CHAIRE DE RECHERCHE DU CANADA
INNOVATIONS EN SANTÉ
COORDONNÉES
Université de Montréal

Social sciences and ethics in early HTA

What have I learned about the twin challenges of user involvement, and social and ethical issues?

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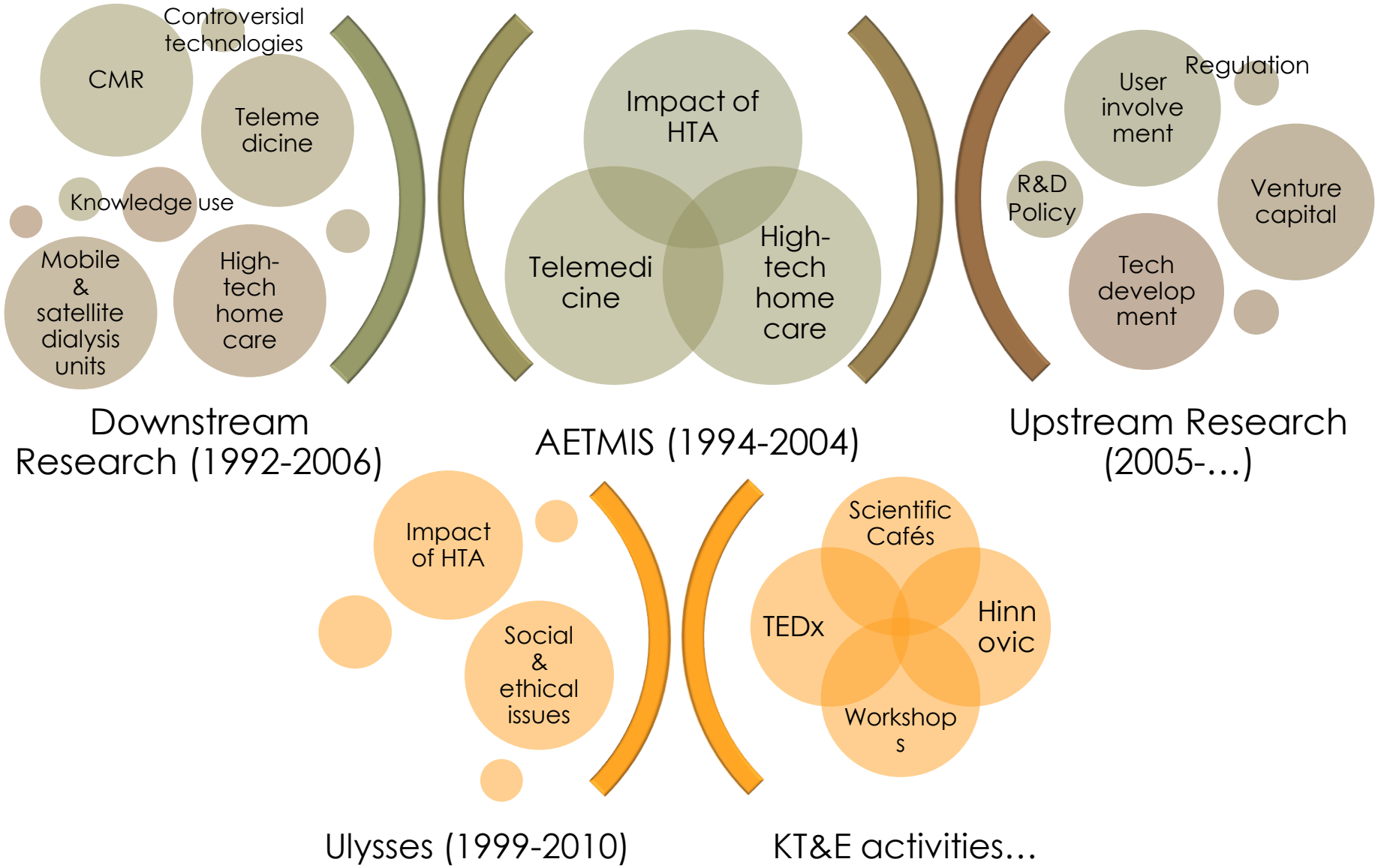
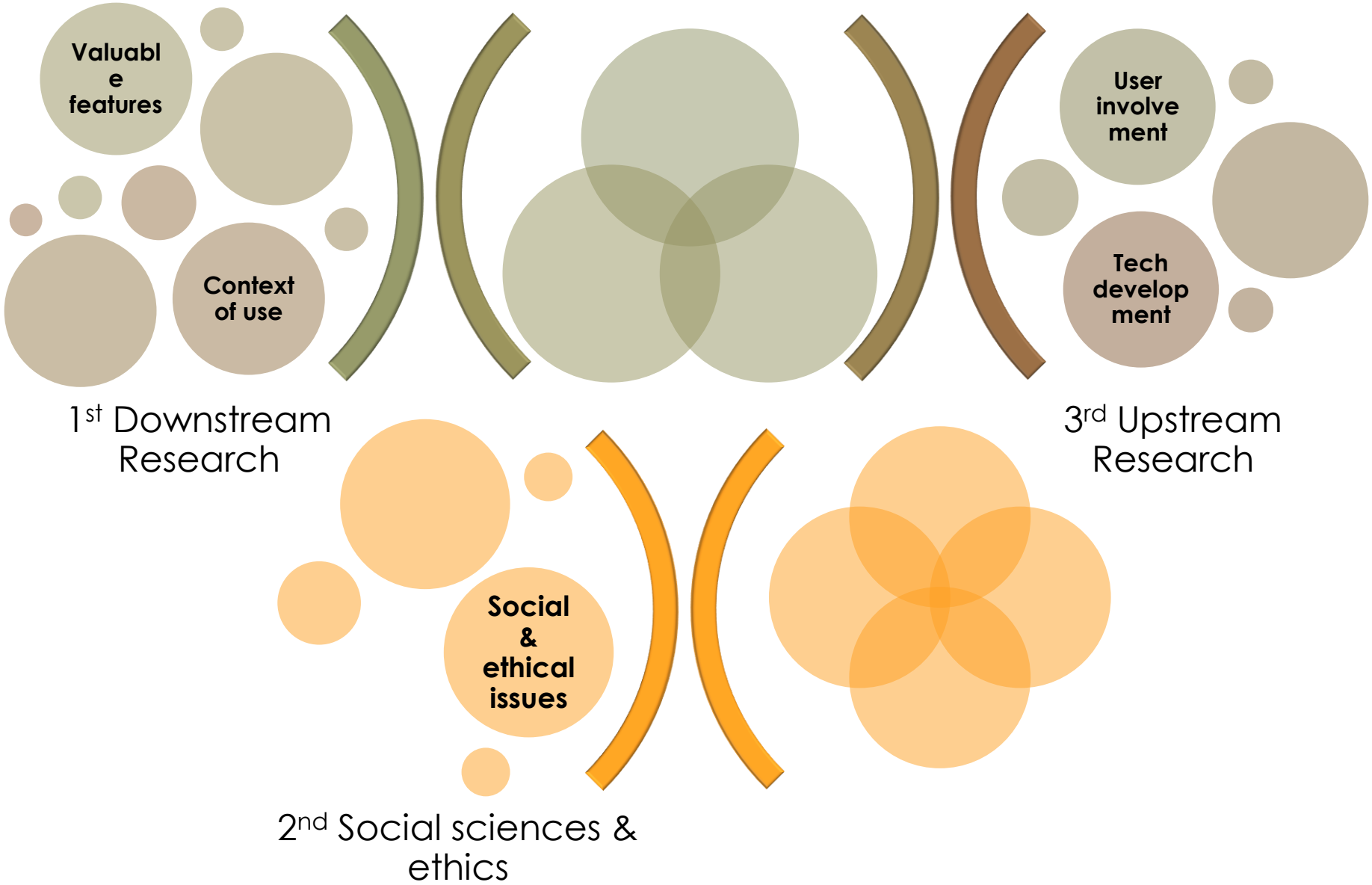
THETA 4th Annual Knowledge to Policy Day, University of Toronto, May 29th, 2013

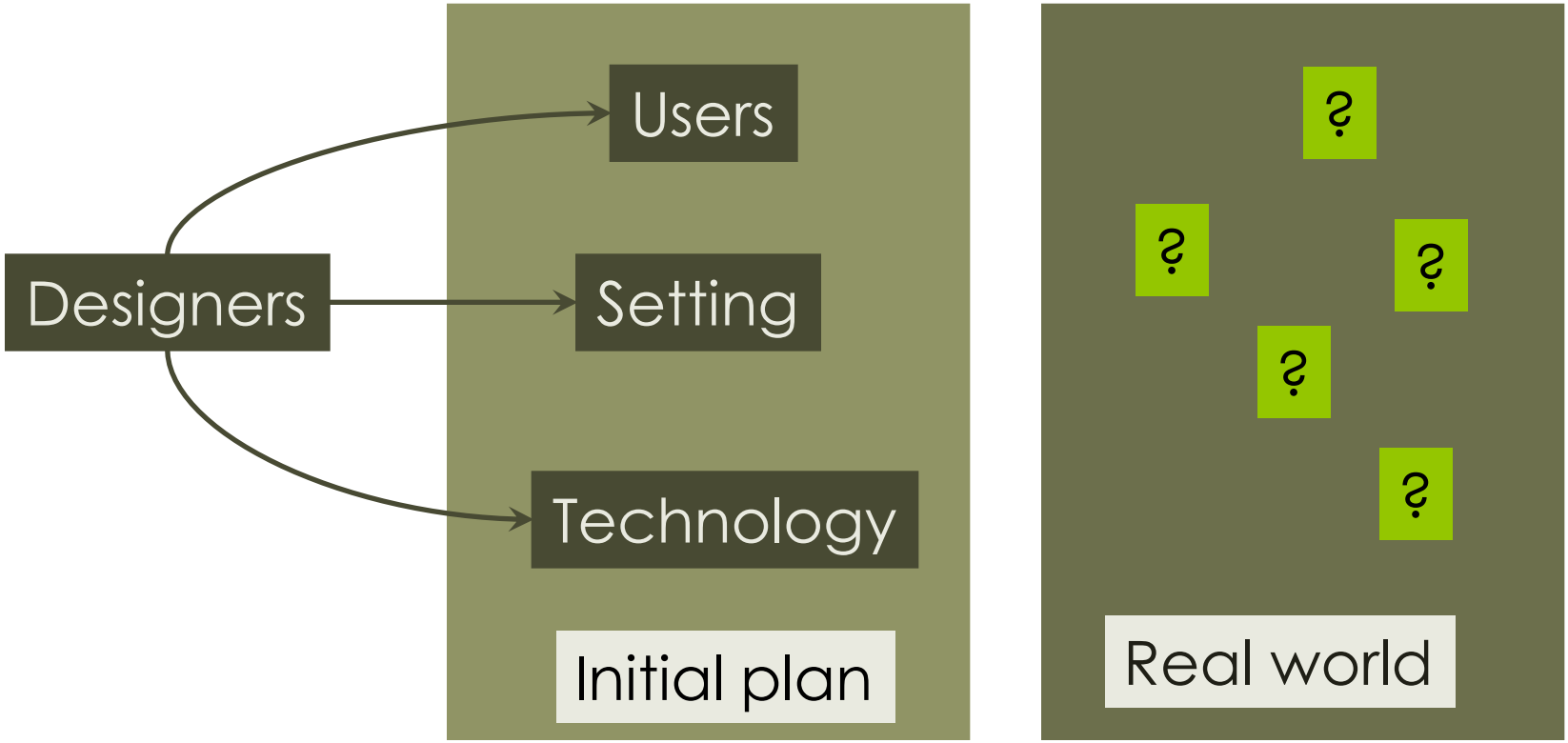


A personal timeline…


Valuable features
Context of use
User involvement
Tech development
Social & ethical issues
1st Downstream Research
3rd Upstream Research
2nd Social sciences & ethics

1st observations-Downstream research

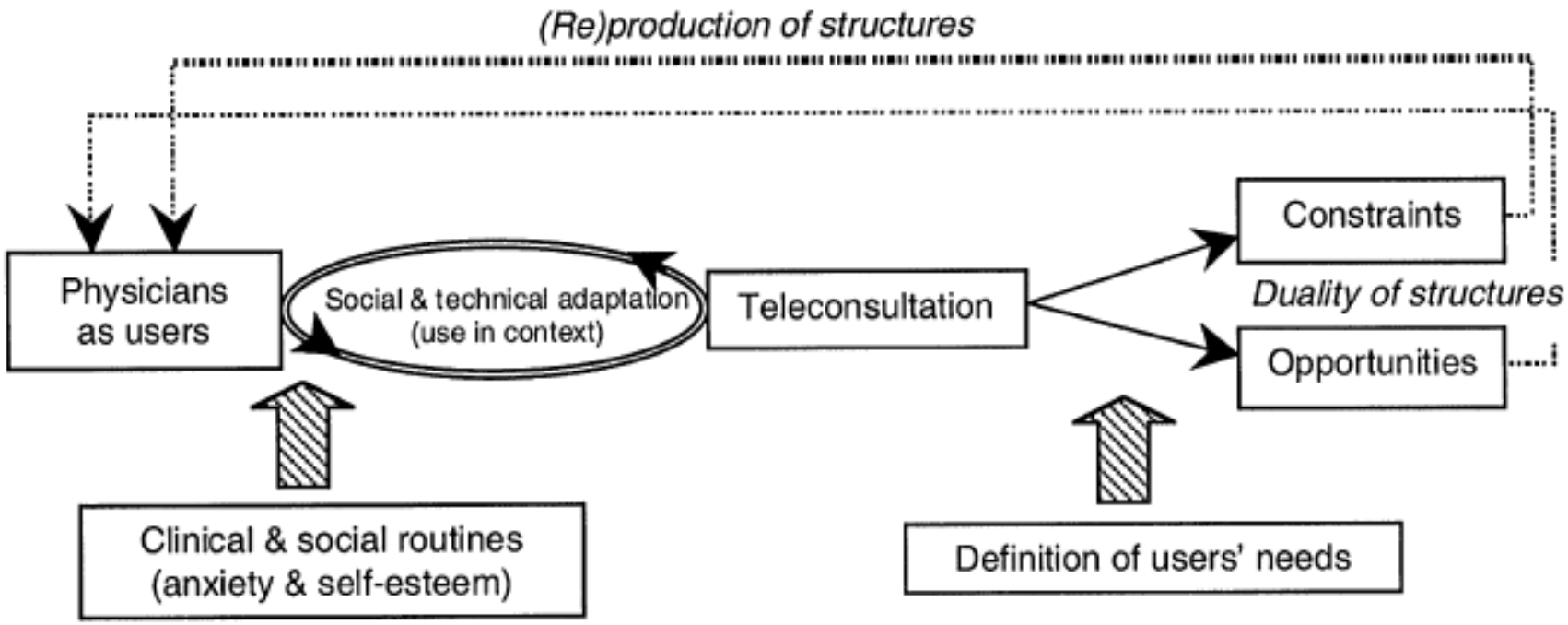
Hypotheses about the context of use and users' expectations



Does the technology achieve stated goals?
Does it induce other effects?

Theory of use: planned vs. real world

P. Lehoux et al. / Social Science & Medicine 54 (2002) 889–904

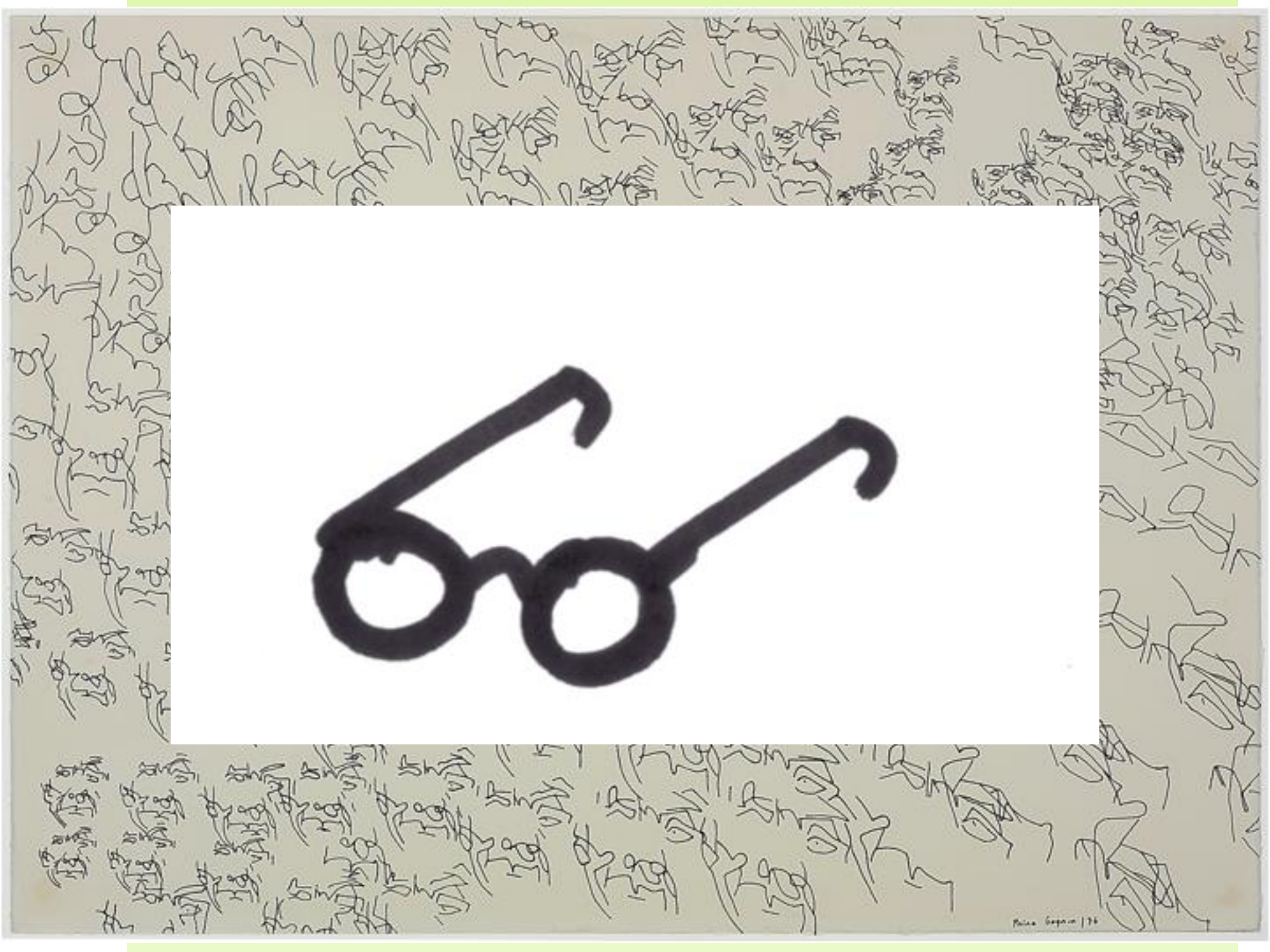


1st observation-Downstream research

Technology developers' hypotheses regarding users' expectations and the context of use are often under-developed

Yet, they pave the way to failures, shortcomings and unanticipated learning-by-doing

2nd observation-Social sciences and ethics



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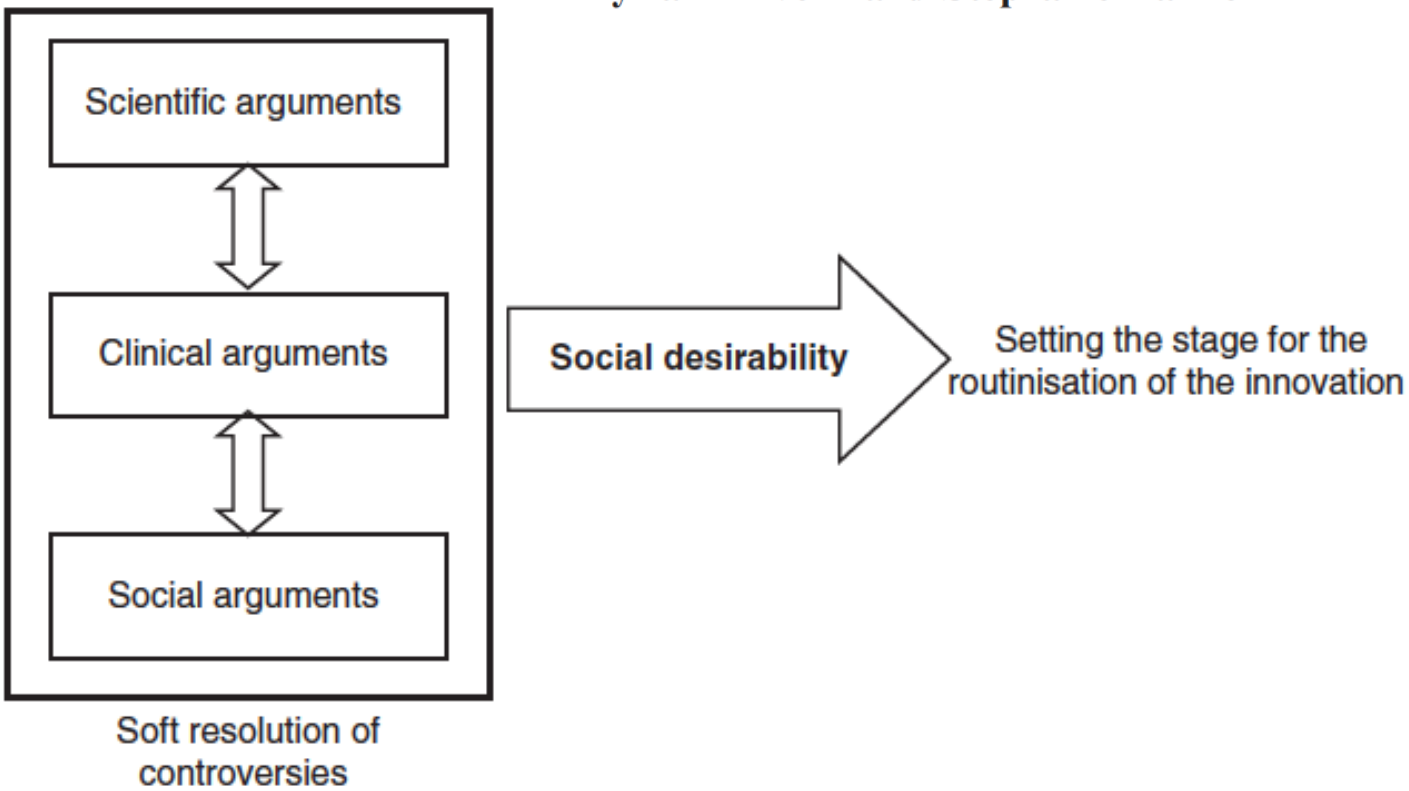
How medical specialists appraise three controversial health innovations: scientific, clinical and social arguments

Pascale Lehoux[1], Jean-Louis Denis[1], Melanie Rock[2], Myriam Hivon[3] and Stephanie Tailliez[3]



Value of technology

- Value is not to be found in the technology itself
- Rather, it is embedded in the meaningful activities that it helps bring about Ramirez (1999)
- Value is intimately linked to a technology's perceived ability to extend users' competencies and range of action

Clinical Impact on clinical activities and outcomes	**Technical** Technical assets and comparison with technological alternatives
Structural Impact on work processes and health care structures	**Human** Response to clinicians' and patients' values, expectations and constraints

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

Implications

- Clinical and technical improvements are, in principle, unlimited; they fuel each other
- Structural valuable features are often in direct contradiction with those in the other categories
- How do we sort out which technologies bring a more (or less) valuable response to health care needs?

2nd observation-Social sciences and ethics

We continuously mobilize, explicitly or tacitly, social and ethical claims to justify why a given technology is valuable or not

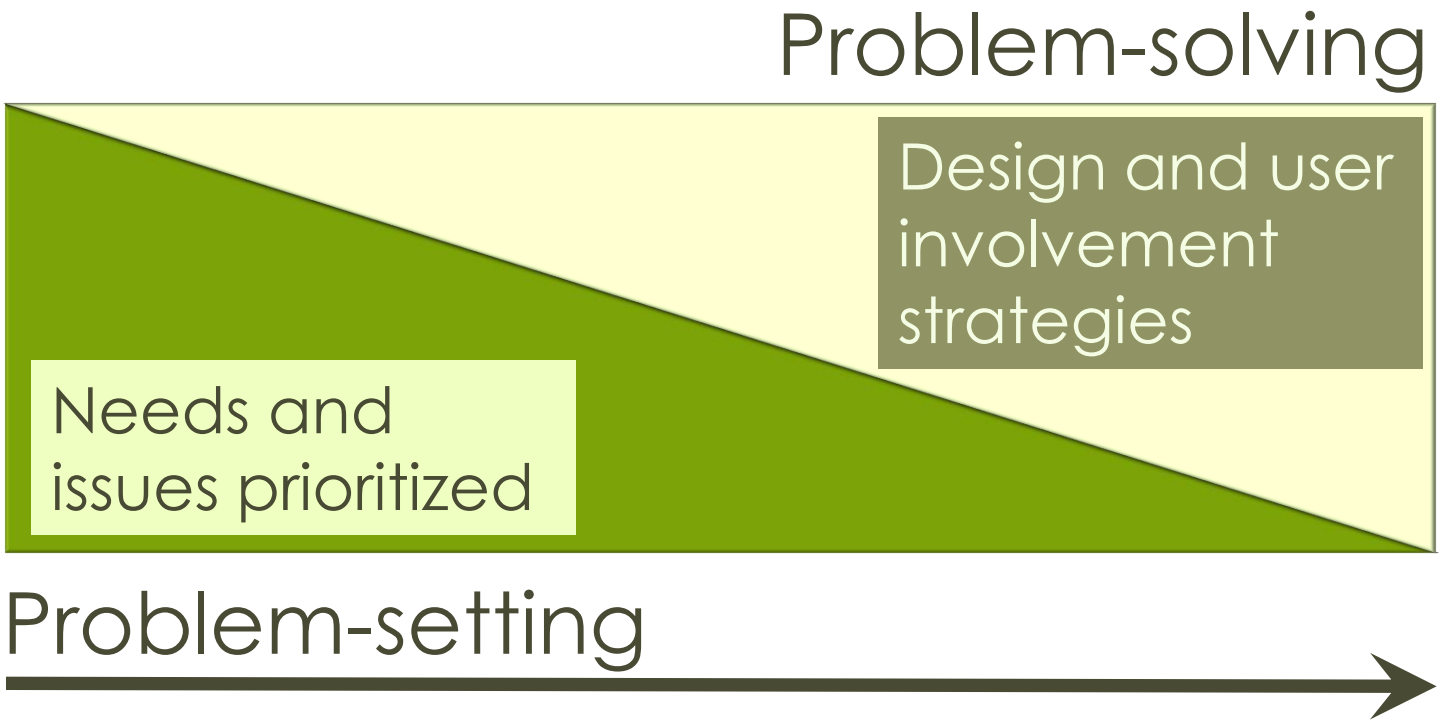
But, our ability to reason the “big picture” remains limited

3rd observation-User involvement in technology development

Clinicians as technology designers?

- Innovation policies increasingly foster collaborative ventures between industry and clinicians
- Clinicians can, in principle, identify and articulate clinical needs and provide relevant input regarding the context of use

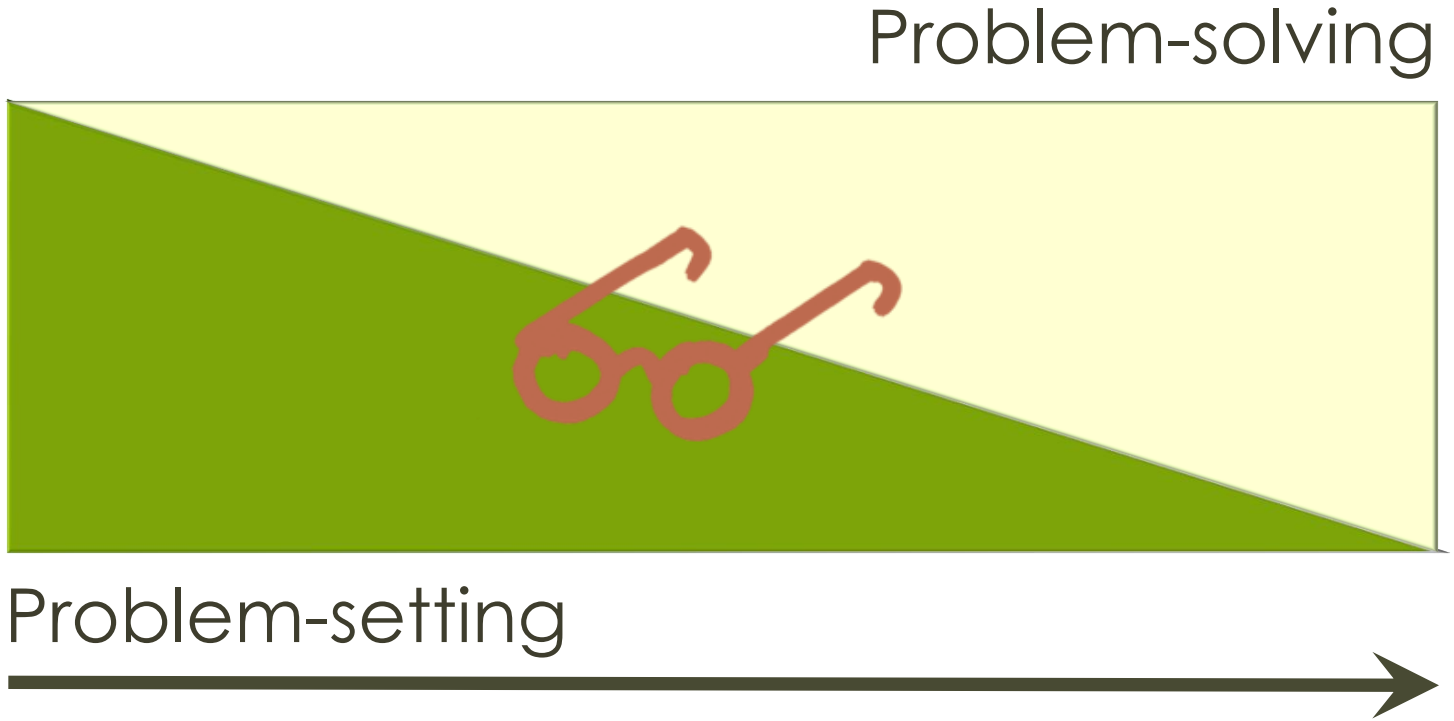
Design process



Two contrasting problem-solving strategies

- Problem-driven processes
  - Significant efforts are devoted to documenting and analyzing the problem the technology is supposed to solve
- Solution-driven processes
  - Mostly seek to further develop a technological solution (Kruger & Cross, 2006)

	Labor decision support software	Home telehealth monitoring
Problem-setting Needs and issues prioritized	Birth-related injuries wrongly perceived as unpredictable	Growing clinical needs Healthcare system challenges
Problem-solving Design and user involvement strategies	**Solution-driven design** Late and low user involvement	**Problem-driven design** Early and high user involvement



1. The way a technology design team engages in problem-setting is influenced by its initial hypothesis regarding the needs and issues its innovation is supposed to address
2. Subsequently, the type of design process it will deploy (e.g., problem- vs. solution-driven) conditions the scope of user feedback it may gather and respond to (Lehoux et al., in press)

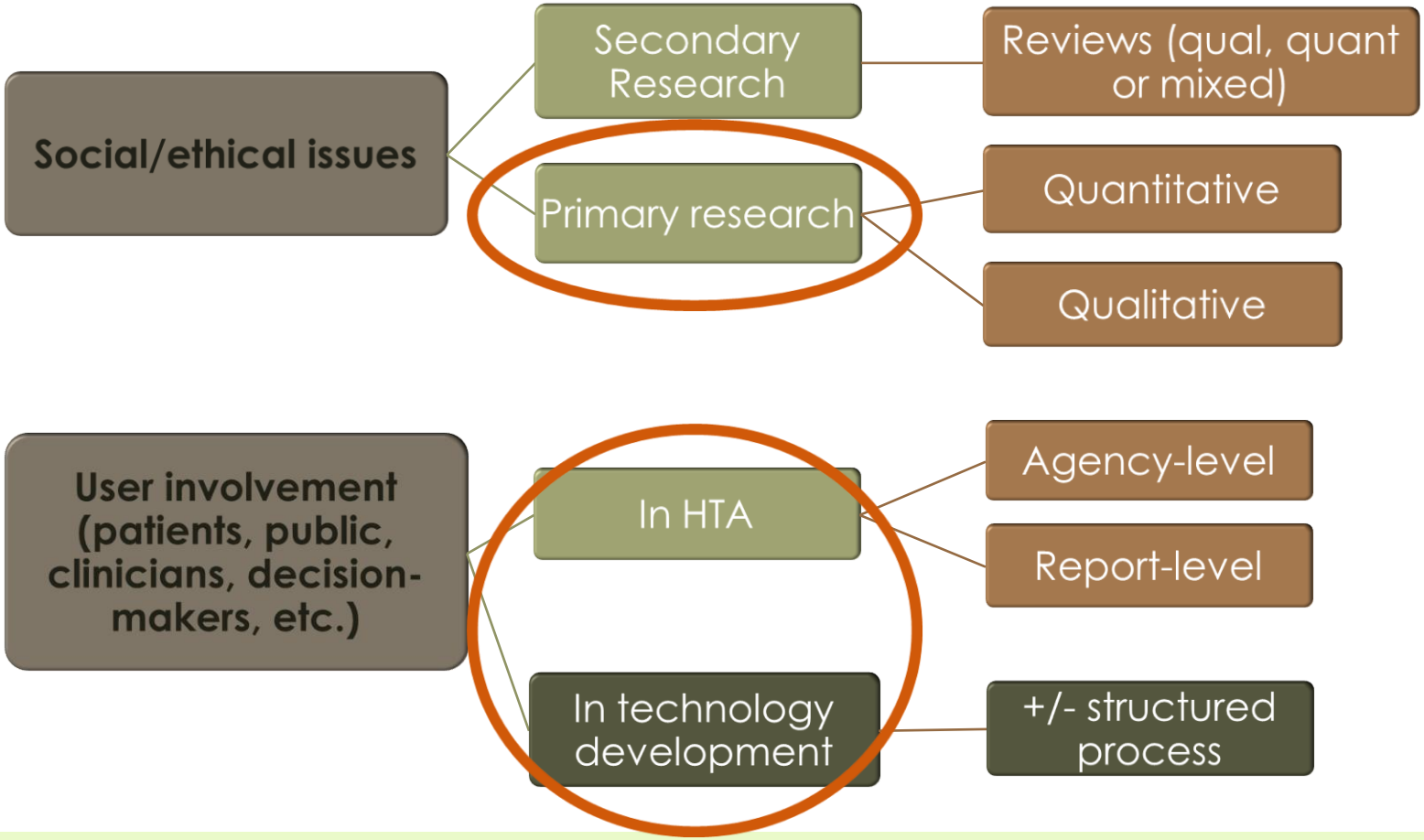
Implications

- A solution-driven process may support focused R&D activities, but it narrows down the scope of user feedback that may be gathered:
  - It emphasizes usability over relevance
- While clinical needs and health systems needs may at times be synergistic, there are situations in which they are conflicting

3rd observation-User involvement

Health services and policy research expertise would bring a valuable, early contribution to technology development

Can "early HTA" help address the twin challenges?

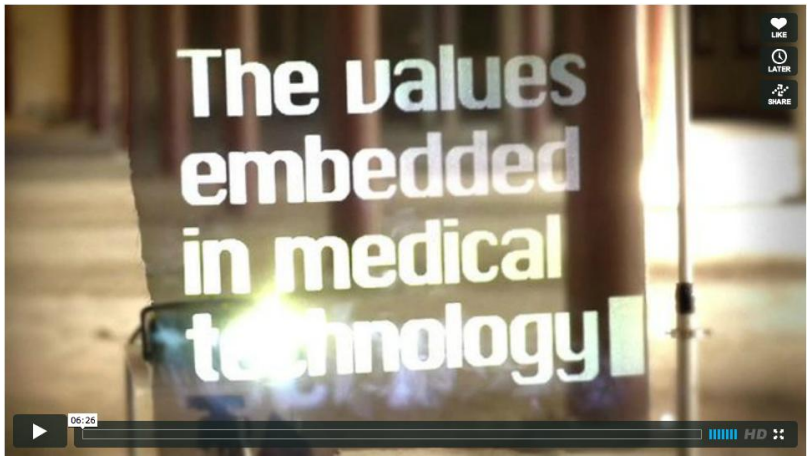


What (I think) I have learned

- Public and/or patient involvement is not a substitute for a proper analysis of ethical and social issues
- User involvement is not sufficient for designing health technologies that are (more) relevant from a healthcare system standpoint

What (I think) I have learned

- Clear need to flesh out/validate technology developers' hypotheses about valuable goals and features
- And to spell out what health system needs and challenges are



Two video clips on Hinnovic.org

What (I think) I have learned

"Downstream" research

- Arrives too late to:
  - Realign substantially technology design assumptions
  - Address relevance

"Upstream" research

- Arrives too early to:
  - Tap on learning-by-doing
  - "Rank order" user preferences

What health technologies do we need to overcome the challenges of healthcare systems?