INDIVIDUAL DECISIONS AND SOCIAL VALUE: A CONCEPTUAL FRAMEWORK TO EXPLORE ALTERNATIVE DECISION MAKING APPROACHES AND THE VALUE OF HETEROGENEITY (VH) TO ANALYZE INDIVIDUALIZED CARE

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The value of understanding and incorporating heterogeneity in decisions based on cost-effectiveness has been matter of growing interest in healthcare. Recent contributions have been proposed to characterize this value. They include the expected value of individualized care (EVIC) and the static and dynamic value of heterogeneity (VOH). While the EVIC represents the expected societal cost of ignoring patient-level heterogeneity, the VOH helps to define the optimal specification of a subgroup for cost-effectiveness analysis considering the available information and the related parameter uncertainty. However, the interpretation of such metrics should consider additional elements of the health system. Social value judgments and the fact that individuals do not necessarily make decisions according to social interests should be taken into account when the healthcare system pursues to implement a centered patient model such as individualized care. This paper develops a conceptual framework to explore the impact of alternative approaches to decision-making on population health and the potential trade-offs between those approaches. The main purpose of the study is to make explicit considerations that could help policy makers in their task of evaluating the implementation of a centered patient model in a healthcare system. Four decision making approaches are contrasted in terms of net health benefits which are estimated for different scenarios and illustrated with a stylized numerical example.

ADVANCING THE METHODS OF COST-EFFECTIVENESS ANALYSIS: WHY IT’S TIME TO MOVE ON FROM ICERS AND THRESHOLDS

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OBJECTIVES: Cost-effectiveness analysis of health technologies typically involves the calculation of incremental cost-effectiveness ratios (ICERs). In some jurisdictions, decision makers compare these ICERs to a threshold to make decisions. An explicit consideration of net health benefits or threshold levels at which a decision is made (central versus devolved) helps to define the optimal specification of a subgroup for cost-effectiveness analysis considering the available information and the related parameter uncertainty. However, the interpretation of such metrics should consider additional elements of the health system. Social value judgments and the fact that individuals do not necessarily make decisions according to social interests should be taken into account when the healthcare system pursues to implement a centered patient model such as individualized care. This paper develops a conceptual framework to explore the impact of alternative approaches to decision-making on population health and the potential trade-offs between those approaches. The main purpose of the study is to make explicit considerations that could help policy makers in their task of evaluating the implementation of a centered patient model in a healthcare system. Four decision making approaches are contrasted in terms of net health benefits which are estimated for different scenarios and illustrated with a stylized numerical example.

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MINIMIZING THE COSTS OF ANALYZING THE VALUE OF HEALTH RESEARCH

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Value-of-information (VOI) analysis can establish the expected benefits from further research, helping policy makers to prioritize low-cost studies. This study 1) identifies approaches that can minimize the costs of VOI with only minimal modeling. Instead of constructing separate models, a maximal modeling VOI uses a single comprehensive model to simultaneously inform multiple clinical questions. To select the best approach to VOI, our algorithm begins with conceptual VOI, followed by the clustering of clinical questions and maximal modeling VOI, and then minimal modeling using comprehensive outcomes.

In applying the algorithm to inform priority-setting for systematic reviews within a U.S.-based agency, we found the algorithm useful and found practical applications for cost-effective lower-cost VOI, where multiple interventions could be contempated, even if all are cost-effective each would require investment; therefore optimization of possible budget across interventions to maximize health-gain would be more useful. We conclude the gradient of the ICER to Price relationship could indicate the usefulness of CEA to decision makers. In situation where the ICER compared with a threshold is highly sensitive or highly insensitive to price, alternative methods could be more useful to help prioritize implementation of new interventions.