

Editorial

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Health Technology Assessment in Asia: Food for Thought

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This issue of the Journal carries several articles reflecting current HTA efforts in various Asian countries. A decade back, few of these countries had exposure to the concept of HTA (1), and HTA was seldom incorporated in healthcare decision making. This situation has changed dramatically, with many countries becoming aware of HTA, some considering HTA in decision making, and a few establishing systems to implement HTA (2–6). The vast majority of the Asian population, however, does not benefit from HTA-informed healthcare decisions. The World Health Organization (WHO) HTA Country profile page has information on thirty-two of forty-eight Asian countries in 2015 (7). Only seventeen of these thirty-two have a national HTA Organization, but only seven of them have legislative requirements to use HTA in healthcare decision making. The sixteen countries without data probably lack HTA altogether. This highlights also the dichotomy between the intention in favor of HTA and its implementation. Exploring what is happening in HTA in Asian countries and why may be relevant both to them and others.

Scope of HTA

INAHTA defines “health technology” as an intervention “that may be used to promote health, to prevent, diagnose or treat acute or chronic disease, or for rehabilitation. Health technologies include pharmaceuticals, devices, procedures and organizational systems used in health care” (8). The WHO definition also considers procedures and systems (9). However, both definitions often are interpreted as having an emphasis on “products” used in health care. Naturally many countries initiate HTA with a focus on specific products (vaccines, medications, procedures) rather than wider concepts where HTA could strengthen the healthcare systems. However, “health technology” should be regarded in a broader context as “Products, Practices, Procedures, Processes, Programmes, Principles and Partnerships that Promote health or Prevent disease.” This will enable the countries to focus beyond “products” to other aspects that are relevant to that setting. For example, reducing road injury-related mortality and morbidity requires an HTA incorporating all these elements.

Focus of HTA

The classic systematic review (and HTA) format of “Technology X for problem Y in population P” reflects the traditional emphasis on products. While this model provides information about technology X, it limits decision making relevant to problem Y. Stakeholders need guidance on all potential solutions for problem Y rather than one technology alone. For example, while a systematic review/HTA on “HPV vaccine to prevent cervical cancer” is important for decision makers (to decide whether or not to use the vaccine), an HTA on “Prevention of cervical cancer” considering various technologies and strategies is even more important and informative. HTA should proceed “*from the problem toward the solution*” rather than the other way around.

Limitations of Current HTA Models

Most HTA reports are limited to exploring efficacy, safety, and cost-effectiveness of a technology, though some delve into ethical, legal, or social issues. Ideally, HTA reports should also include other components relevant to decision makers (10). These include, for example:

- The scope of integrating the technology into the existing healthcare system;
- The timeframe during which the technology is expected to achieve its outcome or become redundant;
- The novelty of the technology and potential for the emergence of new knowledge that can impact decisions;
- Sustainability of providing the health technology to all eligible persons; and
- The likely impact of rejecting the technology altogether.

Use of Health Economics

Health economics is a key pillar of HTA. There are two challenges in applying it in many Asian countries. First, data on economic aspects of locally relevant health conditions, in terms of QALYs or DALYs, are generally unavailable. Therefore, extrapolations of data from other settings and mathematical assumptions are often used, compromising the validity of the economic analysis. Second and perhaps more important, most healthcare systems in Asian countries lack sufficient numbers of trained personnel to undertake robust economic analyses. While this deficiency is being addressed rapidly, there is an alarming paucity of stakeholders who understand how to interpret and use economic analyses.

The situation can lead to undesirable consequences. Favorable economic analyses on a given technology may be generated to align with decisions for political, commercial, or other non-scientific reasons. For example, when Punjab state in India desired to initiate HPV vaccination of adolescent girls, an economic analysis with apparently robust methodology reported vaccination to be a “very cost-effective strategy” not only for Punjab but for other Indian states as well (11). The report was immediately accepted to initiate vaccination (12). However, it was challenged on the grounds of methodological errors, leading to arguments and counter arguments, without satisfactory resolution. Another adverse consequence is that economic analyses that are commissioned, produced, or disseminated by sources with vested interests can skew decision making in favor of technologies lacking robust supporting evidence. Third, decision makers unfamiliar with the nuances of economic analyses may delay the utilization of appropriate health technologies. Developments such as these argue for creating a pool of empowered HTA users with skills to appraise HTA reports, concomitantly with capacity building of HTA producers.

Most economic analyses use real or hypothetical cost calculations based on current prices. They rarely factor in the dynamic nature of pricing which can increase or decrease cost over time. For example, the cost of a vaccine could increase over time, as more antigens of the same or different microbes are added; it could also decrease if other manufacturers start production. Costs of treatment of a particular condition also can increase or decrease over time, for example, if comorbidities are effectively prevented. Such dynamic uncertainties are rarely considered in economic analyses. Likewise, the duration of using a health technology and scope for potential disinvestment in the future is almost never considered in the analyses.

HTA and Universal Health Coverage

HTA has been suggested as a potential tool for countries or health systems to develop universal health coverage (UHC) (13). However, HTA-based decisions can work only if some form of UHC already exists, and decision makers are willing and able to use HTA in guiding what will be provided by the healthcare system. This is the model in many European countries. For example, in the United Kingdom, the National Institute for Health and Care Excellence (NICE) develops guidance for use by the government to decide what the National Health Service will or will not provide.

In contrast, the public sector healthcare systems in many Asian countries provide limited services; most services are provided in return for out-of-pocket payments. In the absence of UHC,

HTA has a limited role in healthcare delivery decisions. Countries that lack even rudimentary UHC would first need to build basic universal coverage of essential services, such as childhood immunization, safe delivery, essential new-born care, and so on, as recommended by the WHO. Countries with rudimentary UHC, where such basic packages exist (India, e.g.), need to strengthen UHC in terms of accessibility, equity, and sustainability, before HTA for other technologies is considered. In such settings, expecting HTA to facilitate UHC would be putting the cart before the horse.

Alignment between HTA Producers and Users

HTA can succeed in settings wherein HTA producers and users work in alignment. The value of HTA reports is limited if decision makers at the individual, institutional, organizational, or national levels are uninterested or unwilling to make evidence-informed decisions. Moreover, willingness and interest alone are insufficient; they must be backed by user empowerment to critically appraise HTA reports as a background for decisions and implementation. This necessitates the capacity building of HTA users as well as HTA producers.

Conclusion

In conclusion, much ground needs to be covered before most low- or middle-income countries can implement HTA in routine decision making. Some of the work needs to be done by the HTA community in developing better methodologies for evaluation and comparison of diverse relevant technologies. However, the bulk of the effort is required within individual countries in terms of capacity building of HTA producers as well as users, generation of locally applicable data to feed HTA, development of basic UHC services wherein HTA can guide decisions, and stakeholder alignment between the production of HTA and its implementation.

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