Principles of Knowledge Translation (KT)

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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

Micro
Research

Consistent Finding

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

Penicillin: discovered 1922
practice mid 1940's

textbookofbacteriology.net

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
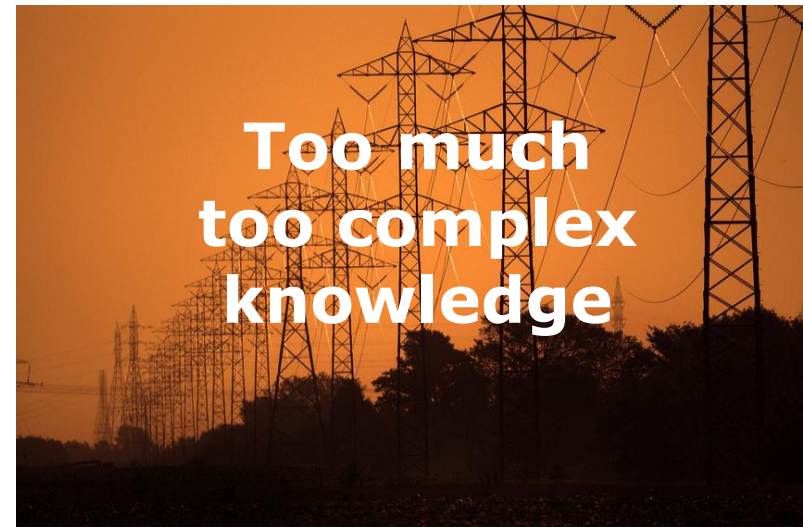
1.8–1.9 million articles published a year

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

Too much too complex knowledge

High to Low voltage

Micro Research

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.
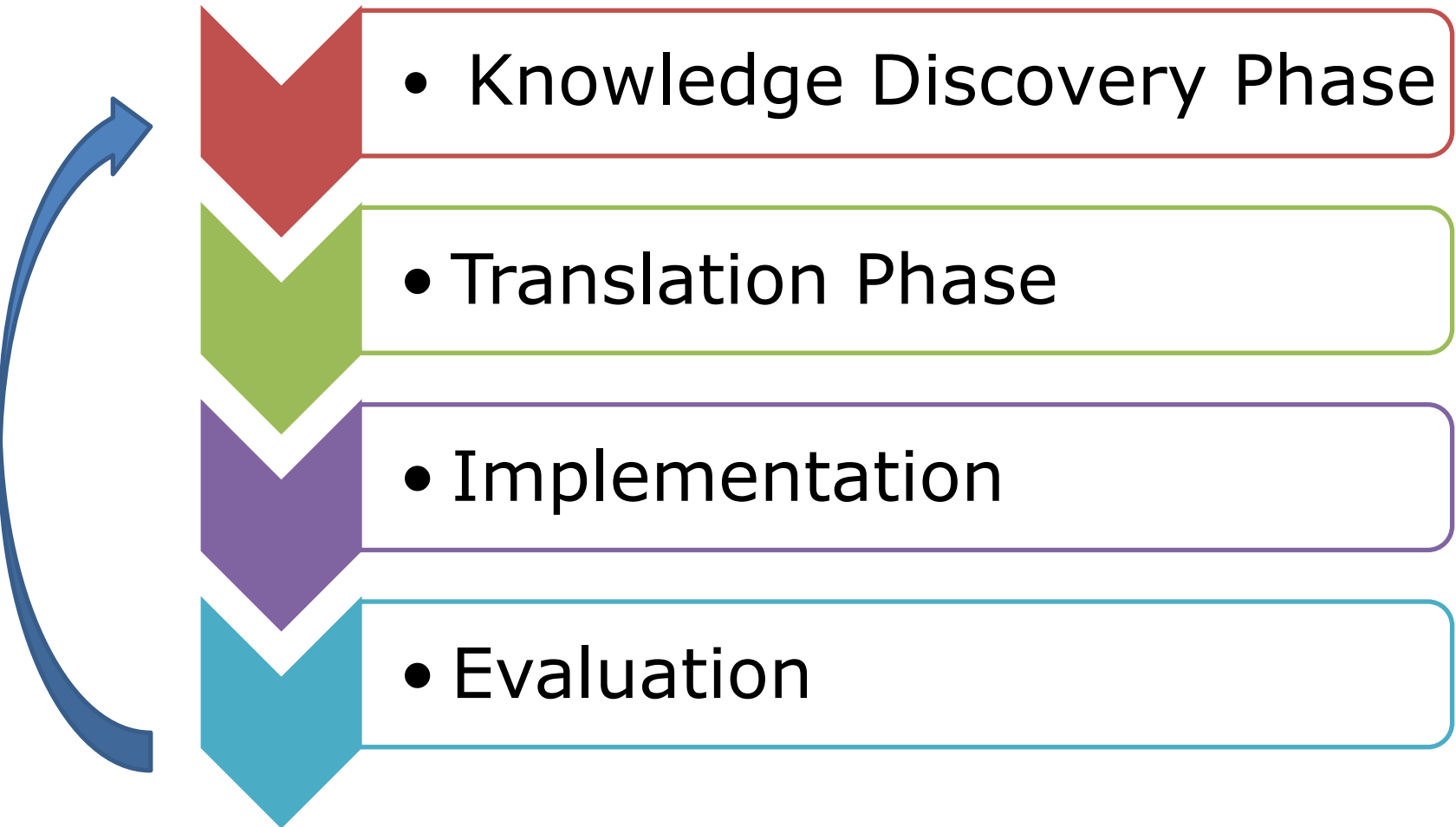
Knowledge Translation

- is turning **knowledge into action**

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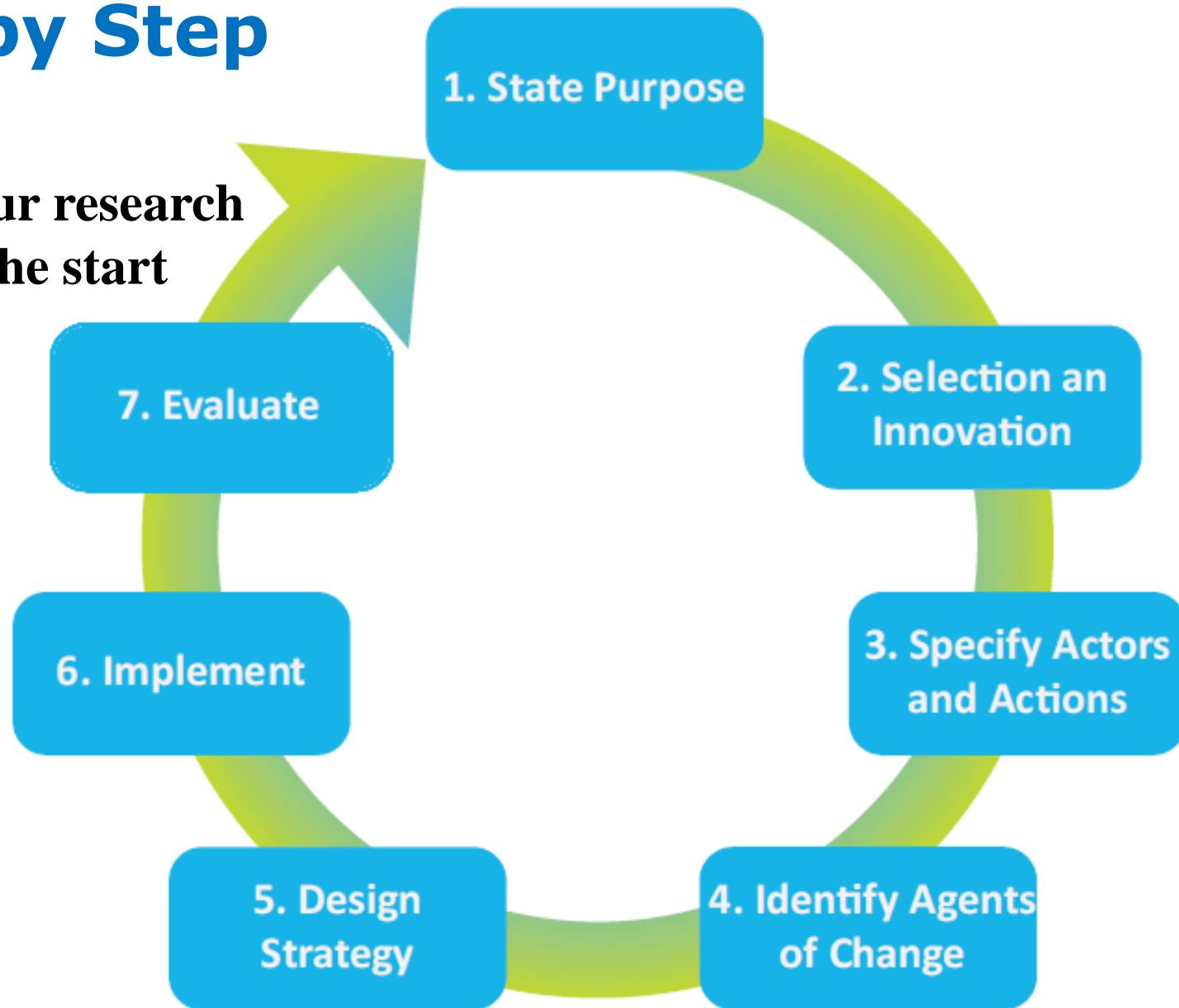 **AND**
  knowledge application/use

Graham et al 2006

Micro
Research

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

1. State Purpose

2. Selection an Innovation

3. Specify Actors and Actions

4. Identify Agents of Change

5. Design Strategy

6. Implement

7. Evaluate

Healthy Child Uganda survey of knowledge, attitude and behaviour of village health team members toward their health care responsibilities in southwest Uganda

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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)
5.	How?	Design Strategy (#5)
6.	With what effect?	Evaluate (#6)

Micro
Research

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)
5. How?   Design Strategy (#5)
6. With what effect? Evaluate   (#6)

Micro Research

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

Knowledge Translation Basics

Clinical and Research knowledge
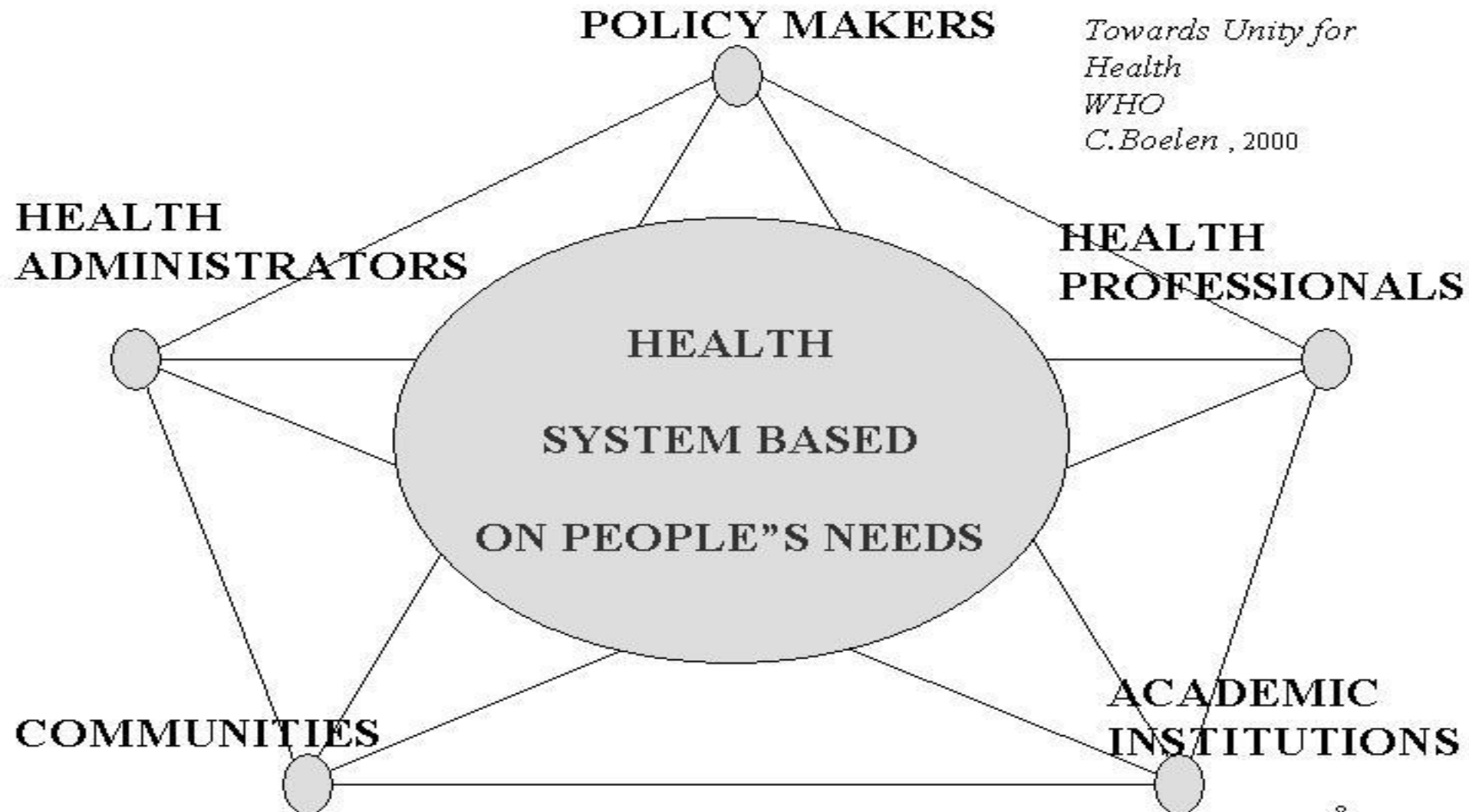
1. Question? ✓
2. What transfer? ✓
3. **To Whom?**   Actors & Actions (#3)
4. By whom?   Agent of Change (#4)
5. How?   Design Strategy (#5)
6. With what effect? Evaluate   (#6)

Micro Research

Audiences for KT (WHAT?)

Audience	Basic Res	Clinical Res	Health Serv Res	PopHealth Res
Acad/ Research	+++	+++	+++	+++
HCW/Health/ Professionals		+++	+++	?
Govt'			+++	+++
Health Admin			+++	+++
Community/ Patients		+++	+++	?
Industry	+++	+++		

To Whom?

Actors often Involved on Healthcare KT

POLICY MAKERS

Towards Unity for Health WHO C.Boelen , 2000

HEALTH ADMINISTRATORS

HEALTH PROFESSIONALS

HEALTH SYSTEM BASED ON PEOPLE"S NEEDS

COMMUNITIES

ACADEMIC INSTITUTIONS

www.who.int/entity/hrh/documents/en/TUFH_challenges.pdf

To Whom?

Individual (clinical) KTE models

Collective (policy and organizational) KTE models
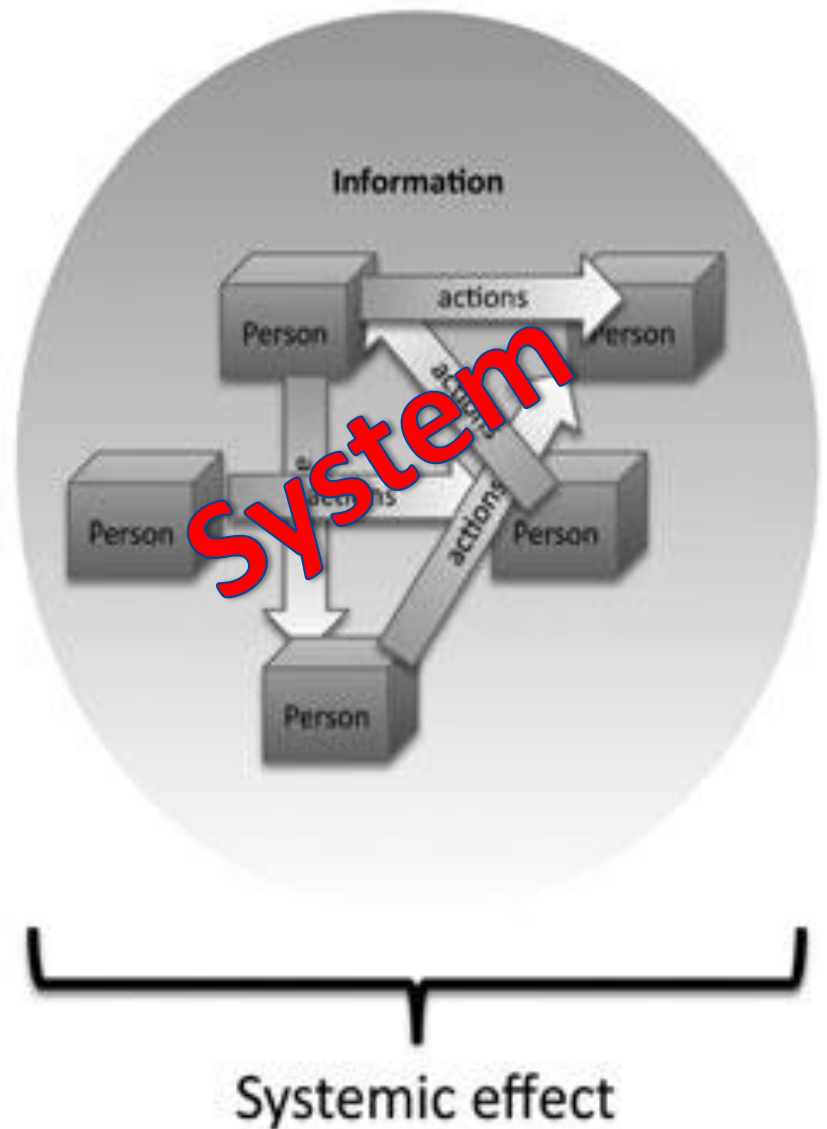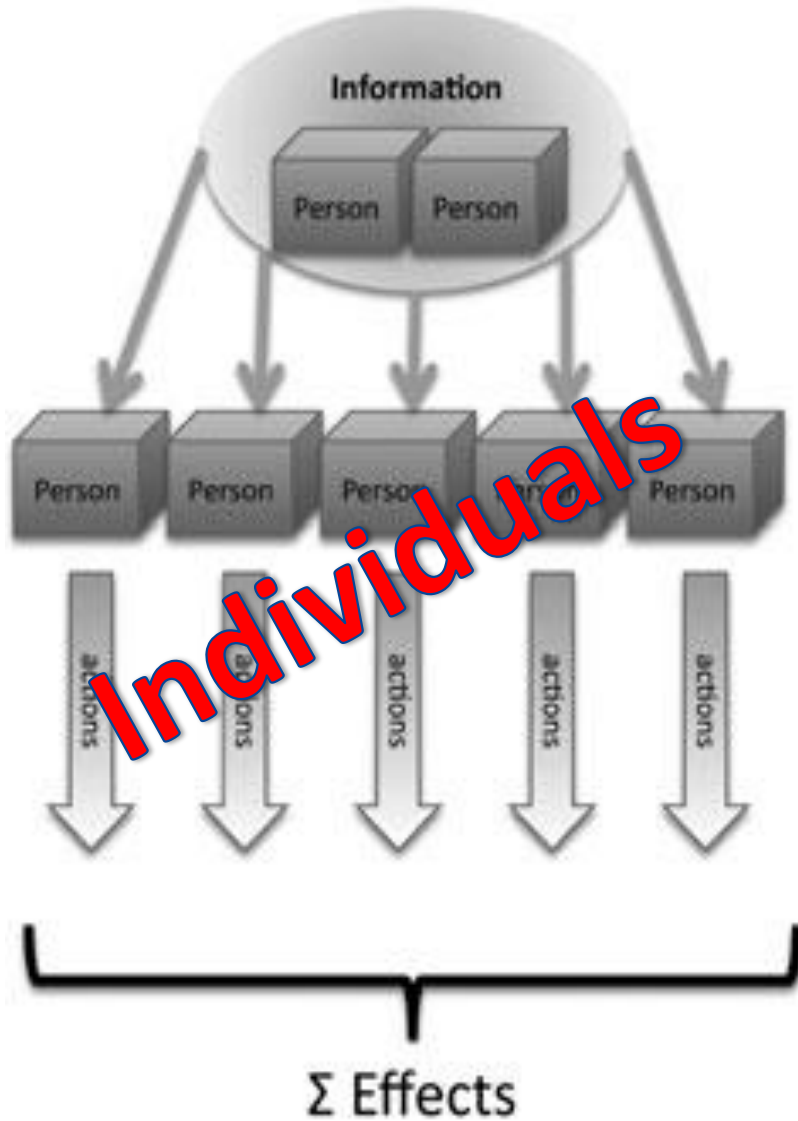
Individuals

System

Σ Effects

Systemic effect

CONTANDRIOPOULOS D et al. Knowledge Exchange Processes in Organizations and Policy Arenas: A Narrative Systematic Review of the Literature The Milbank Quarterly, Vol. 88, No. 4, 2010 (pp. 444–483)

Knowledge Translation Basics

Clinical and Research knowledge

1. Question? ✓
2. What transfer? ✓
3. To Whom? ✓
4. **By whom?**   Agent of Change (#4)
5. **How?**   Design Strategy (#5)
6. With what effect?   Evaluate   (#6)

Micro Research

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?**

Micro Research

Evidence-generating organizations in LMIC health systems
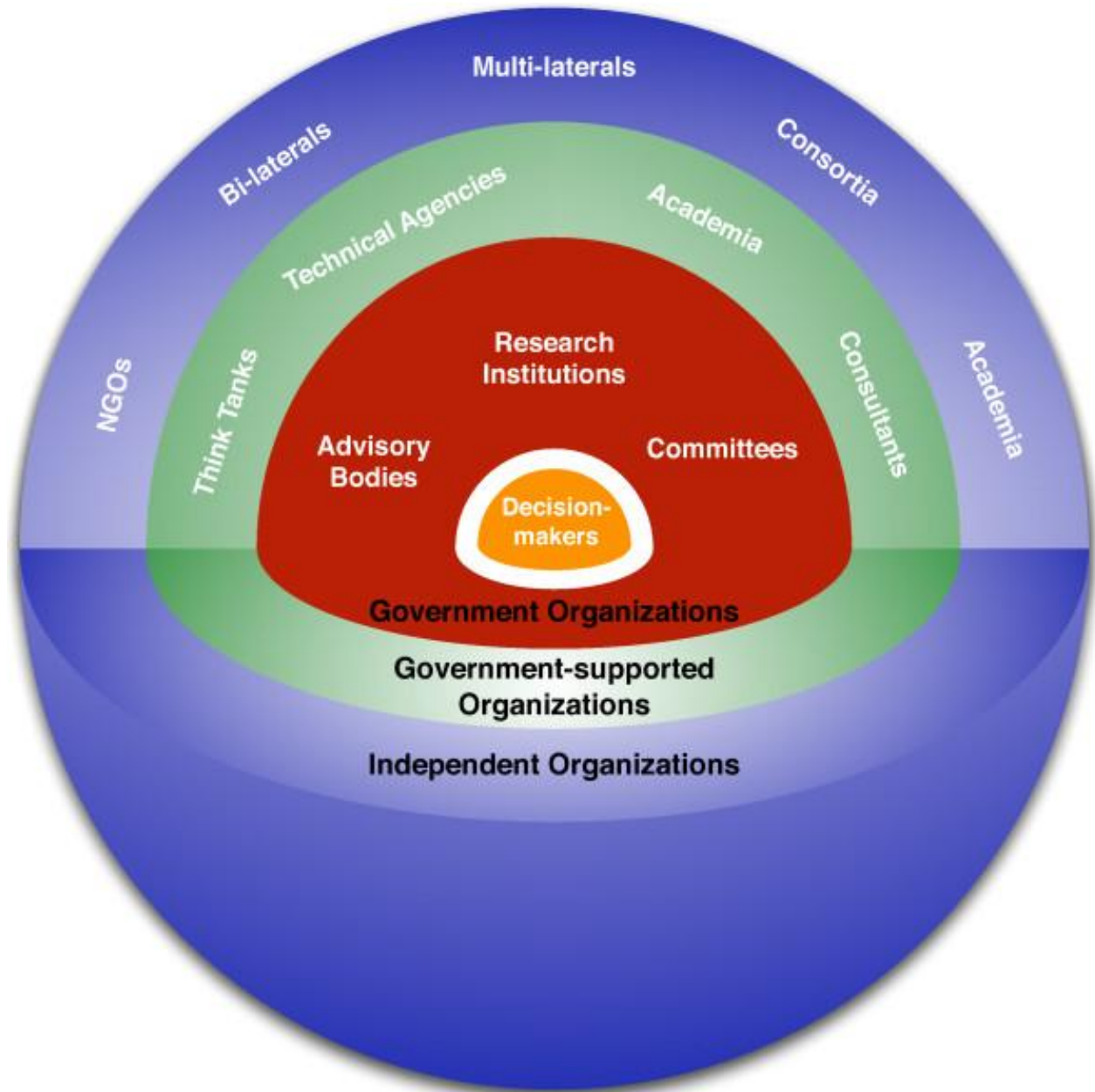
Embedding Research into the Decision-making Processes in LMIC
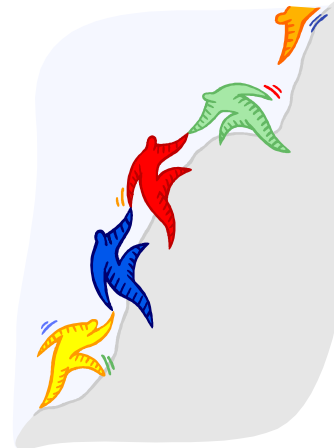
Exchange Efforts Model

Build relationships
  partnership for a
    study
  partnership for
    linking research
     to action
  skill developing
    programs
Peer champions,
  organizational champions

Micro
Research

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)

Micro Research

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

Micro Research

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

Micro
Research

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

Micro
Research

3. Barriers to Evidence

- Lack of timely or relevant research

- Politicalization of research

- Poor quality of research

- Credible evidence

- Inaccessible formats

Micro Research

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

Handbook for Clinicians Chapter 18.

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

Graham et al Lost in knowledge translation: time for a map? JCEHP 2006:26:13-24 (not free online but much of this at http://www.cihr-irsc.gc.ca/e/29529.html)

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

Davis et al. The Case for knowledge translation: Shortening the journey from evidence to effect. BMJ 2003;327:33-35. 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*