The Conceptualization of Value in the Value Proposition of New Health Technologies

Comment on “Providing Value to New Health Technology: The Early Contribution of Entrepreneurs, Investors, and Regulatory Agencies”

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Abstract
Lehoux et al provide a highly valid contribution in conceptualizing value in value propositions for new health technologies and developing an analytic framework that illustrates the interplay between health innovation supply-side logic (the logic of emergence) and demand-side logic (embedding in the healthcare system). This commentary brings forth several considerations on this article. First, a detailed stakeholder analysis provides the necessary premonition of potential hurdles in the development, implementation and dissemination of a new technology. This can be achieved by categorizing potential stakeholder groups on the basis of the potential impact of future technology. Secondly, the conceptualization of value in value propositions of new technologies should not only embrace business/economic and clinical values but also ethical, professional and cultural values, as well as factoring in the notion of usability and acceptance of new technology. As a final note, the commentary emphasizes the point that technology should facilitate delivery of care without negatively affecting doctor-patient communications, physical examination skills, and development of clinical knowledge.

Keywords: Conceptualisation of Value, New Technology, Innovations, Stakeholder Analysis

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Introduction
Lehoux et al provide a highly valid contribution in conceptualizing value in value propositions for new health technologies and developing an analytic framework that illustrates the interplay between health innovation supply-side logic (the logic of emergence) and demand-side logic (embedding in the healthcare system).1 The authors emphasize the importance of meaningful contributions by three key stakeholders, namely entrepreneurs, investors and regulatory agencies in the early stages of the innovation lifecycles claiming that this will more likely result in successful uptake by users and an acceptably good return on investment for investors. The authors also highlight, through the literature, qualitative research and discussion, the multifactorial complexities and challenges involved in balancing the innovation policy, namely the supply side logs as determined by financial markets and business media, and the health policy demand-side logs that include health technology assessment, reimbursement and procurement. The authors however acknowledge, “New technologies constitute an important cost-driver in healthcare, but the dynamics that lead to their emergence remains poorly understood…” (p. 1).

In this commentary, we would like to put forward several points, as part of the commentary of this article.

Stakeholder Analysis
Lehoux et al decided to focus on three key stakeholders in their study. Although entrepreneurs involve clinical teams to provide valuable information regarding patient needs and health benefits of new technologies, capital investors look out for business opportunities of innovations to curb down health risks of extant technologies or clinical practice, and regulatory agencies aim towards achieving patient safety, and the efficacy and quality of technology, the minimally consulted users/patients/clients often have to take what is on offer without a choice for alternatives. In addition, the client system revolving around the patient, in particular the informal caregiver is often overlooked. In the delivery of healthcare services and technologies, the patient should be the focus of attention. Van Hoof et al,2 Holtkamp et al,3 and van Hoof & Verkerk4 have come up with various frameworks for the incorporation of technology philosophy in order to help identify and map the needs of patients (and other stakeholders) within different user contexts. Such frameworks, however, do not deny the complexity of the intertwined world of stakeholder needs. In particular, for technologies that are still to be made available, defining all the potential stakeholders is challenging. Moreover, in terms of user acceptance, consulting potential end-users during the pre-implementation phase of new
Defining “Value” in Value Propositions of New Technologies

The manner in which the three key stakeholders mentioned in the study define value is a clear reflection of the often-limited business/economic focus adopted. The examples of innovations in the article alert us of this limitation and invite us to consider a broader and more comprehensive conceptualization of value in value propositions of new technologies. Additionally, the qualitative study highlights the vested interests of the three stakeholders, and therefore the fragmented manner in which value is conceptualized. For example, the authors lament, “Investors support technologies that generate health gains by accident, not by design.” The article also refers to investors, who because of their desire for a quick return on investment, and their aim to bring the venture to the most profitable exit, will only provide support for a limited period of time despite evidence of patient benefits and value creation for health systems.

Entrepreneurs, who tap on their healthcare experience, seem to have a more balanced consideration of not only having the proposed technology generating revenues but also a capacity to generate health benefits and therefore do have a patient focus. The regulatory agencies also have a somewhat specific remit, namely that of focusing on safety and efficacy of new technologies relying on science, expertise and judgment when executing appraisals. While the values defined are of critical consideration, we propose stakeholders to collectively consider ethical concepts apart from the business/economic and clinical values that are described in more detail below. The first that comes to mind are the ethical values and clinical values that are described in more detail below. A robust stakeholder analysis provides the necessary premonition of potential hurdles in the development, implementation and dissemination of a new technology. A comprehensive analysis will more likely guide the course of development of technology early on, while considering affected stakeholders and the wider community. On the other hand, the identification of too many stakeholders may be problematic in that these have specific interests that may separately or collectively impede the implementation of new technology, regardless of the clients’ intentions. On many occasions, the client’s consent is taken for granted. The example of the home telehealth solution reveals that the chronically ill and older adults, potentially identified at the end of the process, are accidental stakeholders.

A Note on Health Technology Assessment

The focus of technological assessments tends to be mostly on the positive and negative impacts or effects of a technology without much consideration of the manner with which they restructure our physical and social worlds. Winner argues, “The capacity and willingness to reflect on the significance of technology and to critically evaluate new technologies lags far behind our capacity for creating and disseminating technologies” (p. 48). Unless a more robust assessment is used that encompasses the biopsychosocial model of care, new technologies pose numerous challenges in the various stages from the development to adoption and subsequent
sustainability of the uptake.

Conclusion
In this commentary, we have highlighted only some aspects of how new health technologies can provide greater value to end-users and to society as a whole. The subject area is complex, challenging and continues to confound leaders of health systems. Our commentary is intended to shed more light on what Lehoux et al masterfully provided in their study. As a final note, we believe that technology should facilitate the delivery of care without negatively affecting doctor-patient communications, physical examination skills, the perception of safety and security among patients, and the development of clinical knowledge. A potential side effect of the increased usage of technology in healthcare is the rise in costs that may hamper the overall accessibility of care and care services, both from a patient and a professional perspective. Indeed, since clinicians are becoming more dependent on technology, in particular for accessing patient information, reaching diagnoses and delivering care, undergraduate and professional development training on using medical technology in the domains of care and care has become a must to ensure autonomy while interfacing with medical technology.

Ethical issues
Not applicable.

Competing interests
Authors declare that they have no competing interests.

Authors’ contributions
SCB and JvH have discussed the outline for the paper. SCB has drafted the paper, which JvH has critically read and amended. Both SCB and JvH have revised after receiving reviewers’ feedback.

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