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Systems Strategies for Knowledge Implementation

Allan Best - Conceptual Models

Gregg Moor - Evaluation Research

Jennifer Terpstra - New Frontiers

INSource



CAFÉ (Conceptualizing Action Frameworks and Evidence)

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Generation 1: Linear Models (1960s-mid 90s)

LANGUAGE

- Dissemination
- Diffusion
- Knowledge transfer
- Knowledge uptake

KEY ASSUMPTIONS

- Knowledge is a product
- Key process is a handoff from research producers to research users
- Knowledge is generalizable across contexts is a function of effective packaging

Best A, Hiatt RA, & Norman CD. *Pat Ed & Counsel* 2008;71:319-327

Generation 2: Relationship Models

LANGUAGE KEY ASSUMPTIONS

- Knowledge exchange
- Knowledge from multiple sources research, theory, and practice
- Key process is interpersonal, involving social relationships
- Networks of research producers and research consumers
- Collaborate thru production-synthesis-integration cycle
- Knowledge is context-linked, and must be adapted to local setting
- Degree of use is a function of effective relationships and processes

Best A, Hiatt RA, & Norman CD. *Pat Ed & Counsel* 2008;71:319-327

Generation 3: Systems Models

LANGUAGE

- Knowledge integration
- Knowledge translation
- Knowledge mobilization
- Knowledge exchange and uptake

KEY ASSUMPTIONS

- Knowledge cycle is tightly woven within priorities, culture, and context
- Explicit and tacit knowledge need to be integrated to inform decision making and policy
- Relationships mediate throughout the cycle, and must be understood from a systems perspective, in the context of the organization and its strategic processes
- Degree of use is a function of effective integration with the organization(s) and its systems

CAFÉ Research Objectives

1. To address the role of context in influencing the use of knowledge.
2. To provide a detailed description of conceptual frameworks underpinning KTA.
3. To demonstrate the benefits of a unique metanarrative methodology to synthesize knowledge.
4. To work with users of knowledge to enhance research adoption and uptake within the health sector.

What is a Narrative?

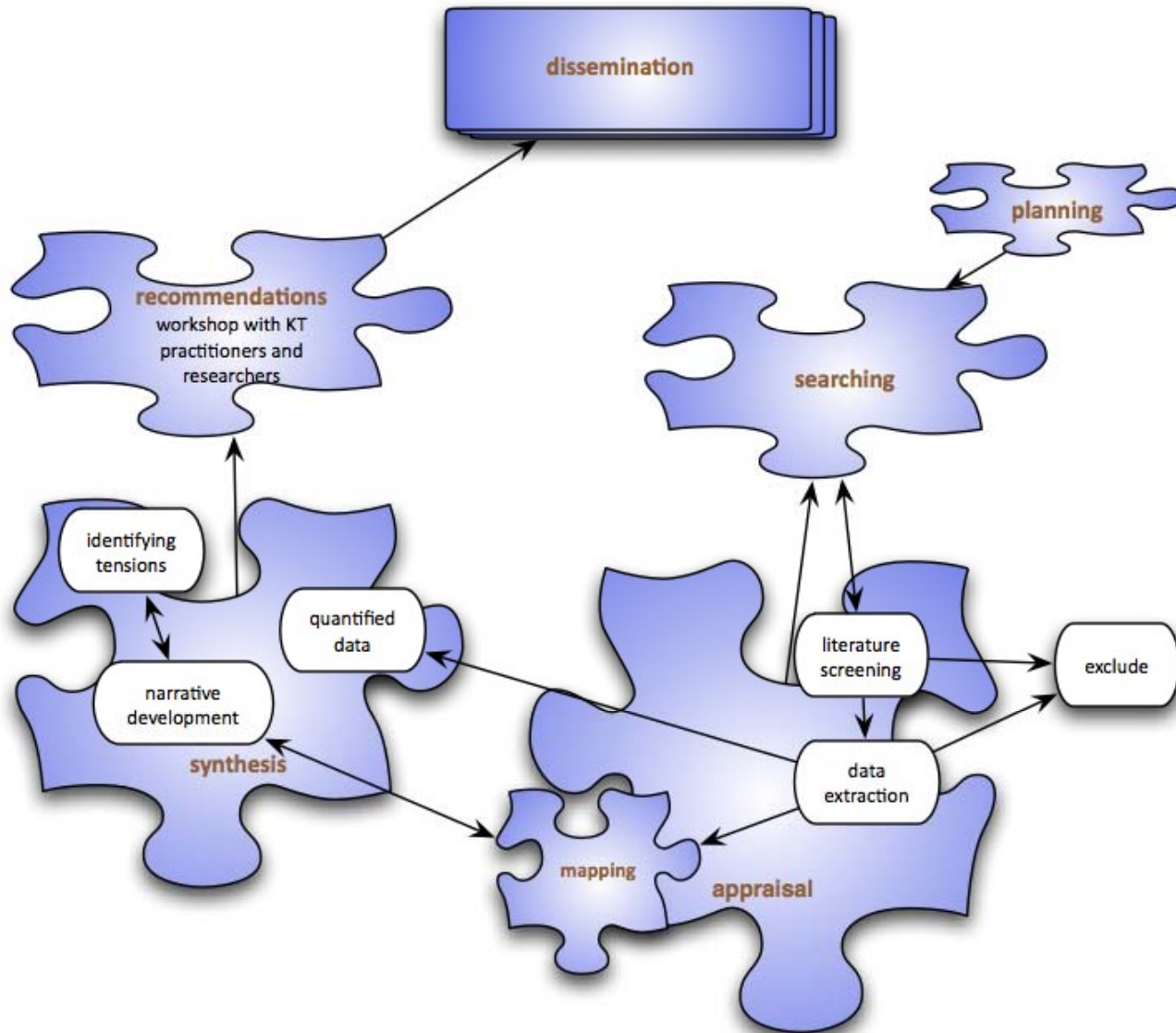
- The unfolding storyline of research in a tradition
- What scientists in this tradition see as 'the problem'
- The values and assumptions which they bring to their research
- How they define (a) 'rigor' and (b) 'crap'
- The things they are currently disagreeing on
- The main findings to date

Greenhalgh, T CAFÉ presentation, 2009

Why Metanarrative?

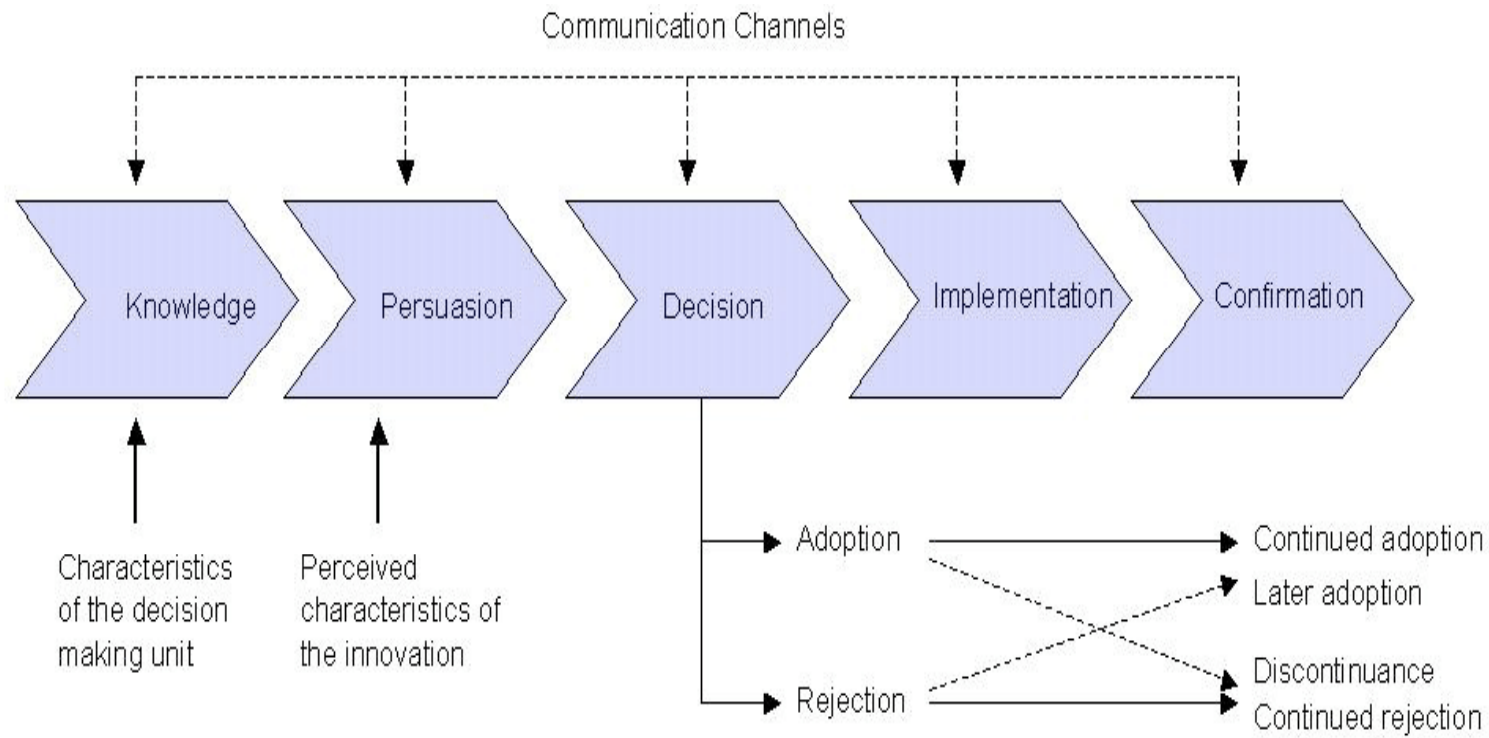
- Qualitative method to really understand what a model is all about, and to compare and contrast models
- Incorporates issues of context and meaning
- Historical reflection
- Constructs a story to make sense of what the model does and doesn't do

Metanarrative Review Methodology



Model 1: Diffusion of Innovation

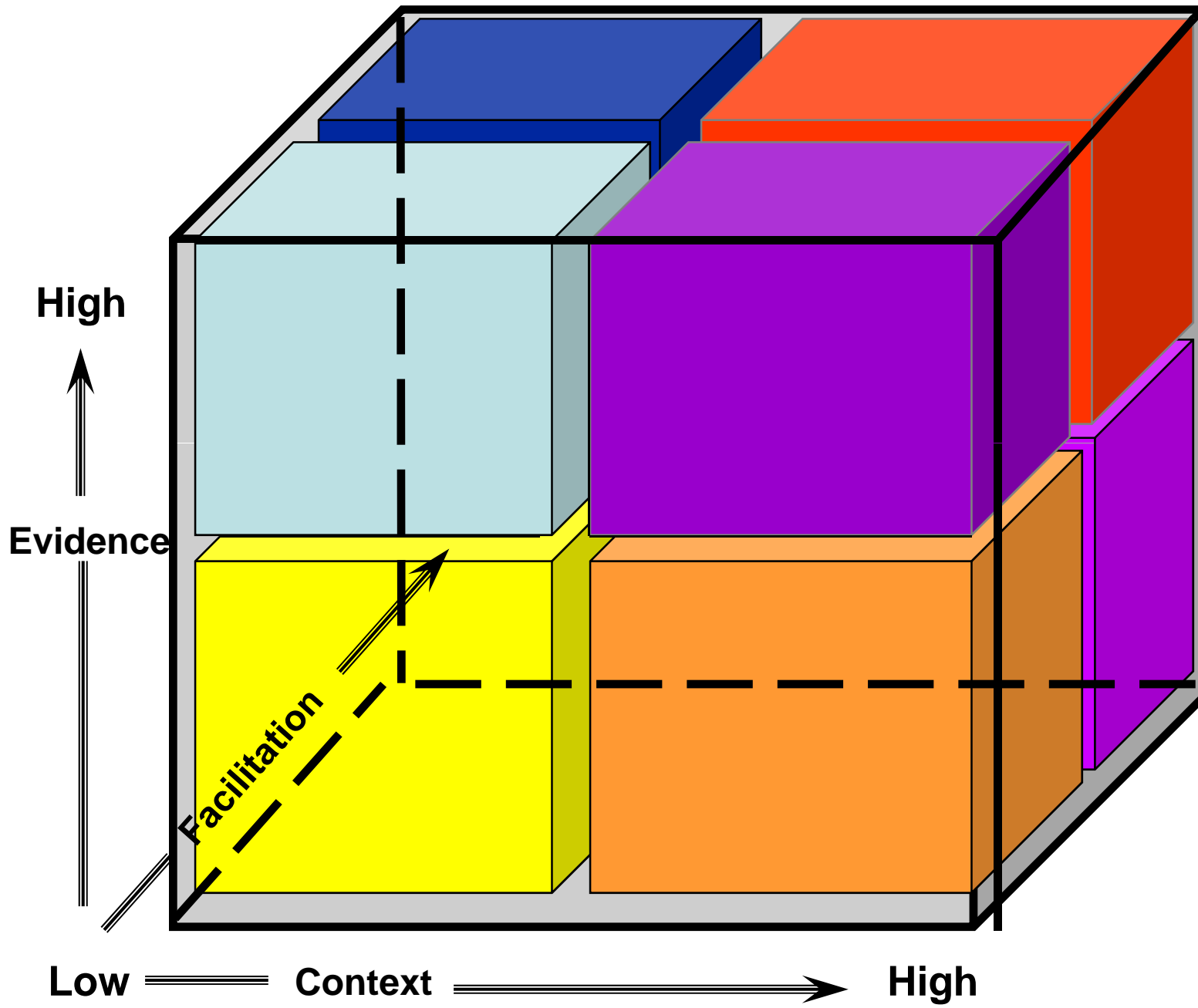
- WHO: Everett Rogers, adopted by many others
- WHEN: 1940s → present
- WHERE: USA, then internationally
- WHAT: derived from rural sociology tradition, focus on individual decisions to adopt or not adopt innovations



Rogers EM. *Diffusion of Innovations*. Fourth Ed. 1995. Free Press.

Model 2: PARIHS (Promoting Action on Research Implementation in Health Services)

- WHO: Alison Kitson & colleagues
- WHEN: 1990s → present
- WHERE: UK, then internationally
- WHAT: derived initially from quality improvement in nursing practice; emphasizes role of evidence, context and facilitation



Model 3: Quantitative Model of Research Utilization

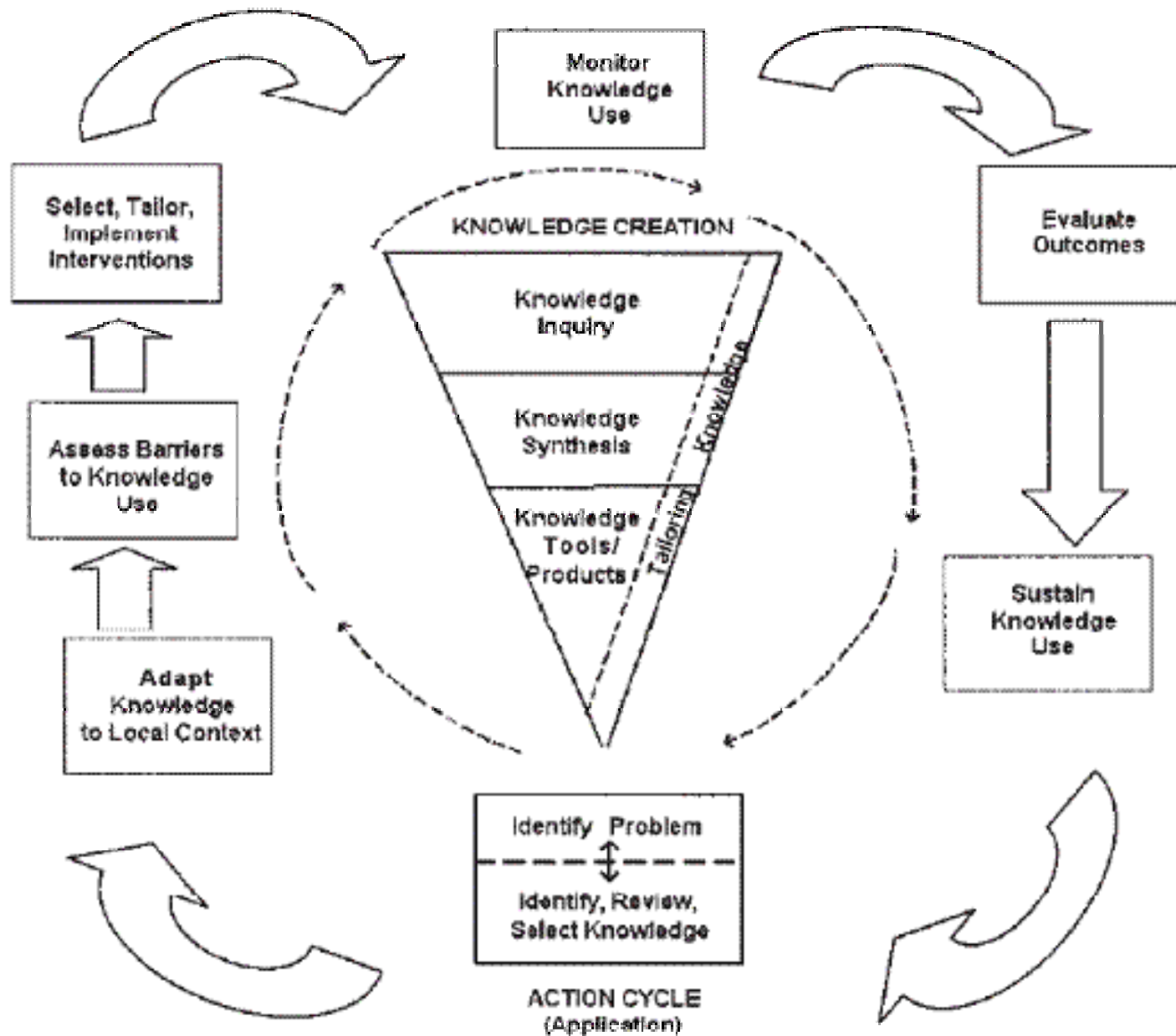
- WHO: Rejean Landry & colleagues
- WHEN: 1990s → present
- WHERE: Canada
- WHAT: derived from large-scale quantitative studies of research use by decision makers across policy sectors

Landry et al Explanatory Factors

- type of product
- researcher context
- user context
- product adaptation
- dissemination efforts
- linkage

Model 4: CIHR Knowledge-to-Action Cycle

- WHO: Ian Graham & colleagues
- WHEN: 2000s → present
- WHERE: Canada
- WHAT: derived from systematic review of planned action models of behavioral change



Model 5: Complex adaptive systems

- WHO: e.g. Greenhalgh et al, 2004; Nonaka et al, 2000; Parent et al, 2007; Robinson et al, 2005; Speller et al, 2005; Ward et al, 2009
- WHEN: 2000 onwards
- WHERE: Canada, UK, Japan
- WHAT:
 - Metaphor is a living system vs. machine
 - Feedback loops, nonlinearity, and self-organizing **patterns**
 - Multilevel influence
 - Context dependence
 - Agent-based change

Canadian Heart Health Initiative

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Robinson K, et al, *Health Education Research* 2005;20:499-513.

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Results: Key Tensions in KTA Conceptual Frameworks

- Tensions are issues upon which conceptual frameworks may disagree.
- Understanding the tensions helps to cut through the diverse terminologies and understandings of KTA so we can plan and work together more effectively.
- Understanding tensions allows us to compare narratives in quest to create a meaningful metanarrative.

Seven Tensions

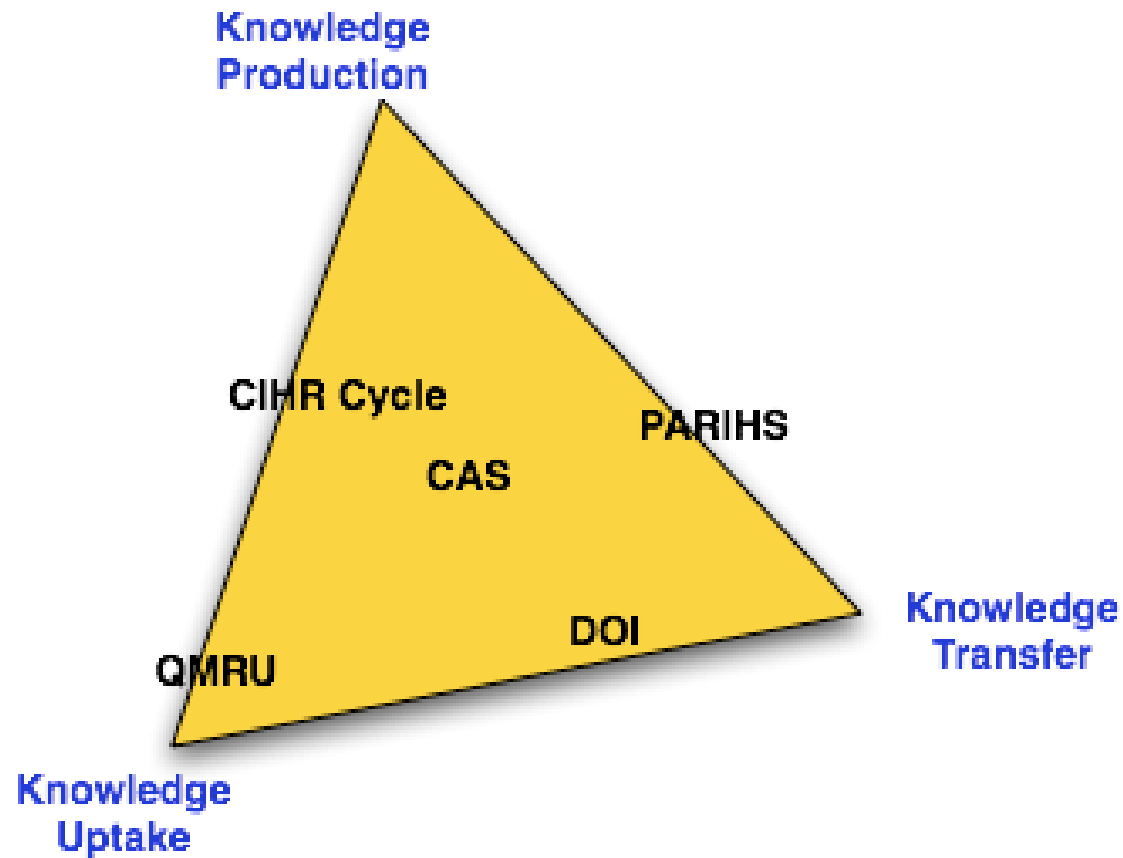
| | |
|-------------------|---|
| Worldview | 1. Positivist, constructivist, or critical theory paradigm? |
| | 2. Newtonian machine or a complex adaptive system? |
| Problem | 3. Production, and/or transfer, and/or uptake? |
| | 4. Individual, and/or organization, and/or society? |
| Strategies | 5. Managed or self-managing? |
| | 6. Collective project shared by researchers and decision-makers, or temporary intersection of different stakeholders? |
| Framework Purpose | 7. Explain and illuminate or guide to practical action? |

Tension 3: where do we locate the KTA problem?

Is it a problem of ...

- ... knowledge production?
- ... knowledge transfer
- ... knowledge utilization?

KTA Focus for Each Model



Tension 5: Best organizing approach?

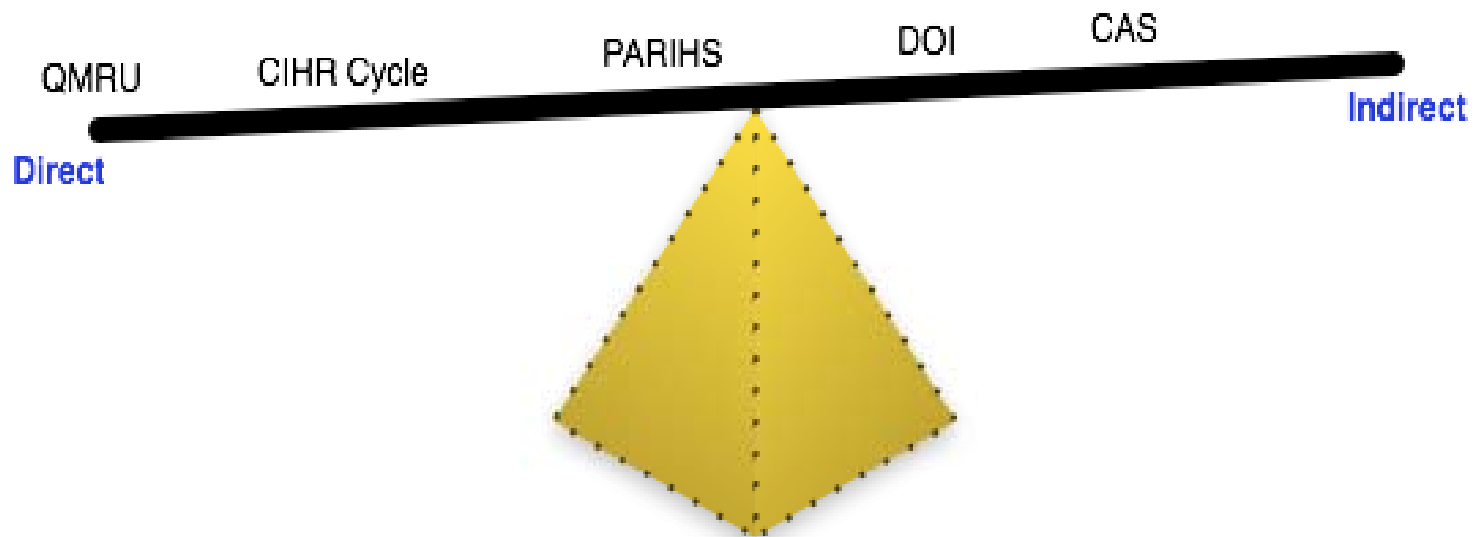
Make It Happen

- identify problems
- assign responsibilities
- adopt tailored mechanisms

Let It Happen

- focus on building up relationships and structures
- undertake efforts to build organizational/system capacities

Approach to KTA per Model



So What?

- Context counts
- Complex systems will be the rule, not the exception
- Complex problems require complex solutions
- Problem-based, user-driven research should be the norm
- Collaboration and capacity are critical factors
- We need to better understand key issues around effective networking, leadership, and strategic communications

1. Revolution in academia

- Tenure and Promotion
- Granting agency and publication practices
- Intellectual property
- Conflict of interest
- Financial incentives and management
- Intersectoral collaboration
 - Structures
 - Leadership
 - Networks

2. Revolution in strategy

- Research a line item competing with patient service
- Sustainable funding
- Integration with planning, decision-making and resource allocation
- Dedication of time, incentives, and resources
- Capacity development
- Transformative versus incremental strategy

3. Revolution in science

- Generalizable versus contextual knowledge
- Reductionist versus holistic models
- Multilevel/multifactorial, dynamic interventions
- Clinical versus public health evidence