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EDITORIAL

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Exploring the advancing function of health technology assessments

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ABSTRACT

Health technology assessments are a fundamental component of most developed health systems globally. Since their initial application, their purpose, methods, and application have advanced. What began as a mechanism to solve a funding problem and inform adoption decisions, the influence and use of health technology assessments has exponentially extended overtime. Consequently, as technologies rapidly develop and health budgets come under increasing pressure, health technology assessments are demanded by all stakeholders. This includes decision makers, physicians, patients, manufacturers and the general public so as to ensure timely access to technologies which are safe, effective and value for money. These health technology assessments and their implications need to be available and accessible. This edition of Global and Regional Health Technology Assessment aims to satisfy the demand for published health technology assessments and extends to stimulate and encourage debate surrounding advances and issues in the area of health technology assessment in Europe, particularly in the UK, Ireland and the Nordic Regions, that have been at the forefront of experimenting with new models for a long-term sustainable health-care system.

Keywords: Cost effective, Health technology assessment, Uncertainty, Value of information

Health-care systems are increasingly challenged by scarce resources, rising health-care expenditures, increased pressure from stakeholders, and advancing health technologies. As a result, infinite demands are placed on already limited resources. Such demands necessitate choices to be made between competing alternatives. The application of economic evaluation techniques emerged as a means of informing these choices. Here, costs and benefits of alternative uses of the scarce resources are evaluated to determine if the technology is cost effective. Today, health technology assessments are a fundamental component of most developed health systems globally. Since the initial application of health technology assessments to health care, methods and policies surrounding the adoption of health technologies is advancing. As well, it is widely realized that an adoption/reimbursement decision is dependent on the information available at the time the assessment is conducted. This has led to many advances beyond merely establishing cost effectiveness to inform adoption decisions. There are three interrelated themes that stand out and stimulate the need for continual publishing and sharing of empirical and methodological advances in the area of health technology assessment.

First, there is now wide recognition and consideration of uncertainty in health technology assessments. This examines how an assessment was conducted, assumptions underlying the assessment, the information used to inform the assessment, etc. Estimations of the size and impact of this uncertainty in health technology assessment is expected.

Second and linked to this, there is growing interest in using health technology assessment results to inform research priority-setting decisions. Research priority decisions are concerned with determining if there is value in collecting additional information on the technology and indeed the most cost-effective way of collecting that evidence. Thus, they facilitate asking: if we had further information would a different recommendation be made? Employing methods like value of information analysis enables researchers and decision makers to determine if further information is required. The growth in the employment of value of information analysis in health technology assessments has been significant as it represents a formal acknowledgement that data collection is not costless. This is an important step, particularly for health technologies for which there are no formal data collection requirements. That is not to say additional information is not important; however, the generation of additional information needs to add value and be cost effective. Value of information techniques can be complex to execute; however, estimation techniques are evolving to improve accessibility and convenience of use.

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Third, the consideration of additional information acknowledges that recommendations from health technologies may change. As a result, health systems and decision makers are recognizing that decisions should not be one-off, rather they need to be iterative. As new information becomes available the efficacy and effectiveness of health technologies may change, thus decisions regarding their cost effectiveness need to be re-examined. In light of this, reimbursement models are evolving and the traditional dichotomous adoption decision is evolving to include restricted recommendations. This includes limiting access to certain patient groups or only to those enrolled in research. Alternatively, "no recommendations" are facilitated, whereby decision makers wait until additional information becomes available before making definitive decisions regarding adoption/reimbursement. Moreover, there is a formal incorporation of the risk associated with delaying decisions, or granting access to a technology that later has to be withdrawn if it is no longer considered cost effective through risk sharing agreements like Coverage with Evidence Development and Performance-Related Risk Sharing Agreements.

Simultaneous to these advances, the use of health technology assessments and the range of technologies to which they are applied has also grown, extending beyond its original intentions (predominately capital projects and medicines). Health technology assessments are routinely applied to novel technologies including medical devices, service arrangements, treatments, clinical guidelines, etc. This presents methodological challenges as the traditional methods and frameworks for conducting health technology assessments to establish cost effectiveness were devised for capital projects and medicines. Furthermore, such novel technologies are not subject to the same evidence generation requirements as, for example, medicines. Subsequently, it is recognized that the methods and frameworks originally developed for capital projects and medicines cannot be directly transferred to medical devices. So, studies and toolkits have emerged to develop modified and adapted frameworks and methods, while retaining the core principles underlying health technology assessments. This has enabled health technology assessment agencies and decision makers to respond to the increasing demands for demonstrating cost effectiveness and to grant access to technologies in the light of budget constraints. Given this demand, international efforts to standardize methods to ensure quality, transferability and applicability of health technology assessments are underway. Furthermore, we have come to realize that cost effectiveness is not the only condition necessary to influence reimbursement. While some jurisdictions have explicit cost-effectiveness thresholds such as the National Institute for Health and Care Excellence (NICE) in the UK, others have what can be interpreted as greater flexibility or less transparency, which have varying outcomes for stakeholders. In an area of increased globalization and connectedness, balancing inter-country and agency differences presents a challenge for patients, clinicians, manufacturers and insurers.

So what began as a mechanism to solve a funding problem and inform adoption decisions, the influence and use of health technology assessments has exponentially extended over time. There is an increasing and derived demand for health technology assessments from all stakeholders: from manufactures who want to see their products on the market; decision makers allocating resources; medical personnel who want to use the latest technology to treat patients; insurers who wish to minimize losses; patients who want access to the latest technologies and life-saving treatments, and the general public who demand value for money, transparency and equity. This means that an increasing number of health technology assessments are conducted, on an increasing range of technologies, addressing multiple and complex questions. Furthermore, these health technology assessments and their implications need to be available and accessible beyond a technical report. This edition of Global and Regional Health Technology Assessment, that I have accepted the challenge to act as Editor in Chief for, aims to satisfy the demand for published health technology assessments and extends to stimulate and encourage debate surrounding advances and issues in the area of health technology assessment in Europe, particularly in the UK, Ireland and the Nordic Regions, that have been at the forefront of experimenting with new models for a long-term sustainable health-care system. I will be supported in this endeavor by a number of colleagues who have accepted my invitation to join the editorial board: Dr Gianluca Baio, University College London; Dr Christopher Fawsitt, University of Bristol; Dr Brenda Gannon, University of Manchester; Associate Prof Peter Lindgren, Swedish Institute for Health Economics; Prof. Ciaran O'Neill, NUI Galway, and Prof. Olivia Wu, University of Glasgow. In line with the associate publications of Global and Regional Health Technology Assessment, all manuscripts will be peer-reviewed and published open-access, therefore warranting the widest possible dissemination. With this in mind, I would like to invite all interested parties to consider submitting to this new and exciting publication.