Principles of Knowledge Translation (KT)

Prepared by
Noni MacDonald Dalhousie University, Halifax, Canada
Senga Pemba TTCIH, Ifakara, Tanzania
Tobias Kollmann UBC, Vancouver, Canada
Objectives

Following this lecture, the participants will be able to

1. Demystify *knowledge translation* concept
2. Outline the *basic KT approach* to a KT plan
3. List *major audiences for KT* based on different types of research
4. List *barriers* to knowledge translation
5. Identify *factors that can enhance* knowledge translation
Consistent Finding

Transfer of research into practice (KT) is slow and haphazard……

**Penicillin:** discovered 1922
practice mid 1940’s

**Helicobacter:**
cause gastric ulcers early 1980’s
clinical antimicrobial treatment mid 1990’s
Medical Knowledge

By mid 2012:
28,100 active scholarly
peer-reviewed journals
1.8–1.9 million articles
published a year
2 new articles/second
Grow 7% each year
75 Trials, 11 Systematic
Reviews published/day

How Will We Ever Keep
Up?
Too much, too complex knowledge –
needs to be shaped to be useable by
target audience; meet their needs
CIHR Definition
Knowledge Translation

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.
Knowledge Translation

• is turning **knowledge into action**

• encompasses the two processes of
  **knowledge creation (research)**
  AND
  **knowledge application/use**

*Graham et al 2006*
KT: Knowledge Creation & Application

- Knowledge Discovery Phase
- Translation Phase
- Implementation
- Evaluation
KT: Step by Step

Key: build KT into your research Plan right from the start

Innovation to Implementation: A practical guide to knowledge translation in health care.
http://www sfu.ca/content dam/sfu/carmha/resources/i2i/I2I-Workbook.pdf
Healthy Child Uganda survey of knowledge, attitude and behaviour of village health team members toward their health care responsibilities in southwest Uganda

Ashaba Scholastic MBChB MMed¹, Teddy Kyomuhangi BA(SSH)², Data Santorino MBChB MMed³, Noni MacDonald MS MSc FRCPC⁴,⁵, John LeBlanc MD MSc⁴

The village health team (VHT) program was started in 2001 by the Ministry of Health in Uganda and later supported by Healthy Child Uganda (HCU) (www.healthychilduganda.org), a collaboration between a Ugandan and several Canadian universities and the Canadian Paediatric Society, with a goal of improving maternal child health in southwest Uganda. VHT members are volunteers with brief, VHT-specific training who work together to promote healthy practices in sanitation, immunization and good nutrition in the community and at the household level, as well as appropriate use of District Health Centres. The aim of the present study was to determine the knowledge, attitudes and behaviours of VHT members toward their village health care responsibilities comparing HCU-supported versus Ugandan government (UG)-supported VHTs.

METHODS
The present work was a cross-sectional, language and culturally appropriate, quantitative and qualitative study carried out in two health subdistricts in southwest Uganda; one supported by HCU, the other by the UG. Based on a planned sample size of 23,648 villagers, villages were randomly selected from 123 eligible villages in the two health subdistricts, each village having an average of five VHT members. The respondents answered questions about sociodemographic factors, knowledge, attitudes and behaviours. In addition, six focus group discussions were held and recorded, each having nine VHT participants. Informed consent was obtained and the study was approved by Mbarara University of Science and Technology (Mbarara, Uganda).

RESULTS
The questionnaire completion rate was 85% (200 of 236 eligible; 110 HCU, 90 UG supported), 69% were women, the mean age was 38 years (range 24 to 69 years), >90% had at least grade 5 education, 90% were married and 86% were subsistence farmers. Knowledge of danger signs in sick children and in pregnant women was rated as poor in 67% of UG and 32% of HCU VHTs (P<0.002). Many (66%) believed knowledge gaps hindered their performance, but this was more common among HCU-supported VHTs (HCU 74% versus UG 57% [P<0.02]). Of these, 14% wanted more information on HIV/AIDS, 19% on immunization, 11% on record keeping and 7% on family planning. No association was found between knowledge gaps and time spent as VHT members (P=0.213), level of education (P=0.212), marital status (P=0.137) and age (P=0.084). Overall, 57% said the VHT workload was too much, with 45% spending at least 4 h to 6 h a week on this work. Both groups highly rated nonmonetary incentives as motivating factors for VHT work including bicycles, bags, t-shirts and books. Both groups emphasized that seeing the health benefits at community, family and individual levels were motivating factors for being a VHT.

CONCLUSION
The lower knowledge gap on danger signs among the HCU supported VHT and their greater insight into where gaps hindered performance suggests that while both VHT groups need further training, the government program needs more. The overall knowledge gaps and concerns about workload and incentives need to be addressed if the community health benefits are to be sustained.
Knowledge Translation: Basics

Clinical and Research knowledge

1. QUESTION? Purpose(#1)
2. What transfer? Innovation (#2)
3. To Whom? Actors & Actions (#3)
4. By whom? Agent of Change (#4)
6. With what effect? Evaluate (#6)
Knowledge Translation Basics

Clinical and Research knowledge

1. Question

2. **What** transfer? Innovation (#2)

3. To Whom? Actors & Actions (#3)

4. By whom? Agent of Change (#4)


6. With what effect? Evaluate (#6)
What: Purpose of KT Plan

What problem(s) are you trying to address?

What practice are you trying to improve?

What would be different if this knowledge was successfully translated?

What to transfer TO WHOM?

Innovation

www.sfu.ca/content/dam/sfu/carmha/resources/i2i/I2I-Workbook.pdf
Knowledge Translation Basics

Clinical and Research knowledge

1. Question? ✓
2. What transfer? ✓
3. To Whom? Actors & Actions (#3)
4. By whom? Agent of Change (#4)
6. With what effect? Evaluate (#6)

Micro Research
## Audiences for KT (WHAT?)

<table>
<thead>
<tr>
<th>Audience</th>
<th>Basic Res</th>
<th>Clinical Res</th>
<th>Health Serv Res</th>
<th>PopHealth Res</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acad/Research</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>HCW/Health/Professionals</td>
<td>+++</td>
<td>+++</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Govt’</td>
<td></td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Health Admin</td>
<td></td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Community/Patients</td>
<td>+++</td>
<td>+++</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>+++</td>
<td>+++</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To Whom?

Actors often Involved on Healthcare KT

- POLICY MAKERS
- HEALTH ADMINISTRATORS
- HEALTH PROFESSIONALS
- COMMUNITIES
- ACADEMIC INSTITUTIONS

HEALTH SYSTEM BASED ON PEOPLE’S NEEDS

Towards Unity for Health
WHO
C.Boelen, 2000
To Whom?

Knowledge Translation Basics

Clinical and Research knowledge

1. Question? ✓
2. What transfer? ✓
3. To Whom? ✓
4. By whom? Agent of Change (#4)
6. With what effect? Evaluate (#6)
By Whom (‘agents’): depends on How?

WHO/Which agents have the most credibility in relation to your “Innovation”?

WHO/Which agents have the most credibility for different actors you want to influence?

WHO/Which agents are most likely to persuade these actors to adopt new actions?
Evidence-generating organizations in LMIC health systems

Embedding Research into the Decision-making Processes in LMIC

Exchange Efforts Model

Build relationships partnership for a study partnership for linking research to action skill developing programs

Peer champions, organizational champions
Knowledge Translation Basics

Clinical and Research knowledge

1. Question? ✓
2. What transfer? ✓
3. To Whom? ✓
4. By whom? ✓
5. How? ✓
6. **With what effect?** Evaluate ✓

(#6)
To What Effect?

Measure outcomes for KT uptake.....
change in behaviour HCW
change in behaviour patients
new law or regulation
new program funded
etc

Formal evaluation
Barriers to KT

1. Environment

2. Potential adopters

3. Perception of evidence
1. Environment

- Structural i.e. health system
- Pressure on decision makers
- $$$
- Centralized power / not able to change for local condition
- Political instability
- High turnover staff
- Culture not conducive to evidence based decision making
- Censorship and control

Santesso and Tugwell KT in Developing Countries
J Continuing Education in the Health Professions 2006;26:87-96
2. Potential Adopters

- Decisions based on past experience – not evidence
- Local indigenous knowledge - may support or undermine KT
- Variation in incentives /motivation to change
- Lack communication with researchers
- Negative feelings about research, mistrust
- Lack of awareness of relevant research
- Lack of skills to apply and use research

Santesso and Tugwell KT in Developing Countries
J Continuing Education in the Health Professions 2006;26:87-96
3. Barriers to Evidence

• Lack of timely or relevant research

• Politicalization of research

• Poor quality of research

• Credible evidence

• Inaccessible formats
Ways to Enhance KT

- Role modeling
- Targeted push messages
- Knowledge brokers/Champions
- Personal contact
- Timely relevance
- Inclusions of brief evidence summaries with policy recommendations
- Translate message to fit locale culture
Knowledge Translation and Exchange

Choi B. Understanding the basic principles of knowledge translation J Epidemiol Community Health. 2005;59:93.  
http://jech.bmj.com/content/59/2/93.full


Tugwell et al. Systematic reviews and knowledge translation. WHO Bulletin 2006;84:643-651  
http://www.who.int/bulletin/volumes/84/8/05-026658.pdf

http://www.bmj.com/content/327/7405/33.full.pdf
Knowledge Translation and Exchange
Lavis et al. Assessing country-level efforts to link research to action. WHO Bulletin 2006;84:620-628. (on USB) http://www.who.int/bulletin/volumes/84/8/06-030312.pdf

Santesso and Tugwell KT in Developing Countries. J Continuing Education in the Health Professions 2006;26:87-96. (USB)

Tools for Practicing KT- CIHR
http://ktclearinghouse.ca/tools/practicing#tools_primary

Innovation to Implementation: A practical guide to knowledge translation in health care.
http://www.sfu.ca/content/dam/sfu/carmha/resources/i2i/I2I-Workbook.pdf