A six-minute video-clip to ponder the values fostered by health technology

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REVIEW

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Abstract

As part of our research team's knowledge transfer and exchange (KTE) initiatives, we developed a six-minute video-clip to enable productive deliberations among technology developers, clinicians and patient representatives. This video-clip summarises in plain language the valuable goals and features that are embedded in health technology and raises questions regarding the direction that should be taken by health care innovations. The use of such video-clips creates unique opportunities for face-to-face deliberations by enabling participants to interact and debate policy issues that are pivotal to the sustainability of health care systems. In our experience, we found that audiovisual-elicitation-based KTE initiatives can fill an important communication gap among key stakeholders: pondering, from a health care system perspective, why and how certain kinds of medical technologies bring a more valuable response to health care needs when compared to others.

Key Words

Health Technology; Values; Health Care Systems; Audiovisual-elicitation-based Methodology; Knowledge Transfer and Exchange.

The values and knowledge claims circulating in the health policy arena regarding health technologies (i.e., devices, diagnostics) are complex and often include arguments that are value-based and conflicting. Some argue that the unstoppable growth of medical technology and associated costs will mean that individuals will inevitably have to pay out-of-pocket for health care services and technologies.[1] In countries where health care is publicly funded, such arguments fuel debate over the increased role of the private sector in health care financing. Because the response is often emotional and rationing access to innovations is equated with denying benefits to individuals,[2] different lobby groups pressure decision-makers to make "their innovation" accessible. In this policy quandary, it is rarely questioned why such technologies emerge in the first place, and whether they are more or less synergistic with larger health care systems goals. This is the core policy issue that we address in our research program.

As part of our efforts to conduct integrated knowledge transfer and exchange (KTE), we developed a six-minute video-clip to enable productive deliberations among key stakeholders – such as technology developers, clinicians and patient representatives – who do not share a common understanding of the issues at hand and who at times pursue conflicting objectives. This video-clip summarises in plain language the key findings of a paper we published in a bioethics journal.[3] Our goal was to emphasise knowledge sharing in an area where interactions between those who design medical devices and those who use them remain sparse. This paper suggests that groups concerned by technological change in health care (clinicians, managers, community groups, policymakers) can use this video-clip in their workshops, "brown bag sessions" or interactive seminars. Bringing together different perspectives and using audiovisual-elicitation-based tools such as this video-clip help create unique forums that can benefit local participants and

advance collective understanding of the value that medical technologies can and should bring to health care.

Examining the valuable goals and features of health technology

Insert link to video-clip about here

The paper summarised in the video-clip adopted an empirical ethics approach that sought to understand how values are mobilised in practice. More specifically, our study analysed how five medical device manufacturers, via their websites, frame their innovation's value proposition, that is "the value created for users by the offering based on the technology".[4]

Our analysis showed that the manufacturers' framing strategies combine value-based claims that emphasise various goals and features embedded in technology such as efficiency, sense of security, real-time feedback, ease of use, and flexibility, all elements that likely resonate with a large spectrum of health care system stakeholders.

Table 1 shows the valuable goals and features that we extracted from the manufacturers' websites, which appear congruent, at least on the surface, with the expectations of large segments of the populations of industrialised countries. Gaining greater control over diagnosis and treatment processes, preventing illnesses, increasing the role that patients play in health care and improving their quality of life are all part of a modern health care discourse.[5] However, manufacturers do not support the vast majority of their assertions with what health services researchers would define as convincing evidence. Furthermore, by claiming risk- and cost-reduction effects, the websites tend to obfuscate the decisional trade-offs that these innovations would necessitate on the part of health care decision makers (e.g., benefits are attended by harms, some innovations may be cost effective but are rarely cost reducing). Such framing strategies, we argue, tend to bolster physicians' and patients' expectations and provide powerful rhetorical tools that easily permeate health policy debates.

Knowledge sharing in heterogeneous groups

In creating and producing a KTE-oriented video-clip, our goal was to explore complex issues with clinicians, technology designers and patient representatives as each of these groups is involved in the process by which medical technology is valued, but from a different perspective. Within the context of a small-group discussion, audiovisual material can be a particularly effective medium for increasing the "reactivity" of participants by putting "images at work,"[6] while efficiently sharing knowledge related to medical technologies with which some participants may be less familiar. Such audiovisual-elicitation-based KTE material can foster deliberations among heterogeneous groups of participants and help articulate their various perspectives.

Our KTE strategy is rooted in the perspective of Golden-Biddle and colleagues[7] who emphasise the "communicative elements called upon in knowledge-making and -using efforts". The goal is to stimulate interpretation "processes that take each other's viewpoints into account" and can facilitate the ability of "each party to translate between, and at least partially integrate, their own and the others' frameworks."[8] Because the quality and depth of such discussions are often shaped by training and by disciplinary frameworks,[9] those organising such events should be aware of and address key barriers, in particular those associated with occupational jargon and social status; they should emphasise enabling factors, such as working to create a convivial atmosphere wherein there is no "right" or "wrong" opinion. After showing the video, a moderator can ask participants to ponder when and how specific features of medical technologies prove more desirable than others. For instance, drawing on each participant's experience, the moderator could ask:

- What technology has had the most valuable impact in your field over the past decade? What explains the importance of this impact?

- What technological features are, in practice, essential? What features appear superfluous?

- When and why should incremental improvements be pursued? Should certain types of improvement be abandoned? Why?

- Could technology be designed so as to support the sustainability of health care systems?

Depending on the group composition, different variations of such questions can be considered. The aim should be to create a critical yet open space where participants can debate broader issues they rarely have the occasion to discuss. For instance, we showed this video-clip at an invitational workshop hosted in Montreal on June 15, 2012. By combining multimedia tools and small-group deliberations, this workshop was a rare opportunity for technology designers, clinicians and representatives of patient associations to interact and debate policy issues that are pivotal to the sustainability of health care systems. The video-clip was used to stimulate discussions around values that are often taken for granted and on principles that technology designers could consider when creating new solutions. For instance, participants shared their views on technological obsolescence — a phenomenon that is particularly acute in the field of

information technology— and on prosthetic devices whose performance is less dependent upon the level of the surgeon's skills. Overall, all participants agreed that greater clarity regarding the goals and features that make technology valuable from a health care system perspective is needed.

Moving the debate forward

Aiming to foster a learning process that enlightens one's understanding, the expected impacts of an audiovisual-elicited deliberative approach include: (1) building a greater awareness among specific groups (e.g., technology developers, clinicians, managers, patient representatives) of the gaps between healthcare systems needs and challenges and the ways that health innovations are designed; (2) helping these groups better understand each other and identify ways to interact more productively; (3) discussing health care system sustainability with those who design medical technology; and (4) nurturing a collective ability to generate more fruitful ways to envision the development of health technology.

Of course, tensions do arise from mixing together individuals who may not readily understand each other's perspectives. Nevertheless, the pursuit of sound health care priorities can hardly be achieved without addressing, concurrently, how key stakeholders envision the value of medical technology and seek to influence decisions accordingly. Our experience is that it is possible to engage in a productive discussion with health technology stakeholders when the rules are clear and the objectives are meaningful. Furthermore, the health technology industry differs from the pharmaceutical drug industry in several key characteristics. Health technologies companies are most often small and medium size enterprises (SMEs), whose success and survival is dependent on the vitality of their design culture and their relations with other stakeholders (university researchers, clinicians or end users) because they produce a small number of products that tend to exploit a particular technological niche. As a result, discussing technology design issues represents a stimulating common ground.

The video-clip presented in this paper can be used by many groups and in a wide range of contexts. Such KTE activities, if organised more frequently, could fill an important communication gap among stakeholders, by enabling key actors to ponder, from a health care system perspective, why and how certain kinds of medical technologies bring a more (or less) valuable response to health care needs when compared to others. Priester argues that an explicit framework of values could enable the public "to hold policymakers accountable, so that policies promote and do not detract from underlying values".[10] Within this perspective,

we believe that small-group exchanges that rely on effective KTE strategies can help give "more thought to the types of technologies introduced into health care systems and to their integration within meaningful health care services".[11]

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ACKNOWLEDGEMENTS

PEER REVIEW

Not commissioned. Externally peer reviewed.

CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

FUNDING

ETHICS COMMITTEE APPROVAL

Ethics approval obtained from the Faculty of Medicine of the University of Montreal

Table 1: A summary of the valuable goals and features mobilised on five manufacturers' websites. Source: adapted from[3]

Clinical dimension	Technical dimension
Impact on clinical activities and outcomes	Technical assets and comparison with technological alternatives
Reducing risks and complications associated to current practices	Real-time feedback
Effectiveness, safety and patient outcomes	Precision, performance and simplicity
Precision, early diagnosis, improved detection rate	Modularity, flexibility, interoperability and adaptability
Objectivity, predictability, improved clinical decision-making	Providing more biomedical information
Proactive care/responsiveness	Technical improvements reducing side effects
Support research	Completeness of the solution
Reach a greater number of patients	Accuracy of databases
Feedback to caregivers	Paperless environment
Compliant patients	Transportability
Structural dimension	**Human dimension**
Impact on work processes and health care structures	Response to clinicians' and patients' values, expectations and constraints
Reducing costs for hospitals, insurers and health systems	Personalised treatment
Monitoring	Reducing invasiveness and painfulness
Productivity/effective use of human resources	Reducing patient anxiety/providing a sense of security
Compatibility with existing products	Patient's quality of life
No impact on procedure time	User-friendly implementation and staff training
Standardization of care	Reducing treatment/recovery time
Team performance/satisfaction	Patient empowerment/involvement in care decisions
Accuracy of documentation	Physician-nurse cooperation and communication
Remote accessibility	Nurse-patient communication
Continuity of care	Accommodate providers' preferences
Reducing use of auxiliary products	Reducing medication intake
Repeatable procedure	Receiving care at home