Overview of Implementation (Science)

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Tokyo, Japan
GLOBAL ALLIANCE FOR CHRONIC DISEASES

Implementation Science Workshop

5-6 July 2018
Tokyo, Japan
Task for you in each group

- Say your name + where you are from
  - Tell something surprising about yourself!

- What are 2 things you most want to get from the next 2 days?

- WRITE DOWN

- Discuss at your table
ISW Faculty

- Prof Brian Oldenburg, School of Population and Global Health, University of Melbourne, Australia
- Dr Vilma Irazola, Instituto de Efectividad Clinica y Sanitaria (IECS) Argentina
- Prof Norito Kawakami, Graduate School of Medicine, The University of Tokyo, Japan
- Dr Yoshiharu Kim, National Institute of Mental Health, National Center for Neurology and Psychiatry
- Dr Yosuke Uchitomi, Center for Public Health Sciences, National Cancer Center
- Prof Akizumi Tsutsumi, Department of Public Health, Kitasato University School of Medicine
- Prof Takashi Izutsu, College of Arts and Sciences, The University of Tokyo
Workshop Objectives

- Introduce researchers to the field of D&I science
- How to study and implement research findings into policy & practice?
- Learn about models, study designs and measurement
- Illustrate ways of collaborating and networking more globally
- Showcase some exemplars of D&I science
Workshop Program Overview

- Lectures/presentations
- Small group discussion and interaction
- Interactive Q&A and discussion
- Networking and talking with one another
- You will receive PDF of all of the talks
Where did the idea for GACD ISW come from 5 years ago and collaboration with AMED?

- GACD’s mission
- The importance of implementation to improve health services and public health
- Urgent need to address challenging global health issues, particularly in LMICs
- Lots of journals, special issues of journals etc on the topic
1st GACD Implementation Science Workshop was held in Xi’an, CHINA, 2014
2nd GACD Implementation Science Workshop was held Mexico City, Mexico, 2015
3rd GACD Implementation Science Workshop in Sydney, Australia in 2016
5th GACD Implementation Science Workshop
“Neglecting implementation (science), costs lives and money”
“To him/her who devotes his life to science, nothing can give more happiness than increasing the number of discoveries, but his/her cup of joy is full when the results of his/her studies find practical applications.”

-- Louis Pasteur
CHALLENGES TO TRADITIONAL OUTCOMES RESEARCH

It takes an average of 17 years before 14% of research findings are translated into practice.


Figure 1. Timeline from idea to actionable knowledge.

1 0.4-2.3 years from the time of application for funding until receipt of award (NIH tutorial:aaa.niaid.nih.gov/grants/cycle/part01.htm#a).

2 Average length of NC/NHLBI trials is 2.91 years (Meinert CL, Tonascia S. Clinical trials: design, conduct, and analysis. New York, Oxford University Press, 1986:40).


http://www.thepermanentejournal.org/files/Fall2010PDFS/PerinatalResearchUnit.pdf
CHALLENGES TO TRADITIONAL OUTCOMES RESEARCH

It takes an average of 17 years before 14% of research findings are translated into practice.


Why?
Main reason practitioners do not use research: not perceived as relevant

How to address relevance:

- Involve stakeholders and end users from the beginning (and continuously)
- Ultimate use perspective
- Make sample, resources, and staff similar to those in applied settings
- Partner with and learn from other disciplines


What is the most common kind of research dissemination/“translation”?
Most Common Type of Research
Translation?
Bench to Bookshelf

+ Conferences + Guidelines
Prevention efforts in high income countries have been very successful over past 50 years.

Figure 1.4:

Milestones in reducing smoking in Australia 1980–2007

- No bulls campaign
- Phase out smoking in federal workplaces
- Pack health labelling regulations introduced
- National Tobacco Campaign
- Male 18+
- Female 18+
- 1st QUIT Campaigns
- Smoking banned on domestic airlines
- Tobacco banned in print media
- Age for sale of cigarettes 16 to 18
- Federal bans on tobacco sponsorship of sport & arts
- Remaining tobacco sponsorship removed (ex. Significant international events)
- POS advertising bans
- Gaming venue bans
- Smokefree dining
- Smokefree workplaces
- MCG smokefree
- C/W implement tax by stick
- NRT available for sale in Australia

Source: The Cancer Council of Victoria 2009
Evidence

+
Evidence
+

Knowledge about how to transfer, refine, implement and scale up?
Implementation research definition

Implementation research is the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and public health.

It includes the study of influences on healthcare professional and organizational behaviour.

(Eccles/Mittman, 2006)
Goal of **Implementation Science** to support the evidence-based implementation of evidence-based policies, practices and programs by systematically studying **implementation processes, practices** and so forth to understand which of these work, when, why and for whom and under what conditions work better than others.
• CONTEXT is important
  - “Implementation research studies should not assume that empirically-supported interventions can be transferred into any service setting without attention to local context, nor that a unidirectional flow of information (e.g., publishing a recommendation, trial, or guideline) is sufficient to achieve practice change.”
Successful platform for IS

- Need for careful planning
  - Cognizant of the local context
- Importance of the use of a framework
  - Essential means of organizing ideas
- Teamwork is key
  - Interdisciplinary teams with partners, donors, beneficiaries etc. are necessary
- Needs to address a range of outcomes
This is the field of DISSEMINATION & IMPLEMENTATION SCIENCE with a focus on LMICs?
Lots of different terms
A Sea of Terms (and Circles)
Definitions

From: http://kirstyevidence.wordpress.com/2014/09/06/implementation-science/?blogsub=confirming#blog_subscription-2
Scaling up of interventions and programs into policy and widespread practice

Institutionalization

National

State

District

Local

Adaptation & Wider Implementation

Scale up
Public health benefit is not just determined by evidence of efficacy/effectiveness, but also by:

- **Reaching** large numbers of people for most benefit by adapting, refining and translation...
- Being widely **adopted** in many different settings/contexts
- Being consistently **implemented** with moderate levels of training and expertise
- Producing **replicable** and **long-lasting** effects (and minimal negative impacts) at reasonable cost

Glasgow’s **REAIM** framework
Glasgow RE-AIM framework

**Policy/Planning Questions**

- **Reach**: How do I reach those who need the program?
- **Efficacy/Effectiveness**: How do I know the program is effective?
- **Adoption**: How do I develop organisational & other support for this program?
- **Implementation**: How do I ensure the program is delivered properly?
- **Maintenance**: How do I incorporate the program so it is delivered over the long term?

**Measures/Indicators**

- **Reach**: N, proportion & representativeness of those willing to participate
- **Efficacy/Effectiveness**: Positive & negative effects on health, QoL, and economic outcomes
- **Adoption**: N, proportion & representativeness of settings and providers willing to initiate a program
- **Implementation**: How closely has the program’s protocol been followed - consistency, timing, resources
- **Maintenance**: The extent to which a program is institutionalised as part of routine practice & policy
RE-AIM

- is a systematic way for researchers, practitioners, and policy makers to evaluate health behavior/service/public health interventions.
- It can be used to estimate the potential impact of interventions on public health.
The Innovation

Setting
• Health care or other system

Target population
• Demographic variables
  • At risk

Program elements
• Theoretical basis
• Key components
  • Materials
  • Delivery
  • Training

Funding
• Development
• Implementation
  • Evaluation

Organisations
• Leaders
• Strategic local partners
• Strategic national partners
• Operational partners
• Research partners

Program transfer, adoption & uptake into policy and practice

Ref: Oldenburg B et al. The spread of diabetes prevention programs around the world. TBM, 2011, 1: 270-282
A guide to implementation research in the prevention and control of noncommunicable diseases
A WHO guide for implementation research to improve the prevention and control of noncommunicable diseases

The purpose of this guide is to provide practical guidance, tools and examples for implementation research that support the effective implementation of NCD policy options and cost-effective interventions as proposed in Annex 3 of the WHO Global Action Plan 2013-2020.
| Implementation | A specified set of activities designed to put into practice a policy or intervention of known dimensions (15) | Implementation processes are:
- purposeful
- described in sufficient detail to allow independent observers to detect the presence and quality of the specific set of implementation-related activities (16) |
|----------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Implementation research | The scientific study of the processes used to implement policies and interventions and the contextual factors that affect these processes (17) | Investigates all aspects of implementation, including:
- the uptake of evidence-based policies and interventions
- activities used to put these into practice
- factors that influence these activities
- impact of factors on health outcomes |
WHO Guide – Framework Model

Relationship between implementation and the implementation research cycle

STEP 1
IDENTIFICATION OF APPROPRIATE POLICY OR INTERVENTION

- How will appropriate policies and interventions be selected?
- How will relevant evidence be identified and assessed?

STEP 2
ADAPTATION AND PILOTING OF POLICY OR INTERVENTION

- How will a policy or intervention for a new setting be refined and translated?
- How acceptable is the policy or intervention?

STEP 3
FULL IMPLEMENTATION OF POLICY OR INTERVENTION

- What is the reach of the policy or intervention?
- What is the adoption?
- How well is it implemented?
- What are the moderators of implementation?
- How effective is implementation?

STEP 4
SCALE-UP OF POLICY OR INTERVENTION

- Is the policy or intervention appropriate for new contexts?
- What resources need to be mobilized for scale up and how will these be mobilized?
- How will knowledge be translated and exchanged effectively?
この循環的プロセスはしばしば、実装のモデルと枠組みに表現される。よく使用される枠組みのひとつに、Graham その他が説明している「知識から行動への移行サイクル」がある(25)。KT Clearinghouse は、このモデルに関する様々な資源、ツール、情報を提供している。
WHO Collaborating Centre on Implementation Research for Prevention & Control of NCDs

Established in January 2018
Research and evidence development for NCD prevention & control in LMICs?

• The need is great

• The resources and capacity are always constrained + competition with clinical health services

• Requires extensive collaboration and exchange with others in a global world
Gaps in evidence to action cycle

Evidence

Policy/plan/intervention

Implementation/action

Evidence-to-policy

Evidence-to-action

Policy-to-action
Conclusions

Implementation research:

– Involves the scientific study of implementation processes and the contextual factors that affect them.
– Helps identify the most efficient and cost-effective methods of implementation.
– Should be embedded in all stages involving the selection, adaptation and evaluation of policies or interventions.

Knowledge generated by implementation research should be shared widely.
Major resources in the field of Implementation Science

• Lots of journals
A guide to implementation research in the prevention and control of noncommunicable diseases
Topics covered in this monograph

• Why is research on implementation needed?
• How is implementation research used?
• What is implementation research?
• Who should be involved in implementation research?
• What approaches/methods are appropriate for implementation research?
• How should implementation research be conducted?
• How can the potential of implementation research be realized?
Implementation research: what it is and how to do it

Implementation research is a growing but not well understood field of health research that can contribute to more effective public health and clinical policies and programmes. This article provides a broad definition of implementation research and outlines key principles for how to do it.

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BMJ 2013;347:f6753 doi: 10.1136/bmj.f6753 (Published 20 November 2013)
Writing implementation research grant proposals: ten key ingredients

Enola K Proctor*, Byron J Powell, Ana A Baumann, Ashley M Hamilton and Ryan L Santens
Major book on the topic

*Dissemination and Implementation Research in Health: Translating Science to Practice*

Ross Brownson, Graham Colditz et al

Oxford University Press, 2012
Implementation Research Toolkit

Workbook
Established in 1974 to "develop improved tools for the control of tropical diseases and to strengthen the research capability of affected countries". –Co-sponsored by WHO, UNICEF, UNDP & the World Bank., Funded by national governments

**OUR VISION**
The power of research and innovation will improve the health and well-being of those burdened by infectious diseases of poverty.

**OUR MISSION**
To foster an effective global research effort on infectious diseases of poverty and *promote the translation of innovation to health impact in disease endemic countries.*
Nine steps for developing a scaling-up strategy
Nine steps for developing a scaling-up strategy.


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US NIH D&I information


D&I section of the NIH Office of Behavioral and Social Sciences Research: https://obssr.od.nih.gov/scientific_areas/translation/dissemination_and_implementation/

NIH Training Institute for Dissemination and Implementation Research in Health: https://obssr.od.nih.gov/training_and_education/TIDIRH/2013/index.html
SUMMARY

If we don’t prepare, research more about and plan for dissemination, implementation and the scale up of evidence, it’s hardly surprising that it rarely ever happens!
Your plan

Reality
Thank you!