

## *Appendix 1*

# Approaches to Measurement

Robert Parent

Université de Sherbrooke



# Knowledge Inquiry

- Linking what is known about healthcare to what actually gets utilized within the healthcare system to improve population health is growing in popularity. As Lavis observed, however, while linking research to action has captured a great deal of international attention recently, statements and resolutions are easier made than acted upon.
- This chapter provides a brief overview of some of the latest literature that attempts to shift the focus of knowledge translation towards the action or utilization component of the knowledge to action continuum.



# Synthesis

- The latest approaches to knowledge translation generally focus on the relationships required to bring about change and improvements in overall healthcare. They imply changes within all segments of the healthcare system, including changes in how research is conducted, policy made, healthcare provided, and ultimately the way healthcare is consumed.
- This modern focus on healthcare as a “social system” has led researchers, policy makers, funding agencies, and practitioners to look more precisely at what the system is really trying to accomplish. A social system usually forms in response to a specific need by its members and is typically made up of individuals grouped together in a variety of either loosely or tightly knit relationships (systems and subsystems).



# Synthesizing The Need

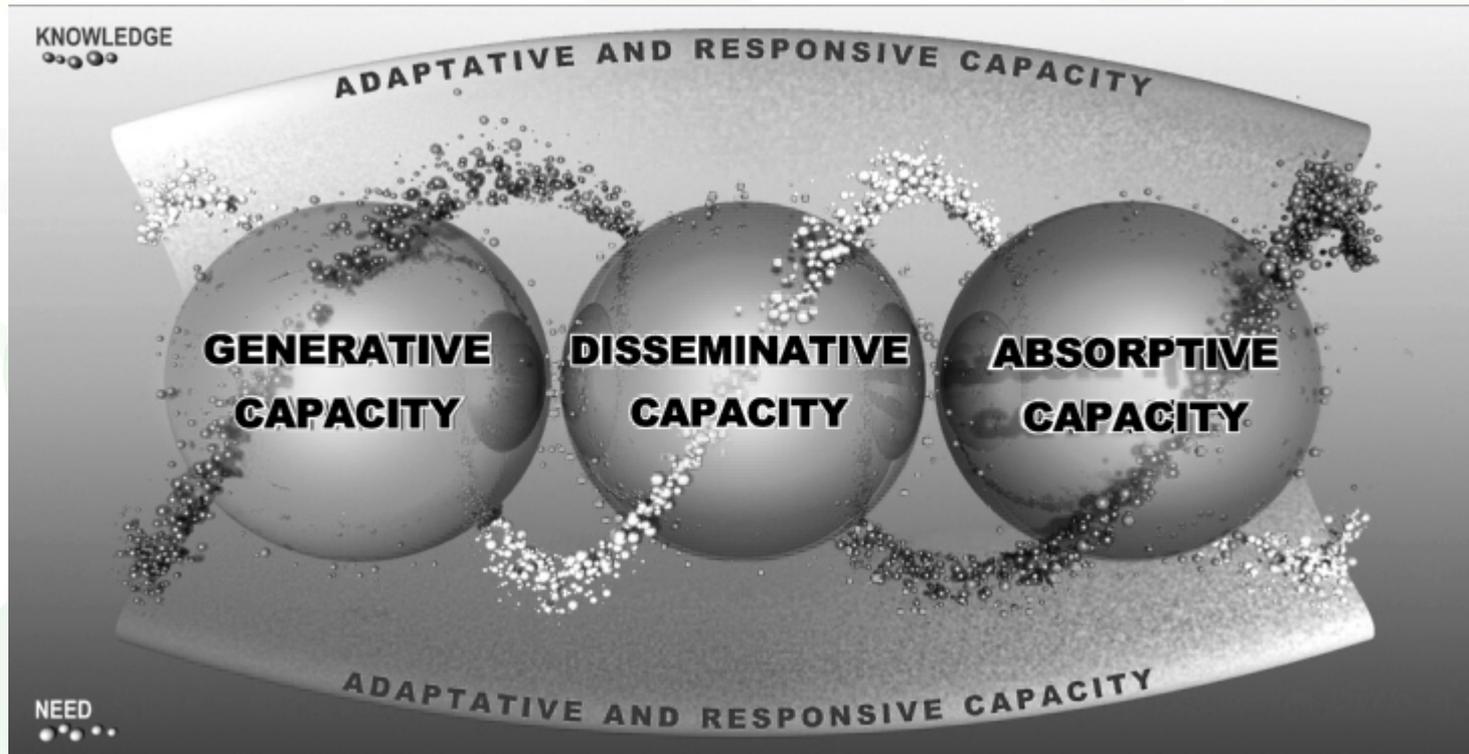
- The purpose, problem, or need must be sufficiently complex to imply the involvement of multiple stakeholders. In healthcare, the social system can take many forms such as a hospital, clinic, association, group of researchers, policy makers, and funding agencies. The number of social systems is infinite. Understanding how knowledge gets translated within and between them, we need to understand the need that the system is attempting to address or the problem it wants to solve.
- For example, policy makers may look to how the country's healthcare system addresses the problems related to constantly rising costs. The academic perspective, however, may focus on the knowledge the research community needs from the healthcare sector to help them address vital healthcare issues. From the healthcare provider's perspective, it may be what new knowledge does a pharmaceutical company require to meet the medication needs of the healthcare sector and thereby continue to compete in the global economy?

# Products / Tools

- To understand how knowledge translation takes place in social systems we need to understand how social systems work.
- The following model illustrates how knowledge gets translated within a social system and the capacities required by that system to successfully transfer knowledge.



# The Dynamic Knowledge Transfer Capacity Model





# Diagnosing A Social Systems' Knowledge Transfer Capacity

- The need the system wants to address and the level of existing related knowledge the system possesses constitute the model's backbone. They have been illustrated with light and dark bubbles, respectively. Line porosity conveys that the four capacities are influenced by these two components at the same time as they influence them. The continuous flow of the lines representing existing and required knowledge signifies that the knowledge and needs are infinite.
- Once the need and existing knowledge are identified, the social system needs to possess or acquire the four capacities for knowledge translation to be successful. By capacity, the authors mean potential for action or ability based on existing resources within or available to the social system.

# Generative Capacity

- Generative capacity refers to the ability to discover or improve knowledge and the processes, technologies, products, and services that derive from it. It is based on the system's intellectual and creative capital (which is present among its members), research infrastructure, and alliances.



# Disseminative Capacity

- Disseminative capacity denotes the ability to contextualize, format, adapt, translate, and diffuse knowledge through a social and/or technological network and to build commitment from stakeholders. This ability is generally based on the existence of an articulated social network (social capital includes strong and weak ties), brokers, and other intermediaries, including the support of a technological and social infrastructure of communications.



# Absorptive Capacity

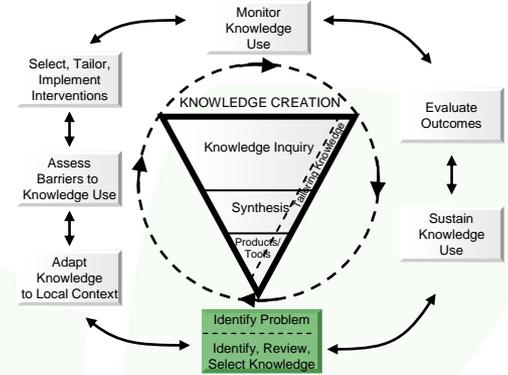
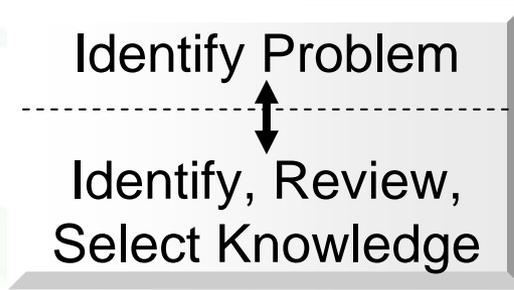
- Absorptive capacity, initially conceptualized by Cohen and Levinthal [26], is defined here as the ability to recognize the value of new external knowledge, assimilate it, and apply it to address relevant issues for a system's stakeholders. Absorptive capacity is typically found in environments that possess prior related knowledge, a readiness to change, trust between partners, flexible and adaptable work organizations, and management support.





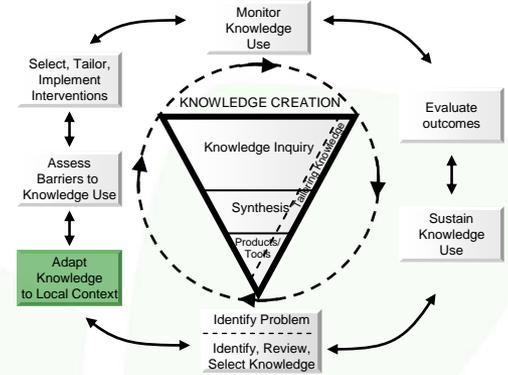
# Adaptive And Responsive Capacity

- Adaptive and responsive capacity refers to the ability to continuously learn and renew elements of the knowledge translation system in use, for on-going change and improvement. It is based on prior continuous learning experience, visionary and critical thinking, distributed leadership among stakeholders, multiple feedback loops, and monitoring mechanisms. All four of these capacities are necessary to varying degrees for a social system (network, organization, society, etc.) to be able to translate knowledge successfully. A system wanting to translate knowledge must acquire or develop any of these capacities that it lacks.



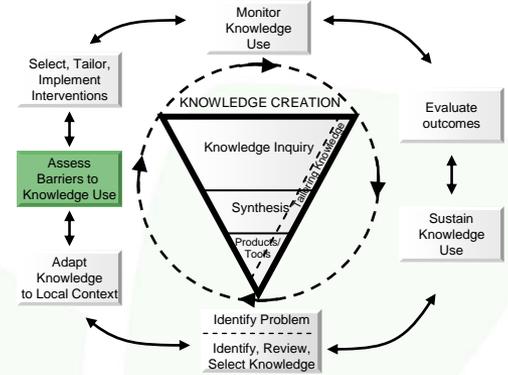
- The initial identification of the system's needs is particularly important, since it determines, to a large extent, the type of new knowledge to be translated. For example, saying that our society has a problem treating lung cancer leads us to generate and translate new knowledge for doing so (medical interventions). On the other hand, saying that we have a societal problem with nicotine dependence leads us to seek out and translate ways to prevent smoking (social and educational interventions, as well as medical and legal means). In addition to clarifying what new knowledge the system needs, the initial needs identification also serves to clarify the actors or groups that must be involved in solving the problem, as well as the current state of knowledge—both tacit and explicit—within the system.
- Finally, from an assessment perspective, it also provides us with measurable indicators that will ultimately allow us to assess the success or failure of a knowledge translation initiative

## Adapt Knowledge to Local Context



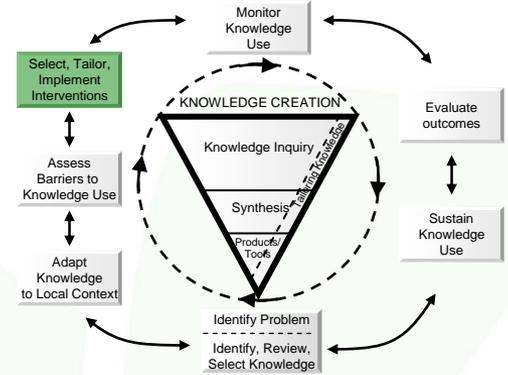
- Adapting the knowledge translation approach to the local context is a question of understanding who the system stakeholders are and what the system involved is trying to accomplish.
- Once the need has been identified the DKTC model allows us to determine whether the social system involved has the capacities to transfer that knowledge throughout that system.
- If that system doesn't possess all of the four capacities contained in the model it will need to either develop internally or hire it externally

## Assess Barriers to Knowledge Use



- Lack of any of the four capacities will constitute the barriers to knowledge use

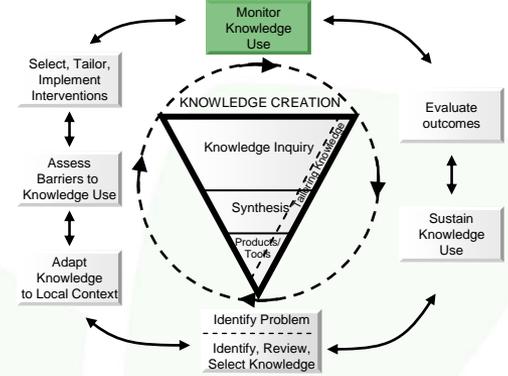
## Select, Tailor, Implement Interventions



- Interventions need to be tailored so as to ensure that the system has the necessary capacities contained in the Dynamic Knowledge Transfer Capacity Model.
- Where the capacities are weak they need to be reinforced or procured



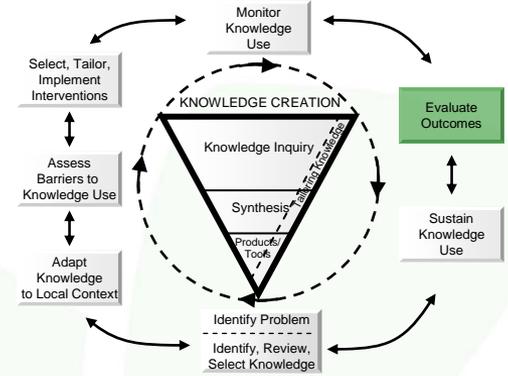
## Monitor Knowledge Use



- Constantly monitor the level of DKTC model capacities within the social system



# Evaluate Outcomes

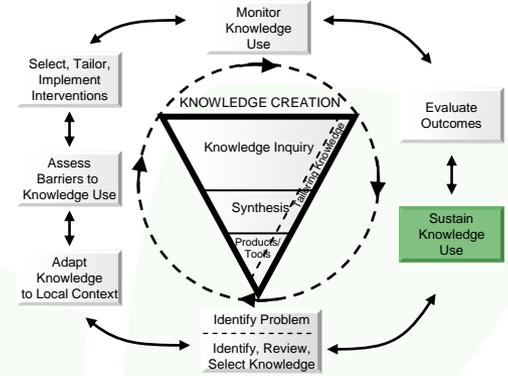


- Evaluate the outcomes for each capacity



Knowledge to action  
Des connaissances à la pratique

## Sustain Knowledge Use



- Create a culture of Knowledge Translation using the model

