An Introduction to Knowledge Translation

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Knowledge Translation and Public Outreach Portfolio, CIHR

CCPH Pre-Conference Workshop

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Knowledge translation is the bridge between discovery and impact

(KT research and practice)

Research outputs

Research impacts

KT is about making a difference
It’s all in the name

Knowledge to action (KTA)
Knowledge Transfer (KT)
Knowledge Translation (KT)
Research Use/Utilization
Knowledge Exchange (KE)
Commercialization
Translational Science (I, II, III)
What is “knowledge translation”?

- **Knowledge translation research (KT Science)** is about:
  - Studying the determinants of knowledge use and **effective methods** of promoting the uptake of knowledge

- **Knowledge translation (KT)** is about:
  - Making users **aware of knowledge** and **facilitating their use** of it to improve health and health care systems
  - Closing the gap between what we know and what we do (the know-do gap)
  - Moving knowledge into action
Why is KT important?

- Consistent evidence of failure to translate research findings into clinical practice
  - 30-45% patients do not get treatments of proven effectiveness
  - 20–25% patients get care that is not needed or potentially harmful (McGlynn et al, 2003; Grol R, 2001; Schuster, McGlynn, Brook 1998)

- Cancer outcomes could be improved by 30% with optimum application of what is currently known (CSCC 2001; Ford et al 1990)
Knowledge translation is a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically sound application of knowledge to improve the health of Canadians, 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 that 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.
KT definition components

- **Knowledge synthesis**
  - The **contextualization and integration of research findings** of individual research studies within the larger body of knowledge on the topic
  - Synthesis is a family of methodologies for determining what is known in a given area or field and what the knowledge gaps are

- **Dissemination**
  - Involves identifying the appropriate audience for the research findings, and tailoring the message and medium to the audience

- **Knowledge exchange**
  - Refers to the interaction between the knowledge user and the researcher resulting in mutual learning.
  - It encompasses the concept of collaborative or participatory, action-oriented research where researchers and knowledge users work together as partners to conduct research to solve knowledge users’ problems (Integrated KT)

- **Ethically-sound application of knowledge**
  - The iterative process by which knowledge is actually considered, put into practice or used to improve health and the health system
  - KT activities must be consistent with ethical principles and norms, social values as well as legal and other regulatory frameworks
Two broad types of KT at CIHR

- The researcher develops and implements a plan for making knowledge users aware of the knowledge generated through a research project.
- Research approaches that engage potential knowledge users as partners in the research process.
- Requires a collaborative or participatory approach to research that is action oriented and is solutions and impact focused.
- For example, the knowledge user partner helps to define the research question and is involved in interpreting and applying the findings.
IKT Approach

1. Shape the research questions
2. Decide on a methodology
3. Help with data collection and tools development
4. Interpret the study findings
5. Move research results into practice
6. Widespread dissemination and application
### Examples of KT activities and products

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<td>(e.g., dialogue with policy makers)</td>
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The three rights of KT research

1. Researchers need to do the right research

2. The right people/need to be involved from the beginning

3. Knowledge-users need to make the research right for their own context
CIHR IKT Resources

Projects and activities to support IKT in Canada and abroad
Three interactive educational modules:

   - Parry D, Salsberg J, Macaulay AC, Participatory Research at McGill (PRAM)

2) Introduction to Evidence-Informed Decision Making
   - Donna Ciliska, McMaster University

3) Critical Appraisal of Intervention Studies
   - Donna Ciliska, McMaster University

4) A Guide to Knowledge Synthesis
   - Jeremy Grimshaw, University of Ottawa

Available at: www.cihr-irsc.gc.ca/e/39128.html
Knowledge to Action: A KT Casebook

- Provides insight into the real world of researchers and knowledge users
- Presents important lessons about successful EoGKT and IKT
- Published early 2009

Available at:
www.cihr-irsc.gc.ca/e/29484.html
KT Resources

KT in Health Care - Moving from Evidence to Practice: A KT Handbook

• Content:
  • Defines and describes KT
  • Outlines strategies for how to target KT to relevant stakeholders including the public, clinicians, and policy-makers

• Structure:
  • Chapters follow the Knowledge-to-Action Cycle
  • Additional chapters on the Science of KT and KT Ethics

• Availability:
  • Published Spring 2009 (English only)
Knowledge to Action: An EoG KT Casebook

- Features end-of-grant (EoG) KT activities supported by CIHR's KT Supplement Grant program
- Showcases unique and effective ways to share research results covering a broad spectrum of research
- Published mid-end April 2010

Available at:
http://www.cihr-irsc.gc.ca/e/41594.html
The KT Clearinghouse website is funded by the Canadian Institute of Health Research (CIHR) to serve as the repository of KT resources for individuals who want to learn about the science and practice of KT, and access tools that facilitate their own KT research and practices.

http://ktclearinghouse.ca/
Overview/Agenda

1. CIHR`s Citizen Engagement Framework
2. CIHR`s experiences to date
   - trends in Canada and elsewhere
3. Key concepts of the Framework
4. Implementation Plans
   - tools and resources (Handbook)
   - capacity building

Questions

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Integrating Knowledge Translation Through Participatory Research

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Participatory Research at McGill (PRAM)

CCPH
May 12, 2010
Outline of presentation

- Outline of Participatory Research (PR)
- PR and Integrated Knowledge Translation
- Participatory Research at McGill (PRAM)
outside research teams swooped down from the skies, swarmed all over town, asked nosey questions that were none of their business and then disappeared never to be heard of again

"outside research teams swooped down from the skies, swarmed all over town, asked nosey questions that were none of their business and then disappeared never to be heard of again"

*Aboriginal physician Dr Louis Montour 1987*
Participatory Research (PR)

“Systematic enquiry,

with the collaboration of those affected by the issue being studied,

for the purpose of education and taking action or effecting social change.”

- Undertake the research
- Within the partnership
- To make a difference

The Royal Society of Canada- Study of Participatory Research in Health Promotion. 1995 Green LW George MA, Daniel M, Frankish CJ, Herbert CP, Bowie WR, O'Neill M.

Definition used by CDC and Institute of Medicine
Research WITH communities not on or about communities

Different terminology
- Action research
- Participatory action research
- Participative research
- Collaborative inquiry
- Participatory rural appraisal
- Community-based participatory research
- Emancipatory research
- Community engagement
- Citizen engagement
History of participatory approach

Northern Tradition
Kurt Lewin’s action research 1940’s; emancipatory and feminist research in USA

Southern Tradition
Alternative self-determination research paradigms from 3rd world, 1970’s (Paulo Freire and others)

Health Promotion
Centers of Disease Control, Lawrence W Green, Meredith Minkler, Nina Wallerstein, Barbara Israel (1980’s, 1990’s - )

Health Care, translational science, practice-based research networks
(2000’s - )

Freire P. Pedagogy of the Oppressed 1970
Participatory Research Goals

Equally important goals of participatory research

• understand that everyone is an expert
• provide benefit and build capacity of all partners
• develop knowledge that is applicable to other settings

Scientific rigour should never be sacrificed!

• strongest PR projects are the most scientifically rigorous

Participatory research is an approach to research – not a method

• uses qualitative, quantitative or mixed methods as appropriate
“Researchers are co-learners rather than teachers, grappling as equal partners with ethical challenges and the need for research approaches that reflect both scientific and popular perspectives”

Minkler M. Using Participatory Action research to Build Healthy Communities. Public Health Reports 2000;115:191-197
PR and Knowledge Translation

http://www.cihr-irsc.gc.ca/e/29418.html

- End of Grant KT
- Integrated KT (IKT)
  KT built into process - uses principles of PR where researchers partner with stakeholders

Relationship between PR and Integrated KT

What are the roles of the Research Partners?

**PR**
- Terms of partnership agreement
- Research goals and objectives
- Methods and duration of projects
- Strategy and content of evaluation
- Data collection
- Interpretation of findings
- Joint dissemination and implementation of results to/for all audiences and stakeholder groups

**IKT**
- Shaping the research questions
- Deciding on the methodology
- Helping with data collection and tools development
- Interpreting the study findings
- Crafting the message and disseminating the research results
- Moving the results into practice


*from http://www.cihr-irsc.gc.ca/e/33747.html; Knowledge Translation at CIHR - Dr. Ian D Graham; February 28, 2007*
KT Learning Modules:
Throughout the presentation, we will be referring to the:

Canadian Institutes of Health Research
KT Learning Modules:

**A Guide to Researcher and Knowledge-User Collaboration in Health Research**


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Benefits of Integrated Knowledge Translation (IKT)

Involves all stakeholders – those who will use, or be affected by the results of the research – from formulation of the research question through interpretation and dissemination of results.

And thus...

- KT is built into the research process because the intended users of the results are involved in creating the knowledge
- Increases the likelihood that results and recommendations will be acted upon (Knowledge-to-Action)
- Increases the relevance of the research to intended users
- Mitigates end-of-grant ‘surprises’. All stakeholders are aware of ongoing developments
“The **right** people and/or communities need to be involved from the beginning

- Need focused solutions, with collaborative and interdisciplinary research

- Users of the research (i.e. individuals, communities, health professionals, health organisations, policy makers) need to be helping to set the research agenda and define the research questions to ensure relevance and greater likelihood of uptake of the results”

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*Dr Ian Graham VP Knowledge Translation, CIHR. McGill University September 2008*
What should the researchers and partners negotiate together?

- Terms of partnership
- Research goals and objectives
- Methods and duration of projects
- Strategy and content of evaluation
- Potential harms in addition to potential benefits
- Interpretation of results
- Joint dissemination of results in lay language and scientific terms to patients, communities, health professionals, organisations, administrators, policy makers, scientists, and funding agencies

Who owns the data? Where are the data kept?
Future control and use of all data – which includes biological material i.e. blood samples
Degree and types of confidentiality for individuals and communities and all partners
Methods of resolving disagreements
Incorporation of new collaborators into the team
Written agreement

Module 6
Ethics and partnership agreements

Module 7
Maintaining partnerships over time

Challenges of PR and IKT

- Need steering committee with wide representation
- Constraints
  - balancing all expectations: researchers and partners
    - researchers – timelines, publications, tenure, promotion
    - partners – timelines, urgency, finances
  - partnership disagreements
  - changing personnel
- Ensure partners involved in research and governance
- Maintain trust
- Power and control over resources
- Time, time, time......

Ethical Considerations in iKT and PR

Code of Ethics
A collection of aspirations, regulations, and or guidelines that represent values of the group or profession to which it applies.

Rationale for respecting communities in addition to respecting individuals

1. Community interests are separate from individual interests, and may conflict

   Cancer genetic research in Ashkenazi Jewish people uncovered genetic predisposition to colon cancer; mutation present in 6.1% of sample; removal of individual identifiers does not protect the collective

2. PR and iKT requires ethics to assign the same moral status to communities by recognising the importance of community desires and interests.

iKT / PR in Primary Health Care: Examples of Communities

- Geographical communities
  - Aboriginal communities, Urban communities

- Self-defining or issue-based communities
  - Ethnic communities
  - Women prisoners/prison alumni/prison staff
  - Homeless people

- Organisations
  - YMCA, Canadian Pharmacists Association

- Clinical communities
  - Patients/staff assessing patient satisfaction in FM teaching unit
  - Patients on renal dialysis
  - Practice-based research networks
    - Assessing impact of point of care information
  - Patients on anticoagulants (for pharmacogenomics)
## Knowledge Translation Funding Opportunities

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<td>Operating grants competition - reviewed by a panel of KT experts</td>
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| Integrated KT | Partnerships in Health System Improvement (PHSI) |
|              | KT Synthesis |
|              | Knowledge to Action (end of grant KT) |
|              | Strategic research funded through institutes |
|              | Proof of Principal (POP) |
|              | Meeting, Planning and Dissemination grants to develop collaborative relationships and grant proposals |

| End of Grant KT | Allowable expense as part of a grant application |
|                | Knowledge to Action (integrated KT) |
|                | KT Supplement Grants |
|                | Proof of Principal (POP) |
|                | Meeting, Planning and Dissemination grants to disseminate results |

| Science of KT | Operating grants competition- KT Panel, |
|              | Strategic calls from the KSE Branch on theories and methods of KT |
**PRAM activities (academic)**

**Publishing on theory and method in PR**
- Realist review of benefits of PR (using a PR approach)- what works, for whom and in what contexts?

**Collaborating on faculty grant applications**
- Partnerships include
  - Psychiatry
    - Brief Intervention in addiction treatment
    - Community-based mental health promotion
  - Family Medicine Teaching Units
  - Clinical Epidemiology
  - Canadian Pharmacists’ Association
  - Long term care facility

*Macaulay AC et al Invited commentary ‘Assessing the benefits of participatory research: a rationale for a realist review’. Global Health Promotion 2010 (under review)*
PRAM activities
(capacity-building & changing policies)

- CIHR website - teaching modules for introduction to IKT
- Faculty development workshops (introductory and advanced)
- Consultations - staff and post graduate students
- Monthly seminars
- University policies (promotion and tenure)
- National and N. American policies (guidelines for granting agencies, grant review committees, ethical guidelines, TCPS current draft)

CIHR Knowledge Translation Learning Modules:
A Guide to Researcher and Knowledge-User Collaboration in Health Research
Web based resources

- PRAM – Participatory Research at McGill (http://pram.mcgill.ca)
- CIHR Knowledge Translation Portfolio (http://www.cihr-irsc.gc.ca/e/29418.html)
- CIHR Guidelines For Health Research Involving Aboriginal People (http://www.cihr.ca/e/documents/ethics_aboriginal_guidelines_e.pdf)
- Guidelines for Participatory Research (http://lgreen.net/guidelines.html) and Minkler M and Wallerstein N (Eds) CBPR for Health second edition Appendix C
- Community Campus Partnerships for Health (http://www.ccph.info)
  Includes examples of research agreements (http://depts.washington.edu/ccph/commbas.html#Principles)
  Short version of this document published as
- KSDPP – The Kahnawake Schools Diabetes Prevention Project (http://www.ksdpp.org)
- Agency Health Quality Research Community Based Participatory Research (http://www.ahrq.gov/clinic/epcsums/cbprsum.htm)
Canadian Institutes of Health Research
KT Learning Modules:

A Guide to Researcher and Knowledge-User Collaboration in Health Research

Participatory Research at McGill (PRAM)

http://pram.mcgill.ca
email: pram.med@mcgill.ca

PRAM resources
• Consultations
• Workshops
• Seminars
• Postgraduate scholarships
  (mainly in Aboriginal health)