

Knowledge Exchange Theory and Practice

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Overview

1. What is knowledge exchange? Why do we need it?
2. Knowledge to action process
3. Evidence-informed decision making in public health
4. OAHPP knowledge exchange initiatives and supports
5. Resources for knowledge exchange & evidence-informed decision making

Defining knowledge exchange:

- Knowledge exchange (KE) is collaborative problem-solving among public health practitioners, researchers, and decision-makers, which takes place through linkage and exchange. It results in mutual learning through the process of planning, producing, disseminating, and applying existing or new research in decision-making.

Another useful definition of KE:

- ...the methods for closing the gaps from knowledge to practice

Source: Straus SE, Tetroe J, Graham I. Defining knowledge translation. CMAJ 2009; 181:165-8.

Or, put very simply...

- ...KE is about getting the right information to the right people in the right format at the right time

Why the need for knowledge exchange?

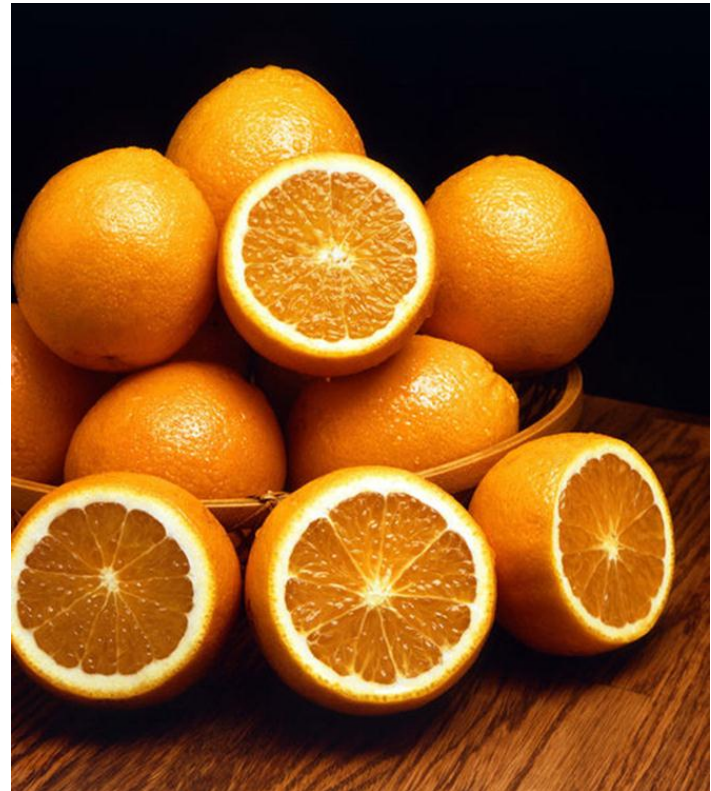
The story of scurvy

- Disease started in 1400's with extended periods of travel at sea
- Leading cause of death at sea
- Naval ships were overstaffed on purpose as so many crew members died
- Estimated that more than 2,000,000 sailors died of scurvy between 1492 to mid-1800s



The story of scurvy

- 1747 - James Lind conducted one of the first controlled experiments. Men fed oranges and lemons recovered completely – even went back to work.
- 1753, 1757 - Lind published findings in treatises which were ignored
- Purgative agent prescribed by Royal Navy as cure for scurvy



The story of scurvy

- 1780 - Gilbert Blane became physician for West Indies Fleet, wrote book on health of sailors
- 1795 - Blane convinced British Navy to require all sailors to regularly drink lemon juice – eliminated scurvy in Navy
- Time from research to implementation: 48 years (1747 – 1795)



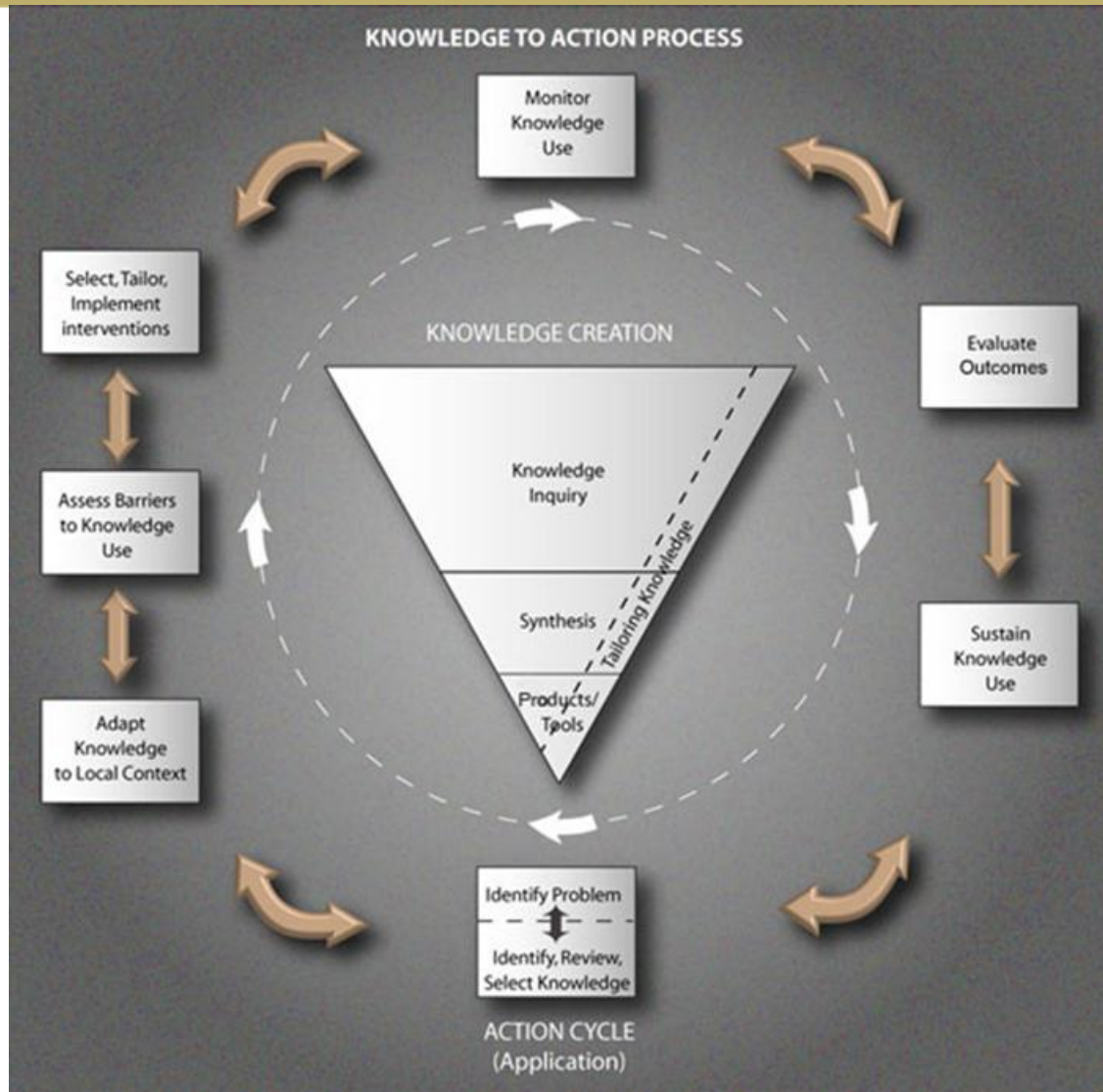
Influencing Factors

- Increased emphasis on evidence-informed decision making at policy, programs and practice levels
- Accountability and transparency for use of public resources
- Researchers increasingly interested in relevance beyond academic community
- Funding agencies are making knowledge exchange a requirement – Canadian Institutes of Health Research, Canadian Health Services Research Foundation, Social Sciences and Humanities Research Council of Canada
- Uptake of health science research continues to be slow, haphazard
 - 30-40% of patients not receiving care according to scientific evidence
 - 20-25% of care is not needed or potentially harmful

Roles for users and producers of evidence:

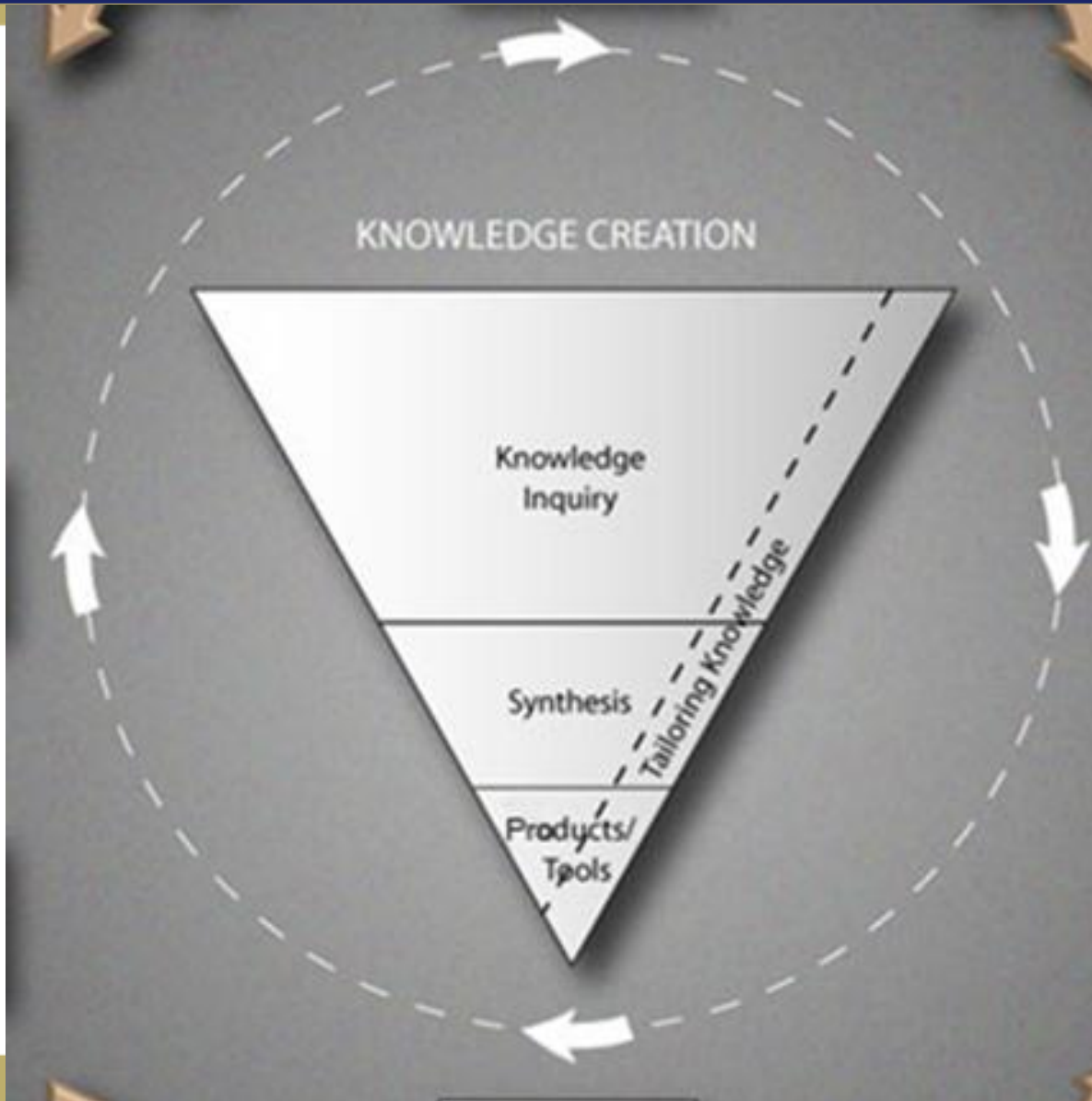
- Users of evidence: decision makers in public health system (e.g. program planners, epidemiologists, program managers, clinicians, policy makers, practitioners)
- Producers of evidence: decision makers in public health system (includes same examples as above), researchers

Knowledge to
 Action Process

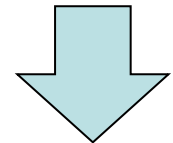


Source: Graham I, Logan J, Harrison M, Straus S, Tetroe J, Caswell W, Robinson N. Lost in Knowledge Translation: Time for a Map? Journal of Continuing Education in the Health Professions. Vol. 26 No. 1, Winter 2006.

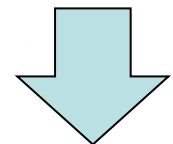
Knowledge to Action Process



Knowledge Inquiry

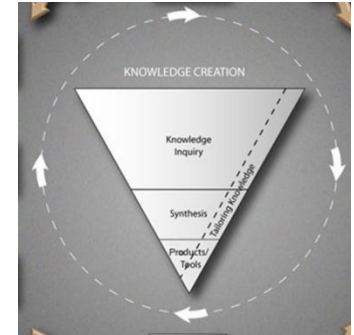


Synthesis



Product Tools

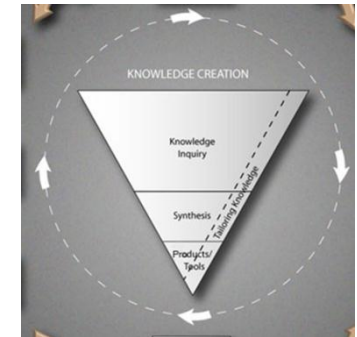
Knowledge to Action Process – knowledge creation:



- As knowledge passes through stages of funnel, knowledge becomes more distilled, and (hopefully) more useful to users of evidence
- Analogy – knowledge is filtered at each stage so that only most valid, useful knowledge remains

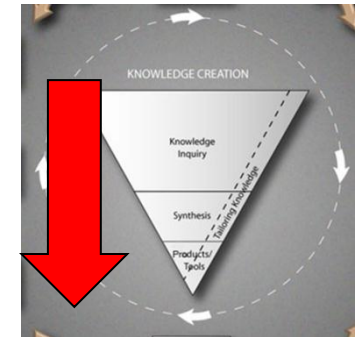
Three stages of knowledge creation:

- Knowledge inquiry – represents full range of primary studies, studies of variable quality
- Knowledge synthesis – identification, appraisal and synthesis of existing good quality knowledge (e.g. systematic reviews)
- Development of knowledge tools – presents knowledge in brief, user-friendly formats e.g. practice guidelines, decision aids and tools



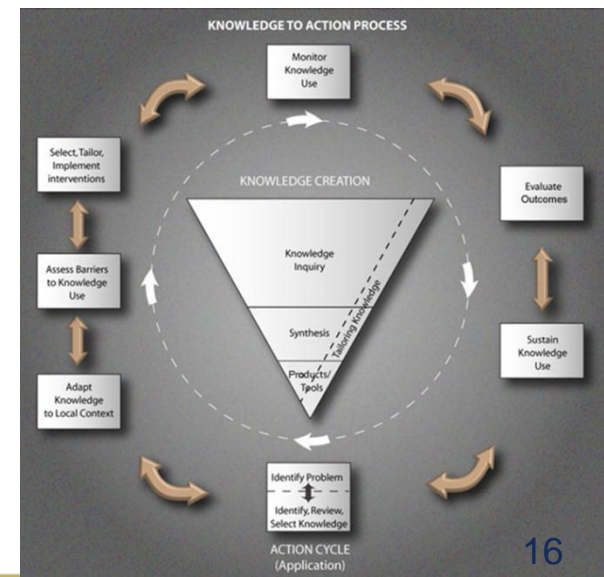
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Knowledge to Action Process – action cycle:

- Action cycle moves through various stages to achieve application of evidence:
 - Identify problem/ Identify, review, select knowledge
 - Adapt knowledge to local context,
 - Assess barriers to knowledge use
 - Select, tailor, implement interventions
 - Monitor knowledge use
 - Evaluate outcomes
 - Sustain knowledge use



When does knowledge exchange happen?

- Integrated knowledge exchange:
 - Involves collaboration between users of evidence, and producers of evidence at all or some stages of knowledge creation process
 - Helps to increase chances that resulting evidence will be useful and applied by users of evidence

When does knowledge exchange happen?

- End-of-project knowledge exchange:
 - Share research results with others in PHU, research participants, local community partners, once project is finished to facilitate uptake
 - Continuum of end-of-project activities:
 - Diffusion (let it happen, e.g. publishing an article, posting to a website)
 - Dissemination (help it happen, e.g. tailoring the message for specific audiences)
 - Implementation (make it happen, e.g. support context specific understanding and application of evidence)

Source: Lomas J. Diffusion, dissemination, and implementation: who should do what? Ann NY Acad Sci 1993;703:226e37.

Defining evidence-informed decision making:

- The use of evidence that contributes to decision making about particular problems or issues about best use of resources within institutions and across the healthcare system.

Source: Introduction to Evidence-Informed Decision Making. CIHR Online Tutorials. Canadian Institutes of Health Research. Ottawa, Canada. (<http://www.learning.cihr-irsc.gc.ca/mod/glossary/showentry.php?courseid=10&concept=Evidence-informed+decision-making>)

Defining evidence-informed public health:

- The process of distilling and disseminating the best available evidence from research, practice and experience and using that evidence to inform and improve public health policy and practice. Put simply, it means finding, using and sharing what works in public health.

Source: NCCMT. Evidence-informed public health. (<http://www.nccmt.ca/eiph/index-eng.html>)

Evidence-informed decision making in public health



Source: NCCMT. Fact Sheet: A Model for Evidence-Informed Decision-Making in Public Health. (http://www.nccmt.ca/pubs/FactSheet_EIDM_EN_WEB.pdf)

Possible advantages to evidence-informed public health

- Improved health outcomes
- Better client satisfaction
- Wise use of resources
- Use of most effective, cost-efficient interventions

A great place to start:



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CHSRF'S SELF-ASSESSMENT TOOL

IS RESEARCH WORKING FOR YOU?

THE SELF-ASSESSMENT ASKS ABOUT THE ORGANIZATION'S ABILITY TO ACQUIRE, ASSESS, ADAPT AND APPLY RESEARCH

After an [evaluation process](#), involving focus groups, CHSRF's Self-Assessment Tool has been re-launched and is ready to be used by decision-making organizations who want to generate an internal discussion about how well they use research and where there is potential for improvement.

HOW CAN A SELF-ASSESSMENT TOOL HELP?

Many organizations would like to make better use of research, but aren't sure where to start. Others feel they're doing well, but would also like to know if there are areas they could improve.

Through self-assessment, an organization can discover its strengths, identify gaps, and make plans for addressing priority areas in the future. We hope the tool will not only help in self-evaluation, but also provide ideas for where and how to enhance research use.

Key questions that the tool asks:

Acquire evidence

- Can the organization find the best research it needs?

Assess evidence

- Can the organization assess whether the research is reliable and high-quality, and whether it is relevant and applicable?

Adapt its format

- Can the organization present the evidence to appropriate decision-makers in a useful format, which synthesizes recommendations, conclusions and key issues?

Apply it in decisions

- Does the organization have the skills, structures, processes and corporate culture to promote and use research evidence in decision-making?

Additional Considerations

- Focus of tool is on identifying strengths and gaps to use research evidence at organizational level, not individual level
- CHSRF recommends convening a cross-organizational team (e.g. Board members, front-line staff, senior management) to develop responses to the tool
- Responses are provided on a scale of 1 to 5 – indicating low to high organizational capacity
- Provides a “baseline” for where the organization is at, what requires strengthening, what is working well

OAHPP knowledge exchange initiatives

- Knowledge exchange strategy includes:
 - Use of integrated and end-of-project knowledge exchange for research projects covering broad range of public health topics
 - Professional development and education activities (e.g. OAHPP Rounds; training workshops on various topics such as risk communications)
 - Responsive access to evidence
 - Knowledge exchange research as it relates to public health

New Program Model to Support Research, Evaluation, Education and Knowledge Exchange

New program includes Knowledge Exchange Supports:

- Searchable electronic warehouse to store and broadly share knowledge products
- An inventory of activities (e.g. existing public health resources, experts, activities, programs, and networks across Ontario) to support collaboration across the public health system
- An interactive online space to support collaboration through use of various electronic tools (e.g. sharing documents, e-learning resources, calendar of events, blogs, listservs, communities of practice)
- Sharing of best practices

Some Resources for KE and Evidence-Informed Decision-Making

1. CHSRF's Self-Assessment Tool – Is Research Working For You? (http://30334.vws.magma.ca/other_documents/working_e.php)
2. CIHR casebooks on Knowledge Translation (<http://www.cihr-irsc.gc.ca/e/29484.html>)
3. CIHR Knowledge Translation Learning Modules (<http://www.cihr-irsc.gc.ca/e/39128.html>)
4. Graham I, Logan J, Harrison M, Straus S, Tetroe J, Caswell W, Robinson N. Lost in Knowledge Translation: Time for a Map? Journal of Continuing Education in the Health Professions. Vol. 26 No. 1, Winter 2006.
5. Graham I, Straus S, Tetroe J. Knowledge Translation in Health Care: Moving from Evidence to Practice. (<http://www.cihr-irsc.gc.ca/e/40618.html>)
6. Lavis JN, Robertson D, Woodside J, McLeod C, Abelson J, Knowledge Transfer Research Group. How can research organizations more effectively transfer research knowledge to decision makers? Millbank Quarterly. 2003. Vol. 81, No. 2.

Some Resources for KE and Evidence-Informed Decision-Making

7. National Collaborating Centre for Methods and Tools (<http://www.nccmt.ca/index-eng.html>)
8. Ontario Agency for Health Protection and Promotion (www.oahpp.ca)
9. Ross S, Goering P, Jacobson N, Butterill D. A Guide for Developing Health Research Knowledge Translation (KT) Plans. August 2008.
(<http://www.sickkidsfoundation.com/grants/downloads/knowledge/GuideKnowledgeTranslationPlans.pdf>)
10. SUPPORT tools for evidence-informed policy-making (STP).
(http://new.paho.org/hq/index.php?option=com_content&task=view&id=4468&Itemid=931&lang=en)
11. Van Eerd D, Cole D, Keown K, Irvin E, Kramer D, Gibson J, Kohn M, Mahood Q, Slack T, Amick BC, Phipps D, Garcia J, Morassaei S. Report on knowledge transfer and exchange practices: a systematic review of the quality and types of instruments used to assess KTE implementation and impact. Toronto, ON: The Institute for Work and Health; 2011. (<http://www.iwh.on.ca/sys-reviews/kte-evaluation-tools>)
12. Ward. Evidence-informed decision making in a public health setting. Healthcare Management Forum. Spring 2011. p. S8-S11.

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Questions?

Thank you!