

# Who do we have online?

- a. Researcher
- b. Research Support
- c. Librarian
- d. Other



# Why do we need to focus on translation?

## 1. Peer Review Journal articles are not enough

Peer review articles – bibliometrics

- 12% of medicine articles are not cited
- 82% of humanities articles are not cited
- 27% for natural sciences are not cited
- 32% for social sciences are not cited

David R. Henderson. Science: The failure of our peer review system. *Nature* 2001; 409: 29-30. doi:10.1038/35066000

## 3. Reduce wastage

**Life sciences  
research in 2010**

US\$ 240,000,000,000



**85% wasted**

Research: Increasing value, reducing waste. *Lancet* 2010; 375: 1017-1018. doi:10.1016/S0140-6736(10)60800-0

## 2. Make it easier to use new knowledge in practice



Clinicians need to read 20  
articles a day to stay current

Shirleyfelt T. Building bridges  
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Results of studies in the USA and the Netherlands  
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about 20-25% of care provided is not needed or is  
potentially harmful.

Groff R. Successes and failures in the implementation of evidence-based  
guidelines for clinical practice. *Med Care* 2001; 39 (suppl 2): 49-54.

## 4. Reduce time to uptake



The answer is 17 years, what is the question: understanding  
time lags in translational research. *Science* 2011; 331: 1206-1211.  
Morris et al - *J R Soc Med* 2011 Dec; 104(12):519-29

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David P. Hamilton, Science. <http://www.smithsonianmag.com/smart-news/half-academic-studies-are-never-read-more-three-people-180950222/#HvH6fSolqKRdo5OA.99><http://blogs.lse.ac.uk/impactofsocialsciences/2014/04/23/academic-papers-citation-rates-remler/>

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## 4. Reduce time to uptake

A person is shown in mid-air, jumping over a deep chasm. The scene is set against a dramatic sunset or sunrise, with a bright sun low on the horizon, casting a warm, orange glow over the landscape. The sky is filled with soft, golden clouds. In the background, there are rugged, rocky mountains. The foreground shows the dark, silhouetted edges of the chasm's cliffs. The overall mood is one of challenge and triumph.

**17 years & 14%**

*The answer is 17 years, what is the question: understanding time lags in translational research.*

*Morris et al - J R Soc Med. 2011 Dec;104(12):510-20*

# What is Knowledge Translation?

"The synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health."  
World Health Organization (2005)

## Translational Research

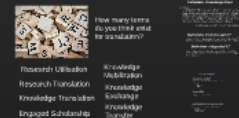
Focus on researching the transfer of an idea into a different context: researching the translation

Professor Don Hedderley, Sanofi-Schering-Plough

Broadly -  
The process of moving knowledge into action.  
The meeting ground between research and action.

- A complex and confusing topic - with a multitude of terms.
- Sometimes confused with dissemination, communication, commercialisation.
- A social, non-linear process, built on solid relationships.

## Terminology



## Characteristics of KT

KT:

- Includes all steps between the creation of new knowledge and its application
- Needs multi-directional communications
- Is an interactive process
- Requires ongoing collaborations among relevant parties
- Includes multiple activities
- Involves diverse knowledge-user groups
- Is user- and context-specific
- Is impact-oriented.

Delamater, D. (2003). Knowledge translation: a new paradigm in health care research. *Health Affairs (Millwood)*, 22(1), 1-10. doi:10.1196/08980103s0000220100000001

## KT Delivers Commercial and Social Innovation

An innovation can be understood as a product, intervention, process, or idea that is "discontinuous from previous practice and yields new pathways for solving social problems or fulfilling (a) mission" (Rockefeller Foundation).



## What is Impact?

Non-academic impacts, not bibliometrics and citations.

Australian Research Council Definition

"Research impact is the demonstrable contribution that research makes to the economy, society, culture, national security, public policy or human health, the environment, or quality of life, beyond contribution to academia."

<http://www.arc.gov.au/general/impact.htm>

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# Terminology



How many terms  
do you think exist  
for translation?

## Research Utilisation

## Research Translation

# Knowledge Translation

## Engaged Scholarship

## Knowledge Mobilization

## Knowledge Exchange

# Knowledge Transfer

**Definition: Knowledge User**

An individual:

- who is likely to be able to use the knowledge generated through research in order to make informed decisions about health policies, programs and/or practices;
- whose level of engagement in the research process may vary in intensity and complexity depending on the nature of the research and their information needs;
- who can be, but is not limited to, a practitioner, policy maker, educator, decision maker, health care administrator, community leader, or an individual in a health charity, patient group, private sector organization or a media outlet.

Canadian Institutes of Health Research - <http://www.cihr-irsc.gc.ca>

**Definition: End of Grant KT**

Covers the diffusion, dissemination and application of knowledge that researchers undertake once the findings from a project are available.

**Definition: Integrated KT**

A way of doing research that involves decision makers/knowledge-users - usually as members of the research team - in all stages of the research process.

## KT Strategies

**Producer PUSH**

**User PULL**

© 2005 Blackwell Publishing Ltd *Journal of Internal Medicine* 258: 105–112

## EXCHANGE/ CO-CREATION

- **Parasitology**
- **Physiology**

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# KT Strategies

## ***Producer PUSH***

Producers of knowledge disseminate knowledge to audiences who they believe need to receive it

Examples of PUSH:

- Journal publications
- Conference presentations
- Plain language summaries
- Social media.

## ***User PULL***

Users pull knowledge that is useful to their decision making

- Policy makers
- Clinicians.

## ***EXCHANGE/ CO-CREATION***

Interactions between knowledge users and researchers resulting in mutual learning.

- Partnerships
- Collaboration
- Knowledge sharing and learning
- Stakeholder relationships.

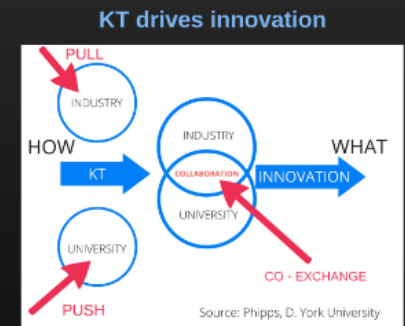
# Characteristics of KT

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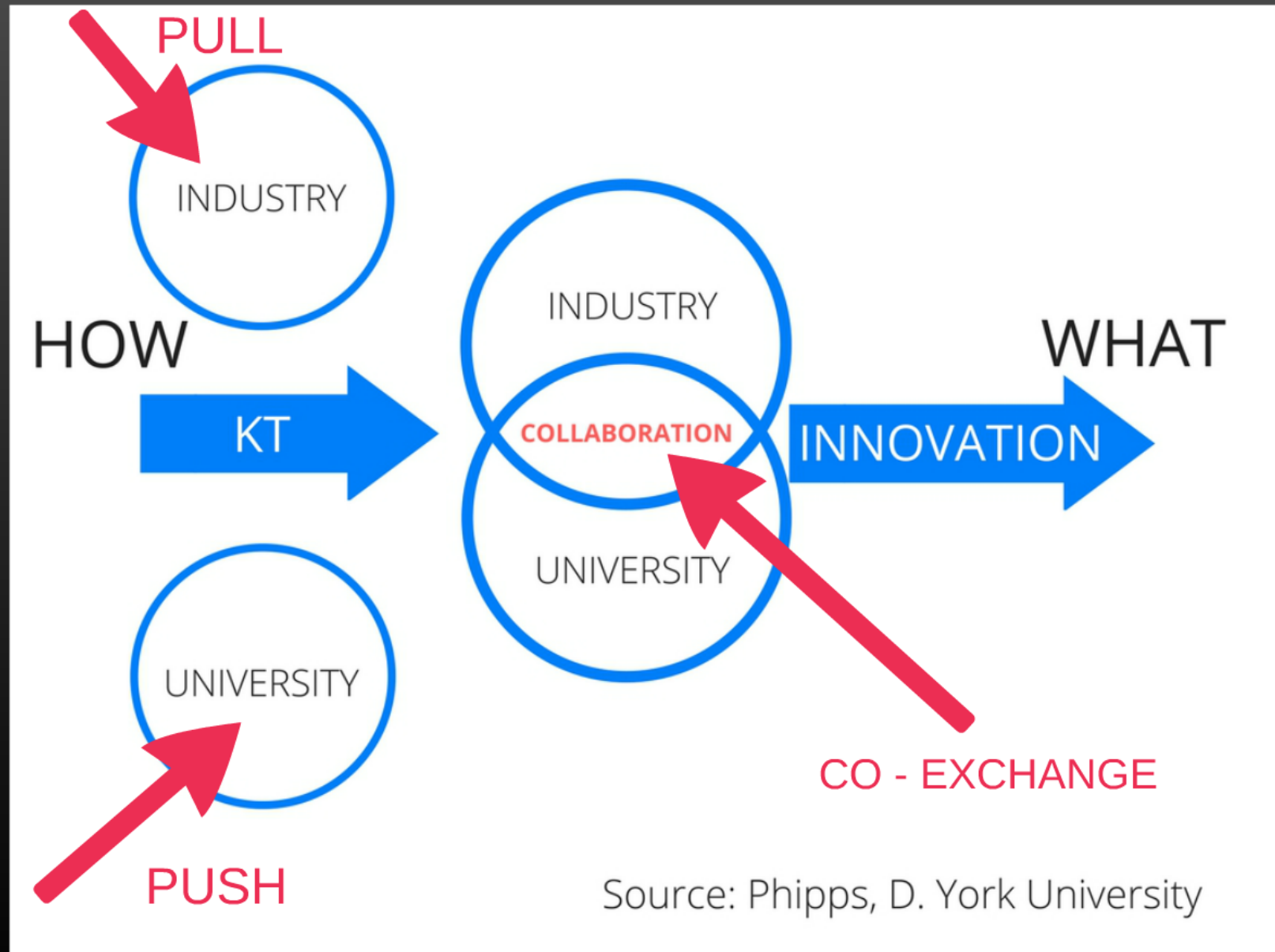
## KT Delivers Commercial and Social Innovation

An innovation can be understood as a product, intervention, process, or idea that is “discontinuous from previous practice and yields new pathways for solving acute problems or fulfilling [a] mission”  
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# KT drives innovation



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```

    graph TD
      A((Researchers & Knowledge Users  
Vision for change)) --> B((Creation of Questions & Methods  
Literature & previous research  
Conceptual model  
Research objectives  
Literature synthesis))
      B --> C((Research Process  
Formulate research questions  
Design study to test hypotheses  
Recruitment  
Data collection  
Data analysis))
      C --> D((Knowledge from research findings  
Outputs))
      D --> E((Implications of knowledge  
Describe how this knowledge can make a difference  
Identify knowledge gaps  
Make feasible solutions))
      E --> F((Implementation of knowledge  
Identify knowledge gaps  
Develop solutions  
Develop policies  
Develop practices  
Implement and evaluate  
Evaluate and disseminate))
      F --> G((Impacts  
Identify important results of research  
Measure impact of the work  
Facilitate research dissemination))
      G --> A
  
```

**IMPLEMENTING KT IN THE RESEARCH LIFECYCLE**

**Researchers & Knowledge Users**  
Vision for change

**Creation of Questions & Methods**  
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Literature synthesis

**Research Process**  
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Data collection  
Data analysis

**Knowledge from research findings**  
Outputs

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**Implementation of knowledge**  
Identify knowledge gaps  
Develop solutions  
Develop policies  
Develop practices  
Implement and evaluate  
Evaluate and disseminate

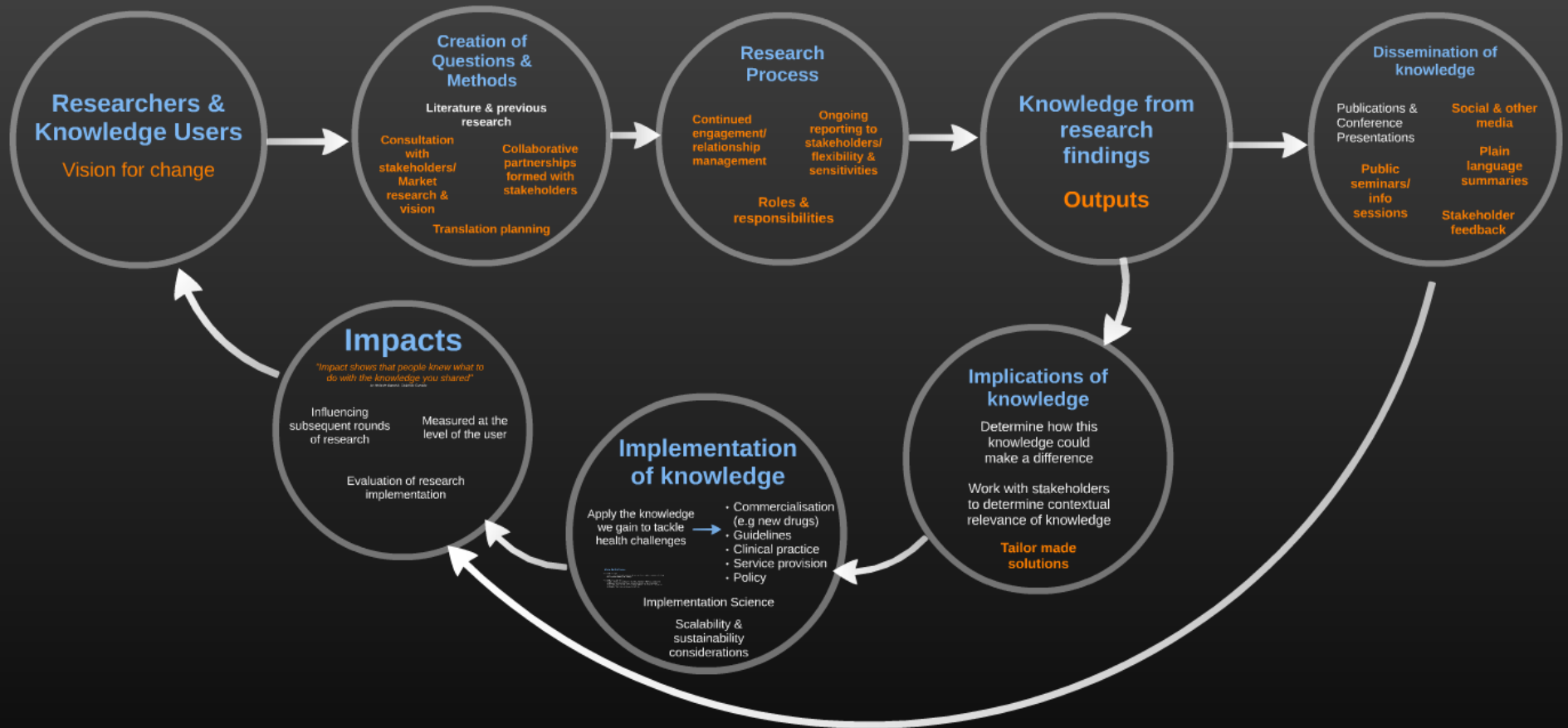
**Impacts**  
Identify important results of research  
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Facilitate research dissemination

### Peterborough youth homelessness shelter

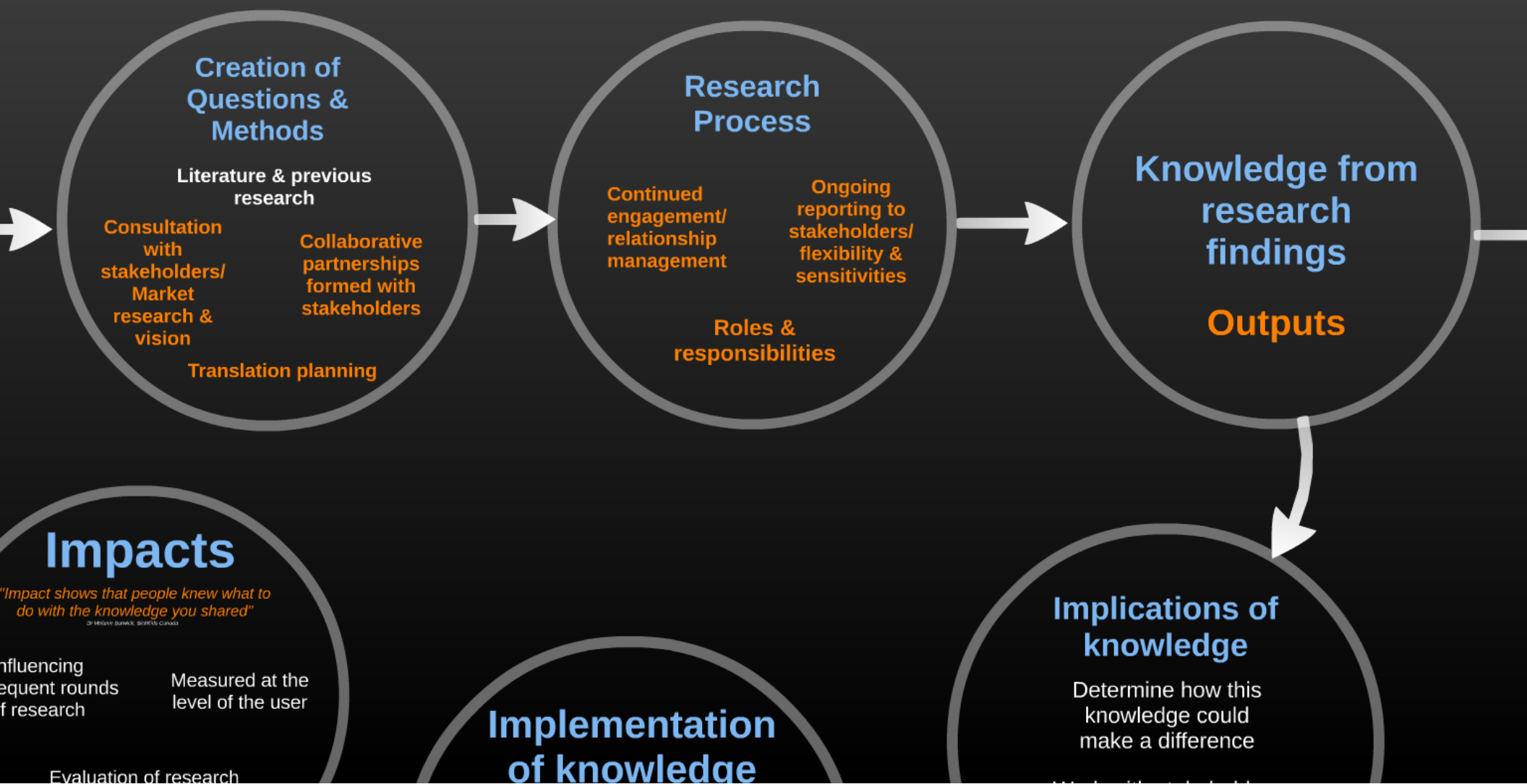
- Get involved in priority setting for research projects - relevance & need.
- Co-create projects - set goals, discuss outputs.
- Discuss the role stakeholders can play in the process (when, what, how)
- Consider both clinical and research needs - understand different worlds

# Impact

## IMPLEMENTING KT IN THE RESEARCH LIFECYCLE



# IMPLEMENTING KT IN THE RESEARCH LIFE



# **Creation of Questions & Methods**

**Literature & previous research**

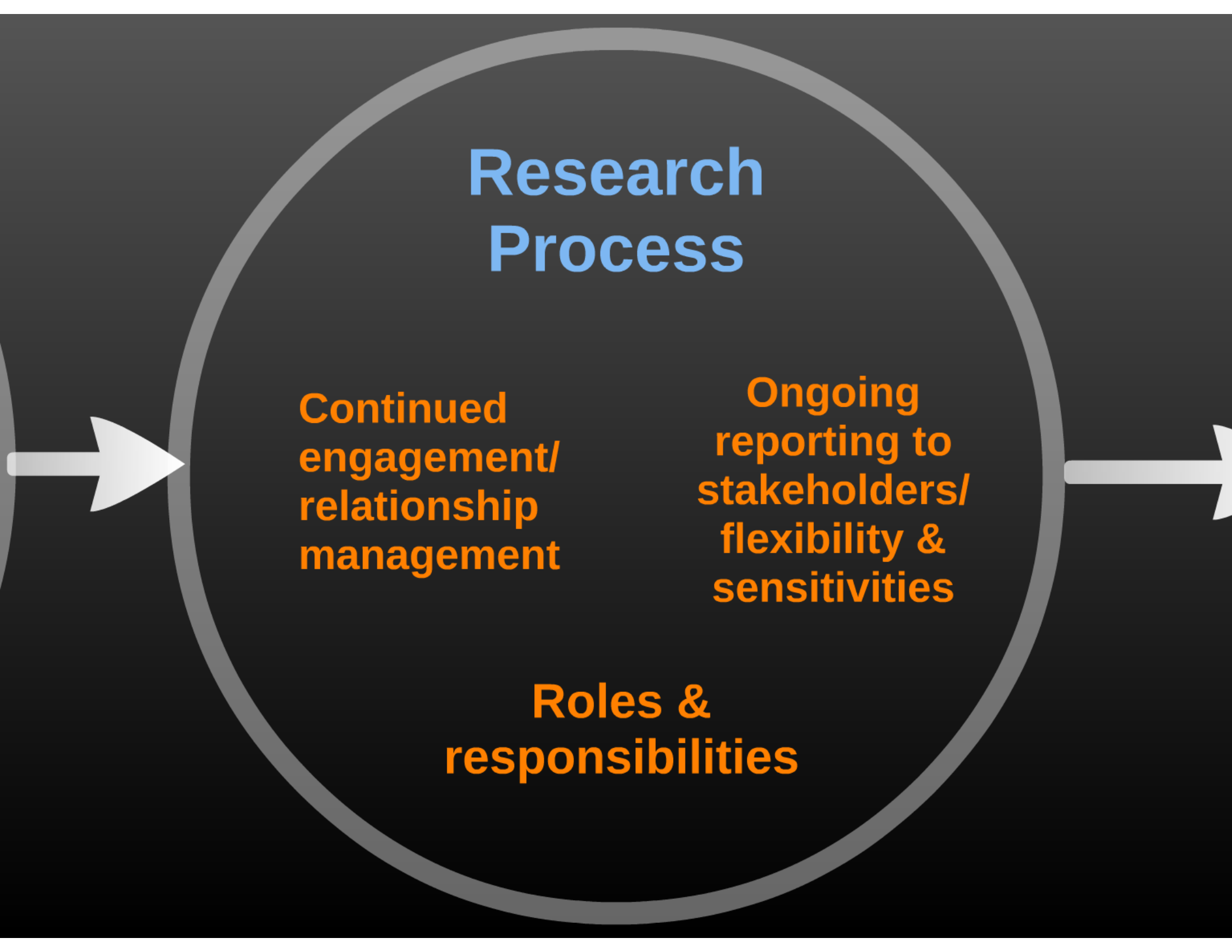
**Consultation with stakeholders/  
Market research & vision**

**Collaborative partnerships formed with stakeholders**

**Translation planning**




# Research Process



**Continued  
engagement/  
relationship  
management**

**Ongoing  
reporting to  
stakeholders/  
flexibility &  
sensitivities**

**Roles &  
responsibilities**

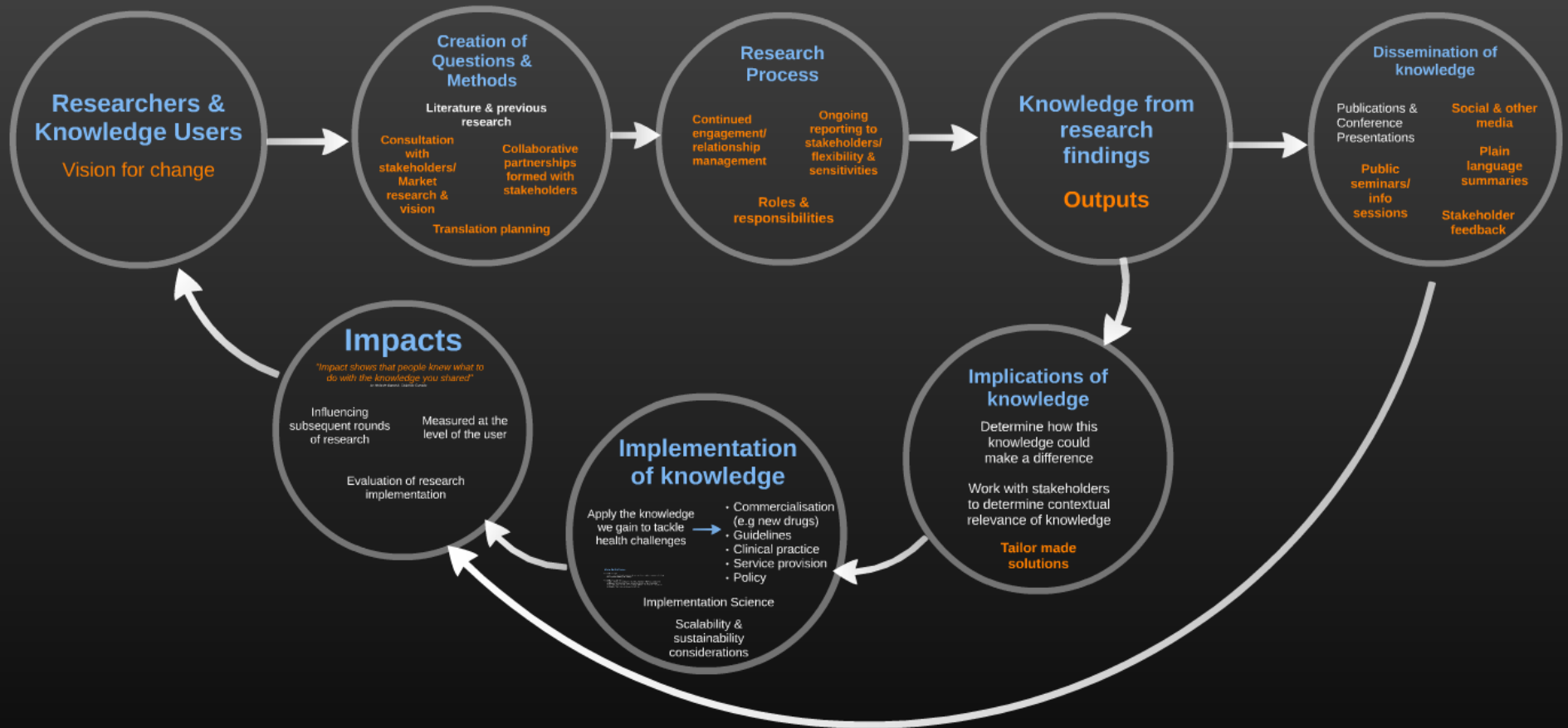


**Knowledge from  
research  
findings**

**Outputs**

# Impact

## IMPLEMENTING KT IN THE RESEARCH LIFECYCLE



# Dissemination of knowledge

Publications &  
Conference  
Presentations


**Social & other  
media**

**Plain  
language  
summaries**

**Public  
seminars/  
info  
sessions**

**Stakeholder  
feedback**





# Implications of knowledge

Determine how this knowledge could make a difference

Work with stakeholders to determine contextual relevance of knowledge

**Tailor made solutions**

# Implementation of knowledge

Apply the knowledge we gain to tackle health challenges



- Commercialisation (e.g new drugs)
- Guidelines
- Clinical practice
- Service provision
- Policy



## More Definitions:

### IMPLEMENTATION

- The use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings.

### IMPLEMENTATION SCIENCE

- The study of methods to promote the integration of research findings and evidence into healthcare policy and practice. It seeks to understand the behaviour of healthcare professionals and other stakeholders as a key variable in the sustainable uptake, adoption, and implementation of evidence-based interventions.

Implementation Science

Scalability & sustainability considerations



## More Definitions:

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# Impacts

*"Impact shows that people knew what to do with the knowledge you shared"*

Dr Melanie Barwick, SickKids Canada

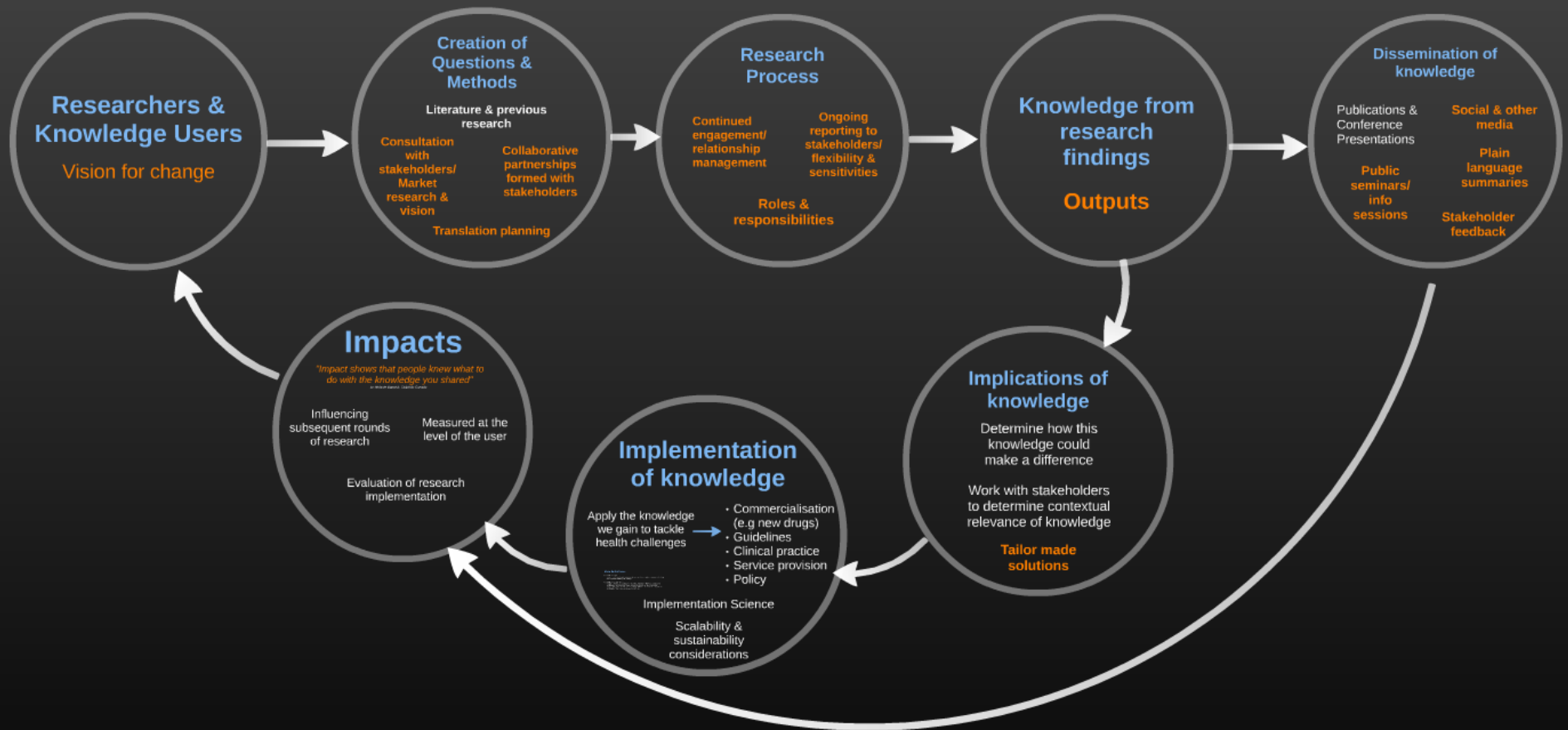
Influencing  
subsequent rounds  
of research

Measured at the  
level of the user

Evaluation of research  
implementation

# Impact

## IMPLEMENTING KT IN THE RESEARCH LIFECYCLE



# Case study example:

## Peterborough youth homelessness shelter

- Partnership to co-produce research with York University
- Goal - reduce recidivism - save money
- Project - introduce mentoring program in the shelter

### Process

- Involved social work students already working in the shelter - (outcome) created jobs

### Outcomes:

- Reduced length of stay - freeing up spots for others in need
- Job creation - social work students
- Shelter became a training org - eligible for alternative funds
- Researcher won a university medal

# Key points...

- Get involved in priority setting for research projects - relevance & need.
- Co-create projects - set goals, discuss outputs.
- Discuss the role stakeholders can play in the process (when, what, how)
- Consider both clinical and research needs - understand different worlds

# More help and information....



Knowledge Translation  
AUSTRALIA

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# Bonus content

## Creation of questions and methods

1. Consider all the relevant people & organisations that need to know about your work.
2. Approach relevant parties for discussion - two way listening, learning and conversation.
3. Determine needs, wants and relevancy of the research.
4. Formalise partnerships

## Ready to disseminate

1. Ask beneficiaries how they would like to receive the information - be innovative suggest new ways.
2. Build in goals to measure success of dissemination efforts.
3. Use social media.

## Already in the Research Process

1. Build relationships with the beneficiaries of your research - start involving others.
2. Consider and tackle barriers and facilitators to research use.
3. Consider capacity building and awareness activities that you can start doing now.

## Have knowledge to implement

1. Get all relevant parties on board and start discussions. - does the information fit, is it relevant?
2. Do an organisational audit to determine barriers and facilitators. Who are the relevant players to involve.
3. Consider a knowledge champion.
4. Consider skills and capacity available and required.

# Dr Tamika Heiden

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