

Ottawa Health Research Institute

OHRI



IRSO

Institut de recherche en santé d'Ottawa



The Art and Science of KT – a provider and service delivery perspective

Jeremy Grimshaw MD, PhD

Clinical Epidemiology Program, OHRI

Department of Medicine, University of Ottawa

Canada Research Chair in Health Knowledge Uptake and Transfer

AN INSTITUTE OF • UN INSTITUT DE



Funding acknowledgements

- Jeremy Grimshaw holds a Tier 1 Canada Research Chair in Health Knowledge Transfer and Uptake
- KT ICEBERG is funded by the Canadian Institutes of Health Research

ICEBeRG

Improved Clinical Effectiveness through
Behavioural Research Group



GReBECI

Groupe de Recherche Behaviorale sur
l'Efficacité Clinique Interdisciplinaire



Knowledge translation research

- Knowledge translation is a human enterprise that can be studied to understand and improve knowledge translation approaches
- Knowledge translation research is the scientific study of the determinants, processes and outcomes of knowledge translation.
- Goal is to develop a generalisable empirical and theoretical basis to optimise KT activities

The Art and Science of KT – a provider and service delivery perspective



- Is the glass half full or half empty?

The Art and Science of KT – a provider and service delivery perspective



- The glass is half full....

Increased awareness of suboptimal use of evidence in healthcare decisions

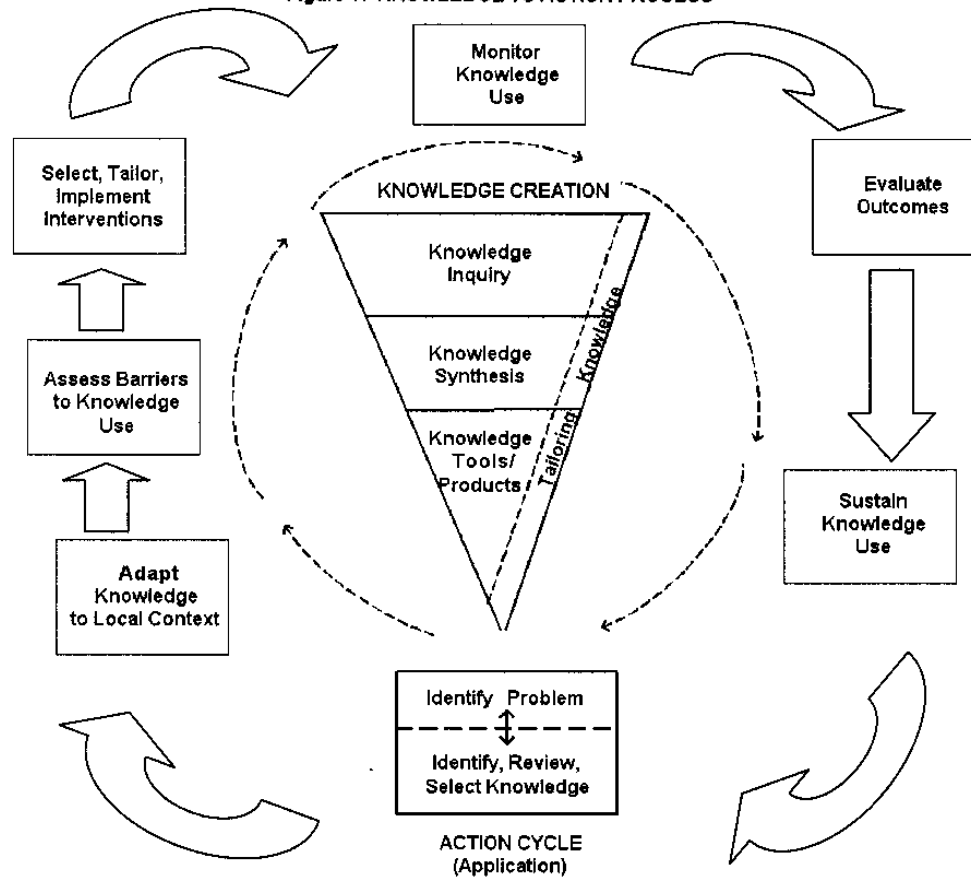
- Consistent evidence of failure to translate research findings into clinical practice
 - 30-40% patients do not get treatments of proven effectiveness
 - 20–25% patients get care that is not needed or potentially harmful

Schuster, McGlynn, Brook (1998). *Milbank Memorial Quarterly*

Grol R (2001). *Med Care*

Development of KT frameworks

Figure 1: KNOWLEDGE TO ACTION PROCESS



Graham et al (2006). Lost in Knowledge Translation. Time for a Map? *Journal of Continuing Education for Health Professionals*

Investment in knowledge synthesis

- International investment in knowledge synthesis and management perspectives
- Increasing availability of high quality guidelines and systematic reviews available to support practice:
 - Cochrane Collaboration
 - AHRQ evidence based practice reports
 - Multiple guideline development agencies
 - Multiple Health Technology Assessment agencies

Development of KT research

- Development of KU/KT/IS research field
- Substantive level of research activity
 - Cochrane Effective Practice and Organisation of Care (EPOC) group register includes over 6,000 RCTs and quasi experiments of interventions to improve health care delivery and health care services
- Specialised journals



Demonstrated improvements in evidence based care

- Improvements in evidence base care possible in both research and service settings
 - 86% guideline dissemination and implementation studies showed improvements in quality of care

Grimshaw et al (2004) Health Technology Assessment

- Median effect sizes 5-10% absolute improvement in guideline compliance
 - if this was a drug/new technology we would buy it!

The Art and Science of KT – a provider and service delivery perspective



- The glass is half empty
- Five key challenges to advancing the science of KT

Terminological and conceptual challenges

- **We need to build a shared understanding and language for core concepts within KT limiting scientific progress**
- Different terms are used to express the same concept, the same term is used to express different concepts
- Many concepts are poorly described and defined
- At the most fundamental level, we do not agree on the appropriate dependent variable (behavioural vs knowledge utilisation) or what our field is called

Terminological and conceptual challenges

applied health research
capacity building
co-optation - cooperation -
 competing
diffusion*
dissemination*
getting knowledge into practice
impact
Implementation*
knowledge communication
knowledge cycle
knowledge exchange
knowledge management
knowledge translation

knowledge mobilization
knowledge transfer
linkage and exchange
popularization of research,
research into practice
research mediation
research transfer
research translation
science communication
teaching
“third mission”
translational research
transmission
utilization

Tetroe et al (2008) *Milbank Quarterly*

Theoretical challenges

- **Too many theories, not enough theory – profusion of theories that are often poorly conceptualised, rarely operationalised, even more rarely tested**
- **Should there be a ban on theory development until we have tested the currently available theories?**
- Most professional behavior change frameworks are descriptive and normative rather than predictive.
- Few have been operationalised in detail
- Many have not been prospectively evaluated.
- Few head-to-head comparisons of different theories
- Need for predictive theories that incrementally improve likelihood of successful implementation.
- Need for rigorous evaluation of candidate theories

Evaluation challenges

- **Failure to build cumulative science - thousands of studies that do not optimally incorporate current state of knowledge when planning new studies**
- Technical – clustering ignored, small numbers of units, unrealistic effect sizes, unit of analysis remain common
- Design – majority are two arm trials (intervention vs control)
- Intervention – little rationale provided for the choice of intervention, few explicitly theory based, insufficient feasibility testing
- Limited efforts to explore causal mechanisms of any observed changes
- Economic evaluation – largely ignored
- Reporting – insufficient details of context, intervention, and methods

Challenge of sustained funding for KT research

- **What proportion of global research budgets should be spent on knowledge translation research?**
- Most research funders perceive some responsibility for KT
- Few research funders have provided sustained funding for KT research

Challenge of sustained funding for KT

- **Everyone wants KT but health care systems have fundamentally failed to invest in knowledge infrastructure for KT**
- Currently most health care systems abrogate responsibility for knowledge translation to consumers, health care professionals, managers and policy makers
- In effect, this is leaving knowledge translation to the market place
- KT researchers have not convinced health care systems of the utility of our scientific insights

The Art and Science of KT – a provider and service delivery perspective



- Is the glass half full or half empty?

The Art and Science of KT – a provider and service delivery perspective

- I would argue that we have only just scratched the surface of the problem – we need sustained, more co-ordinated collaborative research supporting with stable funding and research infrastructure to make progress.
- However, I remain optimistic:

Ever tried. Ever failed. No matter.

Try again. Fail again. Fail better.

Samuel Beckett. *Worstward Ho!*