can facilitate the ranking of strategies from the most cost-effective to the least and can provide a measure of relative cost-effectiveness between strategies. For instance, if strategy 'A' has an NB of four quality-adjusted life-years (QALY), strategy 'B' of six QALY, and strategy 'C' of two QALY, then strategy 'B' is the most cost-effective while 'C' is the least cost-effective. The NB value also implies that adopting strategy 'B' would improve population health by an additional two QALY compared to strategy 'A'. Additionally, ICER is not well suited for sensitivity or scenario analysis, probabilistic analysis, or considering equity concerns.[4,5]

Finally, we reemphasize Al-Zakwani's point regarding the need to calculate the threshold,[1] because NB cannot be calculated without it, and ICER cannot be interpreted without it. Hence, both narratives will remain incomplete in informing policymakers' decisions if the threshold remains unknown.

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