Cardiovascular disease burdens and outcomes are associated with social determinants of health in Canada despite universal health coverage. Health technology assessment (HTA) processes evaluate new health interventions through a multidisciplinary lens to inform resource allocation decision making at the health system level. In Canada, HTA is not purely driven by cost-effectiveness, but also considers ethical, legal, social, and patient factors to determine whether technologies should be recommended. Equity considerations are key, balancing distributive and procedural justice and accounting for socioeconomic disparities. This article describes HTA with a focus on Canada and presents a conceptual framework to center equity considerations in HTA.

**HTA in Practice**

HTA refers to the comprehensive and systematic evaluation of the direct and indirect impact of new health technologies within a given context (eg, hospital level) or health system (eg, provincial or federal level). Health technologies refer to the full range of interventions and procedures that may be introduced for public health and health care delivery, from medications and procedures to artificial intelligence and digital health technologies. The in-depth discussion of HTA falls beyond the scope of the present article, but briefly, HTA entails the formulation of an economic policy question, evidence synthesis based on published literature (or primary data and grey literature), stakeholder (including patient) engagement, and development of recommendations for others (typically governments, insurers, or hospital systems) to consider. Economic evaluations, such as cost-effectiveness analyses (CEAs), form a key part of HTA decision making. They compare the incremental costs of a new health technology against the incremental difference in clinical outcome of that technology relative to the current standard of care. However, they do not inherently consider how resources are distributed within a population; in other words, pure economic evaluations do not consider equity issues or differential opportunity costs that may occur within a population.

In practice, HTA is context dependent. In Canada, there is no set cost-effectiveness threshold, unlike in other countries (eg, £20,000-£30,000 per quality-adjusted life-year in the United Kingdom, US$50,000 in the literature); instead, a multitude of criteria, including patient values, ethical, legal, and social issues, are applied. Owing to health care being administered provincially, provincial HTA agencies exist; at the national level, the Canadian Agency for Drugs and Technologies in Health sets national standards for HTA. Other countries with HTA agencies use different approaches; for example, HTA decision making in the United Kingdom is primarily rooted in incremental cost-effectiveness ratios. Nevertheless, the role of HTA is well established. In 2014, the World Health Organisation and Ministries of Health adopted World Health Assembly (WHA) Resolution WHA67.23 on “Health intervention and technology assessment in support of universal health coverage” to recognise the role of HTA in countries’ efforts to work toward universal health coverage. Despite this, many countries, including the United States, do
not have formal governmental HTA processes. This is concerning in light of recommendations made by the American College of Cardiology and American Heart Association to use cardiovascular HTA in clinical guideline development with specific willingness-to-pay thresholds. Indeed, the rapid development of less-invasive procedures, digital health technologies, and artificial intelligence applications reinforces the need for robust and flexible HTA processes, which traditionally require multiple time-intensive steps and technology-specific evidence. It is anticipated that such complexity and need for swift processes will grow as cardiovascular innovations happen exponentially; this should not come at the cost of, but rather in support of, health equity.

**Socioeconomic Disparities in Health Policy and Economics Decisions**

**Distributive justice**

Distributive and procedural justice frameworks are commonly used to approach resource allocation decision making. Distributive justice refers to the fair distribution of goods, benefits, and burdens within a population (ie, outcomes), whereas procedural justice is defined by the fairness of the rules and decision-making process to make resource allocation decisions (ie, process). Traditionally, resource allocation in high-income countries has occurred through utilitarian or egalitarian lenses as dominant streams of thought. Utilitarianism prioritises overall maximisation of satisfaction or outcomes without considering their distribution across society. However, health care is not a traditional good, because the outcome, health, relates to people’s ability to thrive in and contribute to society, making a purely utilitarian approach unfair. Conversely, egalitarianism focuses on equality of opportunities or outcomes but does not necessarily imply fair and equitable distribution of a good (eg, health care services). Through these lenses, socioeconomic disparities were rarely explicitly addressed until recently, when patient representatives and ethicists were increasingly involved in decision making to address real-world implications of, and potential inequity resulting from, the adoption of new technologies and programs.

In Canada, leading distributive justice theories include utilitarianism and virtue ethics. Utilitarianism underlies CEA, seeking to maximise benefits across society (eg, finding the most cost-effective intervention). Virtue ethics reflects traits accepted or preferred by society, such as giving people the opportunity to receive care, and underlies health economic policy and decision making in, for example, Ontario. One reflection of virtue ethics is Sen’s capability approach, which states that actions (eg, social programs) should be evaluated by the extent that they enable people to achieve and promote the functions they value. These theories, however, are not mutually exclusive and may occur together within the same society or HTA process, as observed in Canada’s pluralistic health system.

Distributive justice further requires balancing horizontal and vertical equity. Horizontal equity reflects health service availability, utilisation, and outcomes, and underlies the capability theory by illustrating barriers to care. Vertical equity refers to the different needs of diverse populations, and forms the basis of virtue ethics, which generally seeks to prioritise those worst off in society. When considering the net equity impact of technologies, benefits may dissipate. In reality, opportunity costs from novel technologies are rarely the same for different socioeconomic groups. For example, policies benefitting lower-income households may introduce a greater gross but lesser net health benefit by displacing resources from other technologies or services benefitting lower-income households within fixed health budgets that cannot fund all technologies or services (eg, funding primary health care by reducing funding for social work). This trade-off is generally not considered owing to the emphasis on gross health benefits, requiring more careful evaluation of novel technologies and involvement of patient representatives and ethicists.

**Procedural justice**

In pluralist societies such as Canada, there is commonly reasonable disagreement on the grounds of the principles of distributive justice, as illustrated by the above conflict in resource allocation outcomes between utilitarianism and egalitarianism (and other distributive justice approaches). From a purely ethical perspective, each approach may be appropriate but result in different outcomes. To address value-based conflicts in outcomes, procedural justice considerations should be consulted for contentious resource allocation decisions. Norman Daniel’s Accountability for Reasonableness model may help guide fair priority-setting through 5 angles:

1. Relevance: multidisciplinary, criterion-based, and evidence-informed processes that are empirically feasible.
2. Publicity: transparent and publicly accessible rationale and decision making.
3. Revision: development of a formal and iterative decision-making process to recognise constraints on reason and generation of new evidence and arguments over time.
4. Enforcement: regulating the implementation of relevance, publicity, and enforcement.
5. Empowerment: increasing opportunities for stakeholder engagement and reducing power imbalances.

Applying such models can make resource allocation inequities (eg, more resources for historically marginalized populations) permissible through being informed by the norms and values of society as well as the transparency for and dialogue with the public. In other words, if the process is deemed to be fair, the outcome of the process can be accepted.

**Incorporating Equity Into HTA**

While historically not prioritised and conceptually challenging, the above concepts allow us to propose a conceptual framework (Fig. 1) to better account for socioeconomic disparities in HTA.

First, quantitative methodologies to incorporate equity into HTA should be standardised, because nonstandardised approaches may lead to different and potentially inequitable conclusions. To achieve standardisation, one approach is to leverage extended and distributional CEsAs. In practice, extended CEA was used by the World Bank Disease Control Priorities to consider health and financial benefits while also
considering financial risk protection (ie, protection against medical impoverishment). Distributional CEA evaluates the distribution of health opportunity costs (ie, net health benefits) from displaced expenditure within a fixed health care budget, which may be accompanied by an equity-weighted index of social welfare. These approaches have been underutilised, in part owing to CEA complexity and the need for granular population-specific data.

Second, patient representatives play a pivotal role in HTA by highlighting the experiences and needs of patients and families. Currently, they are involved in informing HTA questions and reviewing draft recommendations. However, it is important that these individuals are also representative of the overall (patient) population. If there are limited spots on the HTA panel, the representative should work with community-representative patient-family groups. Community-based participatory research principles can serve as a guide, emphasising the need to work with communities as equal partners in planning, research, and decision making, alongside accountability for reasonableness principles.

Third, value frameworks underlying HTA processes should be transparent. Transparency builds trust among communities and ensures that the underlying HTA methodologies and processes can be externally validated. Moreover, frameworks should be inclusive and representative of the community values for the context in which decision making occurs, recognising the population’s diversity, cultures, and history.

Fourth, the ethicist’s role as part of HTA should be better recognised and considered equal to the role of other experts. CEA methodologies alone are not capable of spanning the full breadth of values, opportunity cost distributions, and different ethical lenses. Ethicist expertise is necessary to inform resource allocation through existing distributive and procedural justice considerations.

**Conclusion**

HTA processes in Canada are complex and inclusive, but not perfect. Opportunities exist to better address socioeconomic disparities in health policy recommendations and
decision making in Canada. Similar opportunities exist in other HTA agencies and health systems and institutions basing policies on non-HTA processes.

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