



Using *Knowledge to Action* Practice Change

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Research-practice Gap

Disconnect between Knowledge and Action

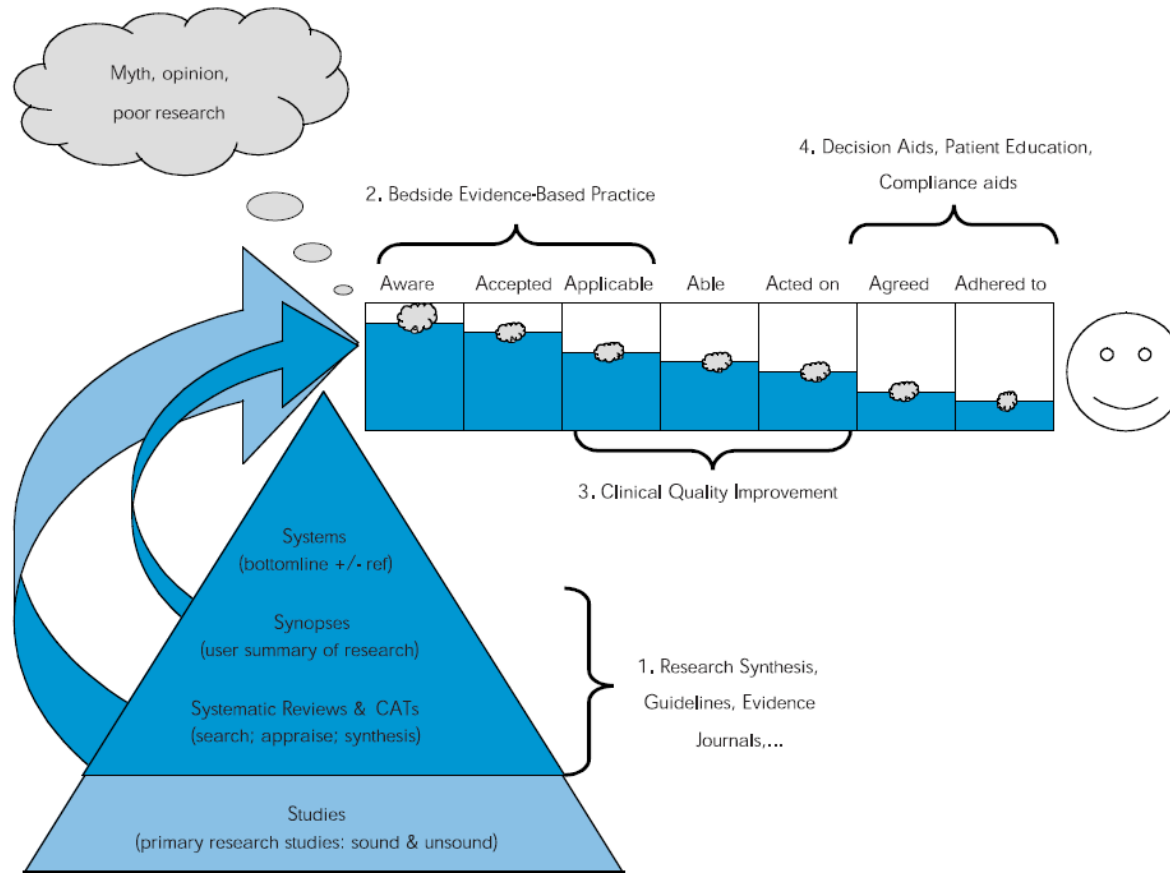
Gap between what we know and what we do

- Under-use of effective treatments
 - 5-50 years to change practice
- Over-use of unhelpful, harmful treatments
 - Rosiglitazone, tamiflu, antibiotics,
- Uncertainty about benefits
 - Screening, increased dementia diagnosis
- Incorrect use of treatments

Q: how do we synthesise, exchange, apply research results between academic and clinical settings?

Research to practice pipeline

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The research-to-practice pipeline. New research, of varying soundness, is added to the expanding pool and enters practice both directly or is reviewed, summarised, and systematised (delay) before entering practice, with leakage occurring at each of several stages between awareness and patient outcome. Different knowledge translation disciplines focus on different parts of the pipeline (1–4).

Glasziou P, Haynes B. *Evidence-Based Medicine* 2005;10:4-7.

Why? - Current challenges

- ***Published research is insufficient***
 - incomplete, biased
 - does not reflect real patients, problems
 - poorly designed, reported
- ***Clinical environments are not uniform***
 - geography, policy, organisations, culture
- ***Research evidence is only a part of the knowledge required to improve practice***
 - Tacit knowledge, routine data, experience
- ***Limited evidence re how to move knowledge into action***
 - Health, management, psychology, sociology, education

What is Knowledge Translation

- a *dynamic and iterative process* that includes *synthesis, dissemination, exchange* and *ethically-sound application of knowledge* to *improve the health* of individuals, provide *more effective health services and products* and strengthen the health care system.
- This process takes place within a *complex system of interactions* between researchers and knowledge users which may *vary in intensity, complexity and level of engagement* depending on the *nature of the research* and the findings as well as the *needs of the particular knowledge user*

Canadian Institutes of Health Research
<http://www.cihr-irsc.gc.ca/e/29418.html>

In other words...

- the ***effective and timely incorporation*** of evidence-based information into the ***practices of health professionals*** in such a way as to ***effect optimal outcomes*** and ***maximize the potential*** of the health system

KT Program, Faculty of Medicine, University of Toronto, 2004

Why now?

Knowledge translation has evolved from several diverse disciplinary perspectives

- knowledge/research utilisation, capacity building
- diffusion of innovations
- technology transfer
- patient safety, quality improvement

Recent increase of interest due to

- traditional educational approaches to moving research into practice did not lead to optimal care.

Purpose of KT

- Improve the way healthcare practitioners use research findings more effectively in routine clinical practice
- Translate, implement clinical practice which has been found to be effective in research
- For use at an individual, service, organisation, and policy level

What is knowledge?

“ facts, information and skills acquired through experience of education; theoretical and practical understanding of a subject”

Traditional Evidence-based medicine

1. Research evidence
 - Hierarchy to reduce bias
 - Appraisal, synthesis
2. Clinician's expertise
 - Knowledge, skills, environment
3. Patient values, needs
 - Expectations, wishes

Translating knowledge

- Knowledge is not a single entity
 - Scientific
 - Experiential
 - Tacit
- Translation process cannot be linear
 - Linear thinking that is required for high quality scientific research is not sufficient to understand dynamic, iterative process of KT
 - Need new knowledge and ways to understand/ manage/ monitor variation in individuals' behaviour, organisational systems
 - Complexity \neq chaos

BROAD understanding of knowledge

- Research evidence is insufficient to change practice
- Knowledge is socially constructed
 - listen to people we trust; their opinions, preferences
- Knowledge is differentially available
- Different hierarchies of knowledge exist
 - knowledge is used more if it is important, practical
 - conflicts of knowledge exist
- Professional networks create knowledge, shape behaviour
 - Researchers, clinicians, disciplines
 - Knowledge brokering Dopson et al, 2010
- Knowledge (inconsistently) informs behaviour

Crossing the Gap

Many ways to look at this problem

- Use the power of “knowledge”
 - research evidence
 - clinician expertise
 - patient needs, wants, expectations
- Consider local context, policy, habits
- Build research knowledge about what works
 - knowledge translation

Integrating knowledge



What is Context

Everything that impacts on how we create and use knowledge

- Often idiosyncratic, local

Includes

- Organisational culture '*way things are done*'
- Resources
- Tools, systems, processes
- Leadership and governance
 - Influenced by power, politics, policy

Building a conceptual model

Knowledge is derived from...

Forms of knowledge
Research evidence
Clinician knowledge, skills, experience
Patient values, choice, engagement

Adapt knowledge to context

Knowledge	Local Context
Research evidence	Local, national policy
	Organisational setting
Clinician knowledge, skills, experience	Environment resources
	Staffing profile
Patient values, choice, engagement	Work practices

It is often unclear how to identify, and map what is important

Assess barriers to knowledge use

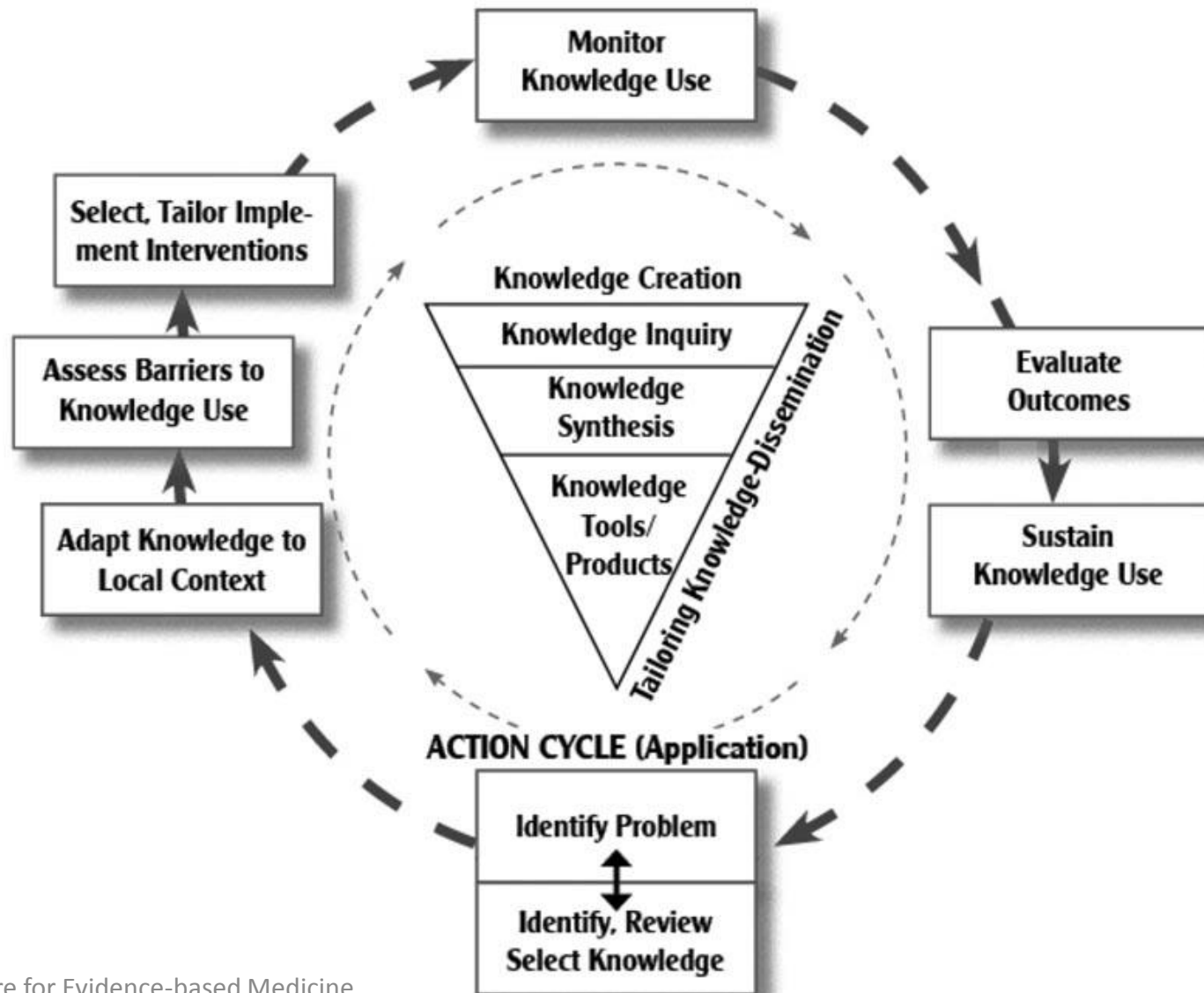
Knowledge	Local Context	Barriers
Research evidence	Local, national policy	Lack of awareness
	Organisational setting	Lack of agreement
Clinician knowledge, skills	Environment resources	Low self-efficacy
	Staffing profile	Environmental factors
Patient values, choices	Work practices	Patient factors

Barriers often related to research evidence & contextual factors

Select, Tailor, Implement an Intervention

Knowledge	Local Context	Barriers	Implement
Research evidence	Local, national policy	Lack of awareness	Engage stakeholders
	Organisational setting	Lack of agreement	Leadership & support
Clinician knowledge, skills	Environment resources	Low self-efficacy	Change management
	Staffing profile	Environmental factors	Stable teams
Patient values, choices	Work practices	Patient factors	Education & training

The Knowledge to Action Cycle



Review of key concepts

- KIA encompasses all steps between knowledge creation and application
- Interactive, dynamic, nonlinear process
- Requires interdisciplinary collaboration between knowledge creators and users
- Built on research-generated knowledge, but incorporates other types of knowledge
- Knowledge needs to be user and context specific
- Relevant for individuals, organisations, policy