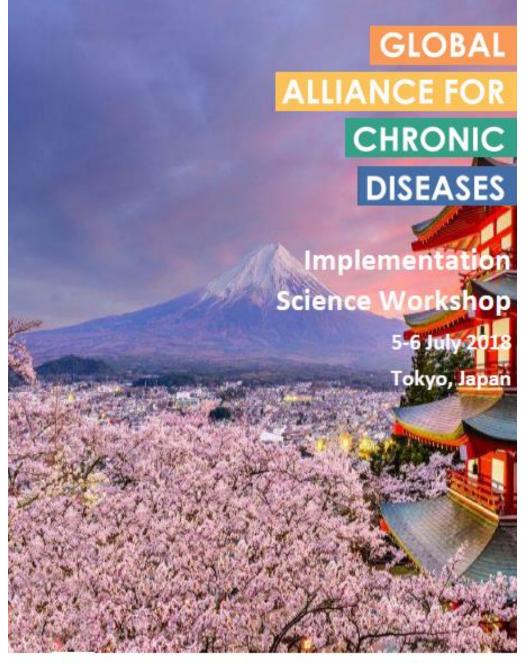
Overview of Implementation (Science)

Brian Oldenburg
University of Melbourne
Australia
boldenburg@unimelb.edu.au









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

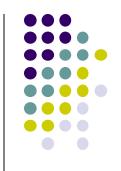
ISW Faculty

- 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



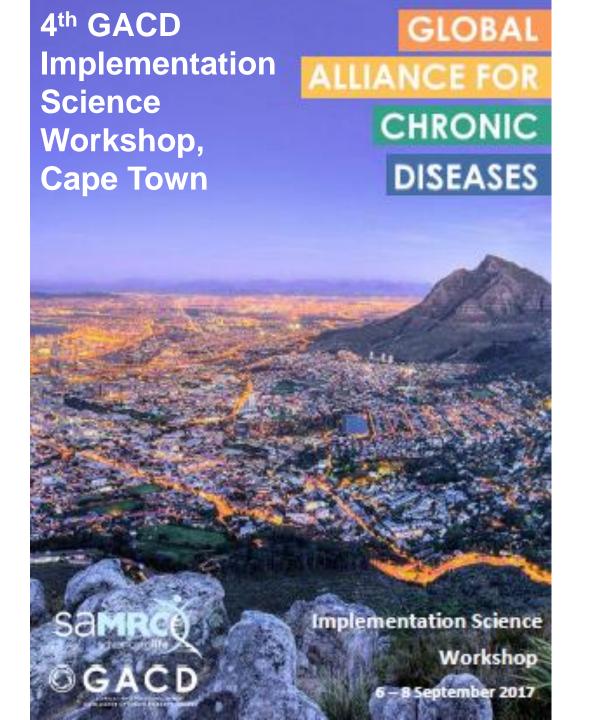
2nd GACD Implementation Science Workshop was held Mexico City, Mexico, 2015

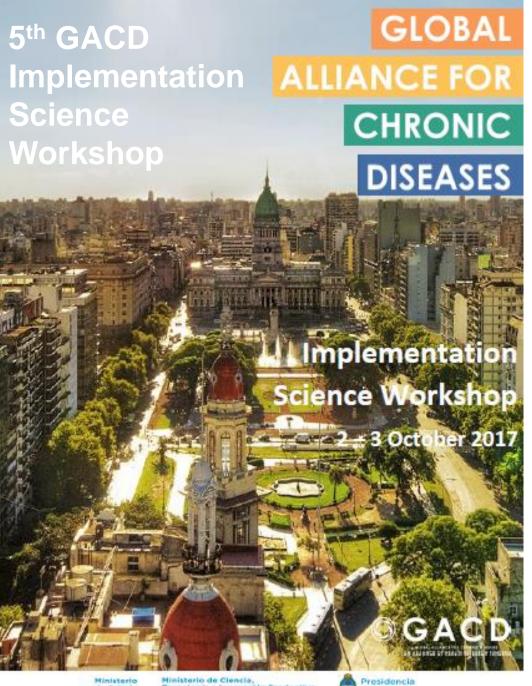


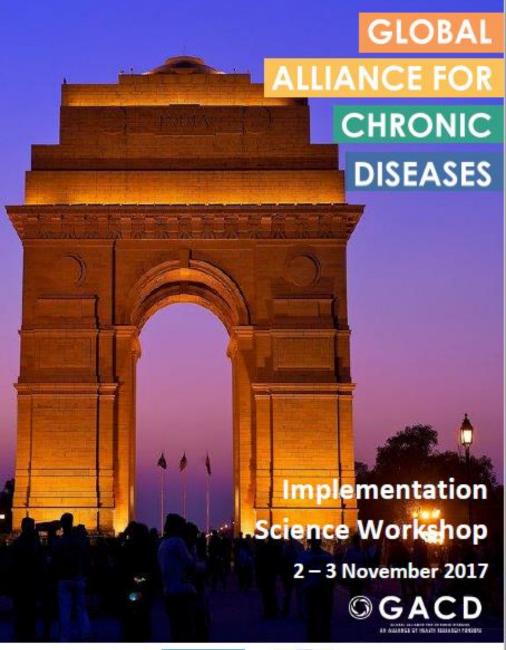


3rd GACD Implementation Science Workshop in Sydney, Australia in 2016



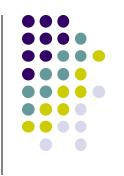












"Neglecting implementation (science), costs lives and money"

"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.

Balas, E. Monoging clinical knowledge for health care improvement Yearbook of Medical Informatics. Stuttgart, Germany: Schattauer; 2000.

Green, L.W. (2006). Public health asks of systems science: to advance our evidence-based practice, can you help us get more practice-based evidence?. American journal of public health, 96(3), 406-409.

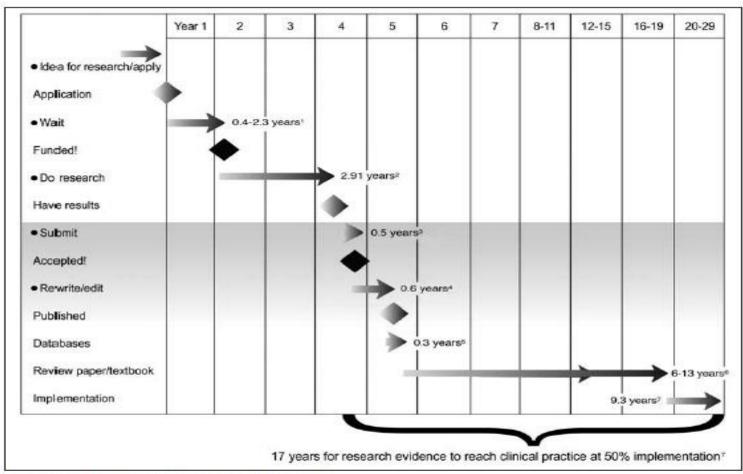


Figure 1. Timeline from idea to actionable knowledge.

^{! 0.4-2.3} years from the time of application for funding until reciept of award (NIAID tutorial:aaa.niaid.nih.rngow/ncn/grants/cycle/part01.htm#a).

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

³⁴ Kurnar PD. Publication lag intervals—a reason for authors' apathy? J Assoc Physicians India 1992 Sep:40(9):623-4.

⁵ Poyer RK. Time lag in four indexing services. Spec Lib 1982 Apr;73:142-6.

⁶ Antman EM, Lau J, Kupelnick B, Mosterller F, Chalmers TC. A comparison of results of meta-analyses of randomized control trials and recommendations of clinical experts. Treatments for myocardial infarction. JAMA 1992 Jul;268(2):240-8.

⁷ Balas ES, Boren SA. Managing clinical knowledge for health care improvement. Yearbook of Medical Informatics 2000: Patient-centered Systems. Stuttgart, Germany: Schattauer, 2000:65-70.

CHALLENGES TO TRADITIONAL OUTCOMES RESEARCH

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RELEVANCE

- 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

Peek, C. J., et al. (2014). The 5 R's: An Emerging Bold Standard for Conducting Relevant Research in a Changing World. *Annals Of Family Medicine*, 12(5), 447-455. doi:10.1370/afm.1688

deGruy, F.V., et al. (2015). A plan for useful and timely family medicine and primary care research. Family medicine, 47(8), 636-42.

What is the most common kind of research dissemination/"translation"?

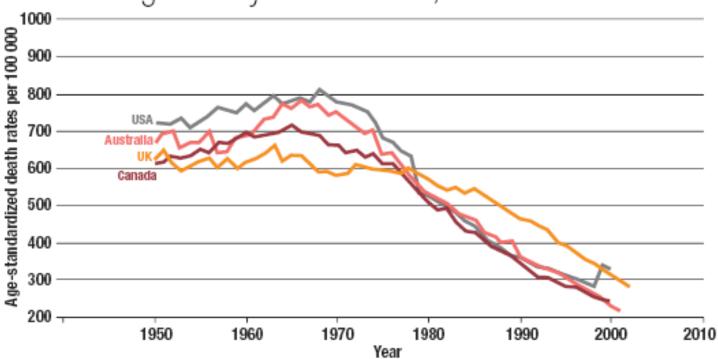
Most Common Type of Research Translation? Bench to Bookshelf



+ Conferences + Guidelines

Prevention efforts in high income countries have been very successful over past 50 years

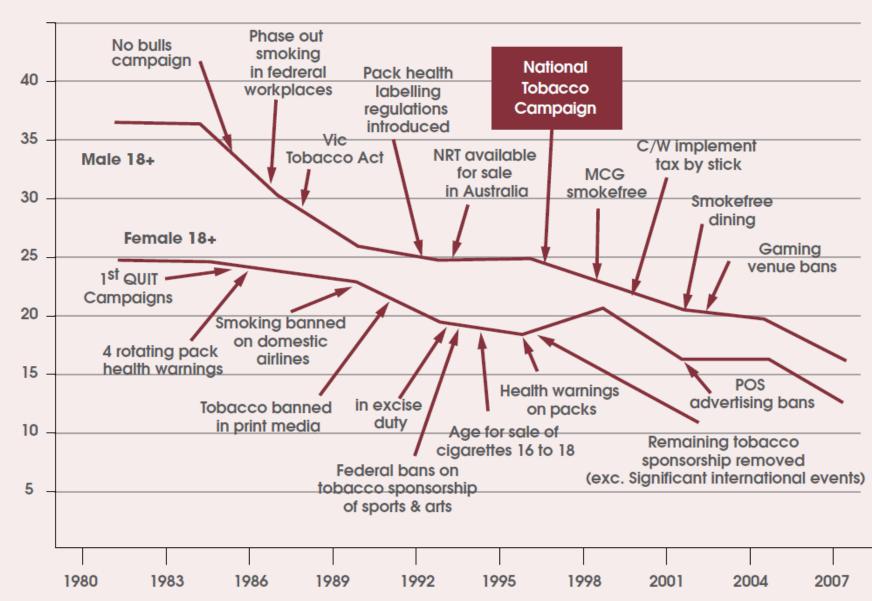
Heart disease death rates among men aged 30 years or more, 1950–2002



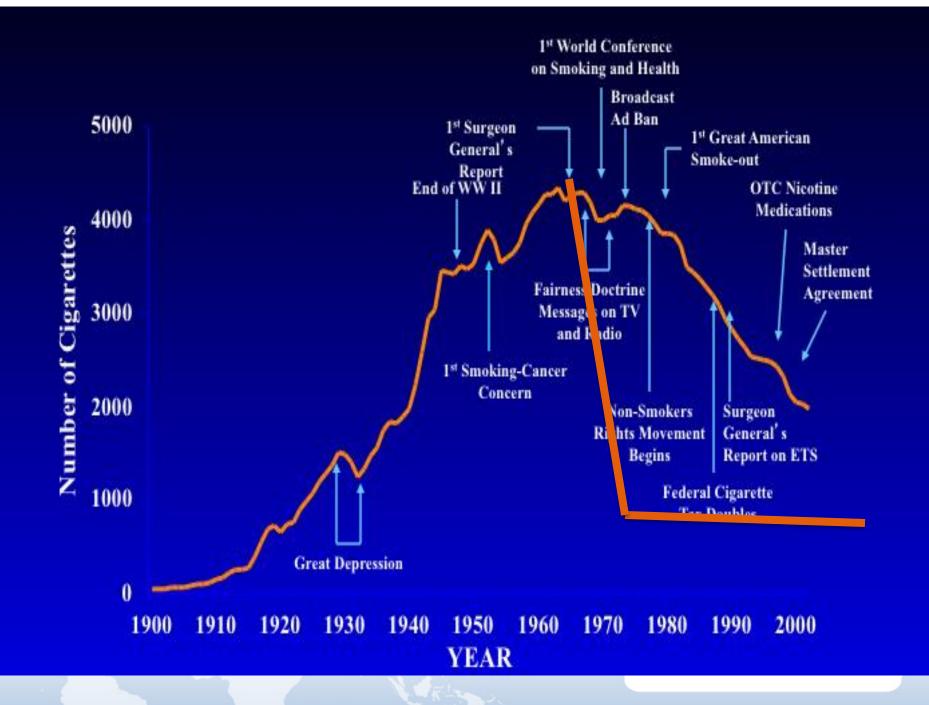
Source: WHO (2005). Preventing chronic diseases: a vital investment: WHO global report.

Figure 1.4:

Milestones in reducing smoking in Australia 1980–2007

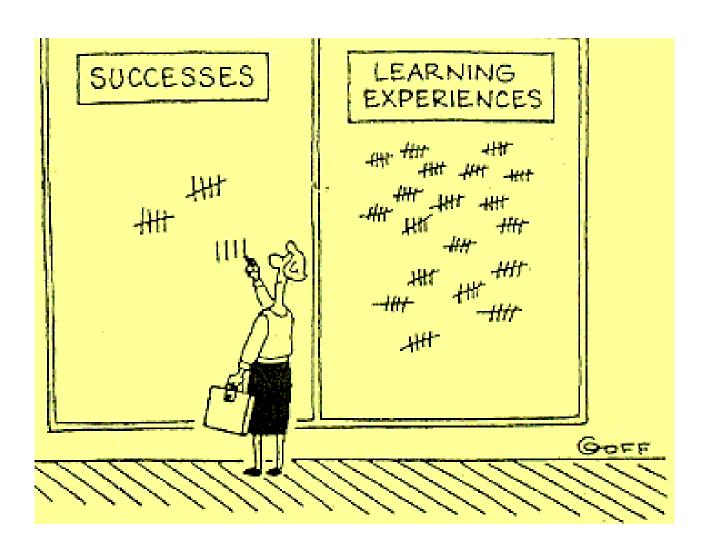


Source: The Cancer Council of Victoria 2009



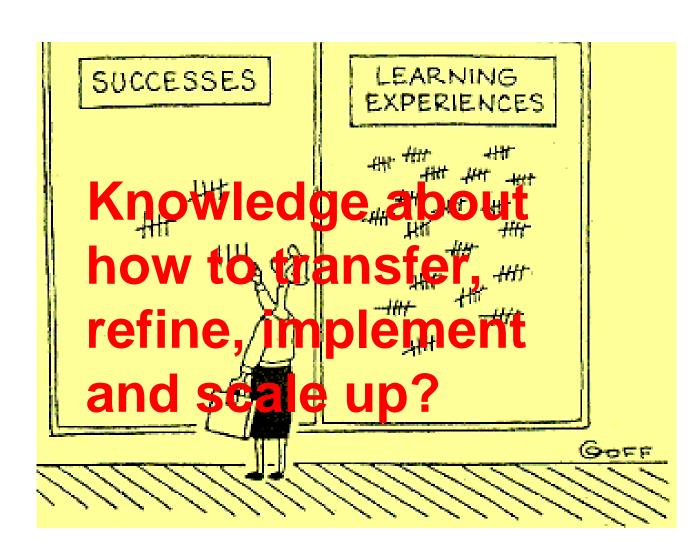
Evidence





Evidence





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 <u>Implementation Science</u> to support the evidence-based implementation of evidence based policies, practices and programs by systematically studying <u>implementation processes</u>, <u>practices</u> 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

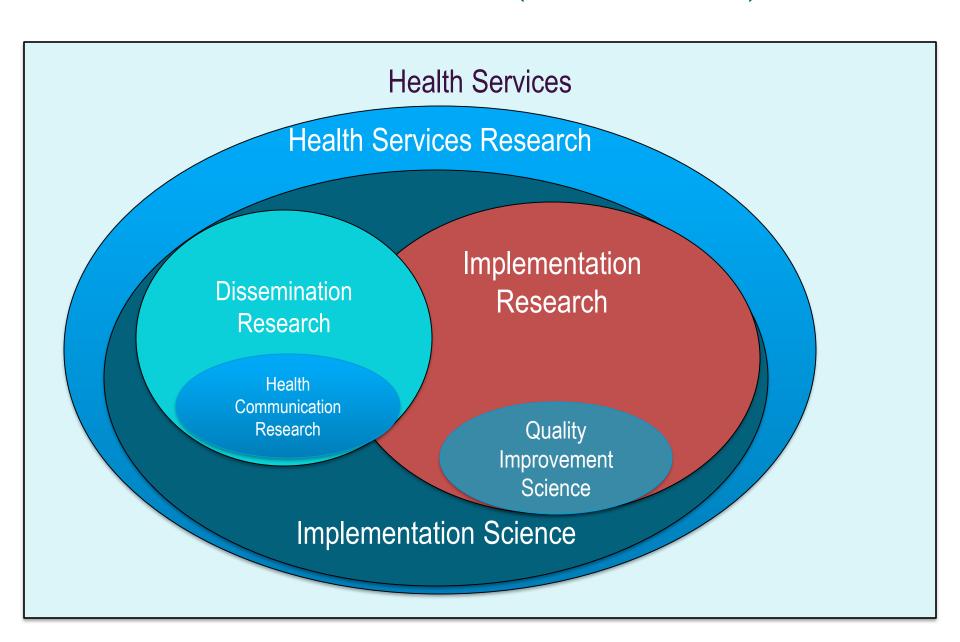
with a focus on LMICs?

Lots of different terms

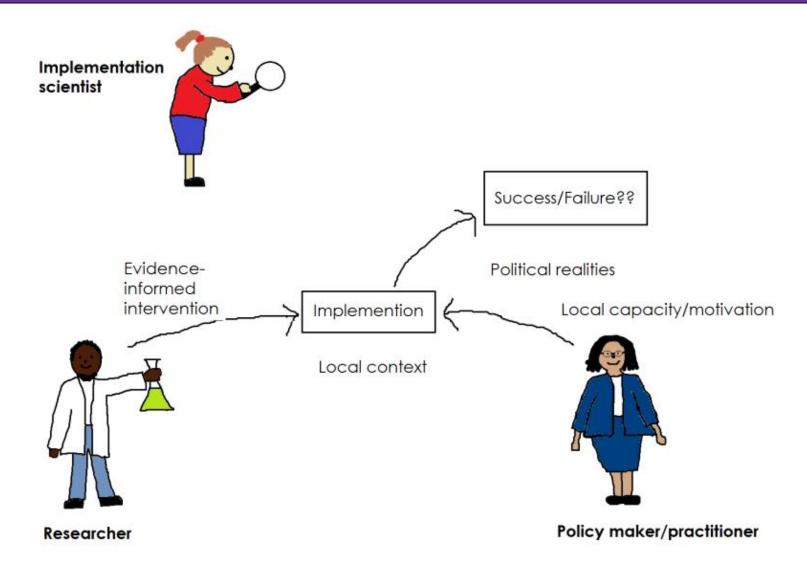




A Sea of Terms (and Circles)

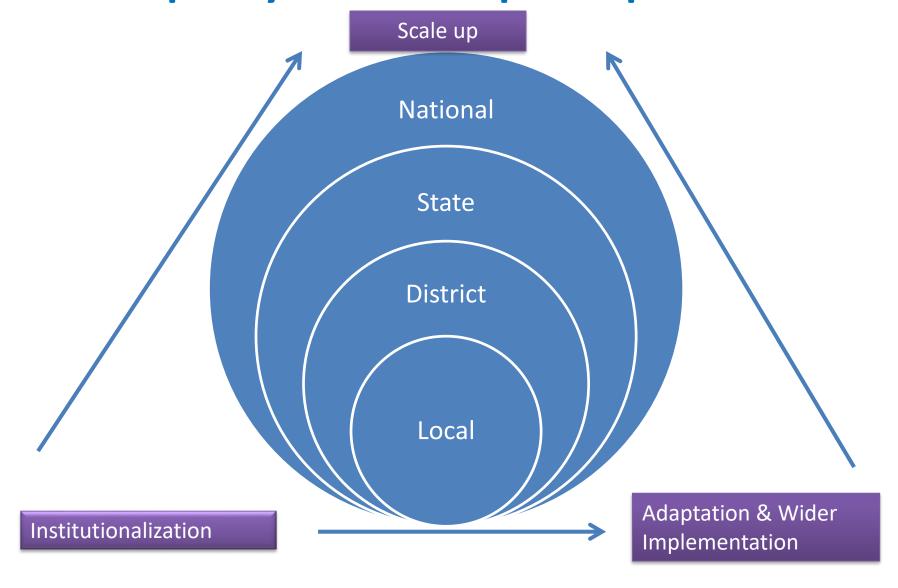


Definitions



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



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 <u>adopted</u> in many different settings/contexts
- Being consistently <u>implemented</u> with moderate levels of training and expertise
- Producing <u>replicable</u> and <u>long-lasting</u> effects (and minimal negative impacts) at reasonable cost

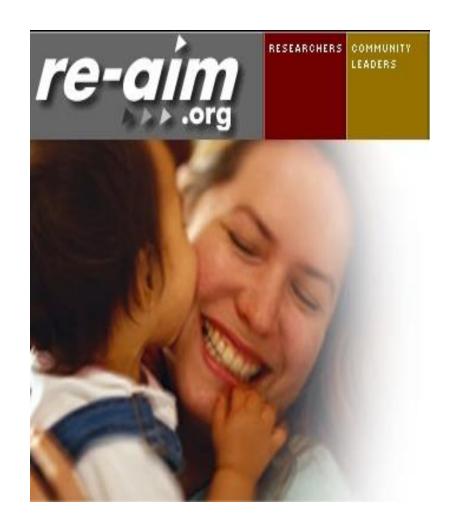
Glasgow's <u>REAIM</u> framework

Glasgow RE-AIM framework

Policy/ Planning Questions Measures/ Indicators N, proportion & How do I reach those who representativeness Reach of those willing need the program? Internal to participate Validity Positive & negative effects Efficacy/ How do I know the on health, QoL, and economic program is effective? Effectiveness outcomes How do I develop N, proportion & representativeness organisational & other of settings and providers Adoption support for this program? willing to initiate a program External Validity How closely has the low do I ensure the program program's protocol been followed **I**mplementation is delivered properly? - consistency, timing, resources How do I incorporate the The extent to which a program Maintenance program so it is delivered is institutionalised as part of routine practice & policy over the long term?

RE-AIM

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



The Innovation **Funding** Setting Development Health care or other system Implementation Evaluation **Target population** Demographic variables **Development <-> Implementation <-> Evaluation** At risk **Program elements Organisations** Theoretical basis Leaders Key components Strategic local partners Materials Strategic national partners Delivery Operational partners Training Research partners Ref: Oldenburg B et al. The spread of diabetes Program transfer, adoption & uptake into prevention programs around policy and practice 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

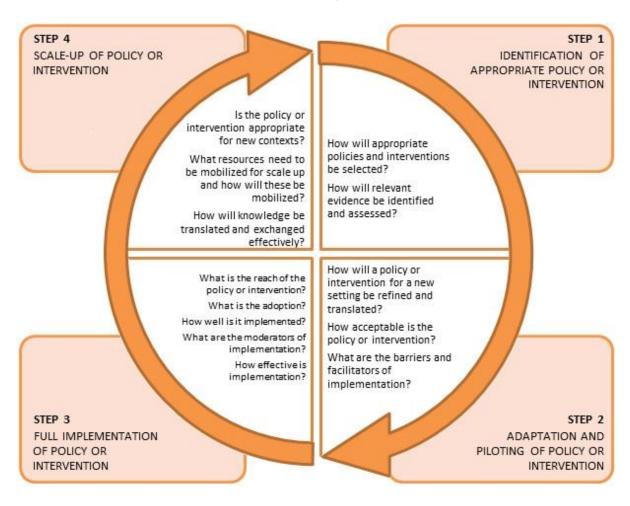
The purpose of this guide is to provide practical guidance, tools and examples for implementation research that support the effective implementation of NCD policy options and cost-effective interventions as proposed in Annex 3 of the WHO Global Action Plan 2013-2020.

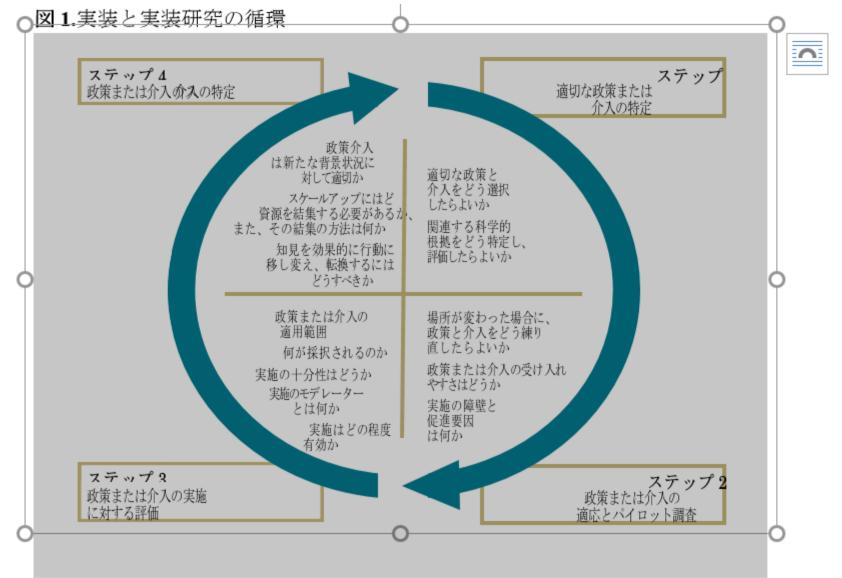
Implementation	A specified set of activities designed to put into practice a policy or intervention of known dimensions (15)	Implementation processes are: purposeful described in sufficient detail to allow independent observers to detect the presence and quality of the specific set of implementation-related activities (16)
Implementation research	The scientific study of the pro- cesses used to implement poli- cies 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





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。4

WHO Collaborating Centre on Implementation Research for Prevention & Control of NCDs

Established in January 2018

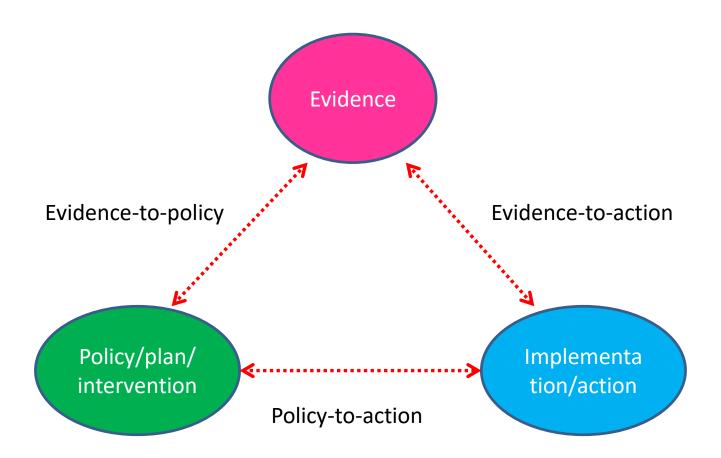
Research and evidence development for NCD prevention & control in LMICs?

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



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.

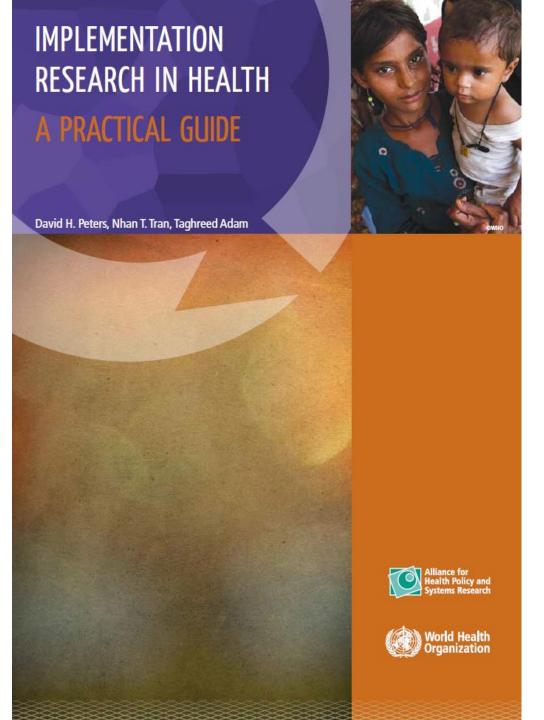
Major resources in the field of Implementation Science

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

David H Peters *professor*¹, Taghreed Adam *scientist*², Olakunle Alonge *assistant scientist*¹, Irene Akua Agyepong *specialist public health*³, Nhan Tran *manager*⁴

BMJ 2013;347:f6753 doi: 10.1136/bmj.f6753 (Published 20 November 2013)



DEBATE Open Access

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

Improving Patient Care

THE IMPLEMENTATION OF CHANGE IN HEALTH CARE

Edited by Richard Grol Michel Wensing Martin Eccles David Davis

Second Edition

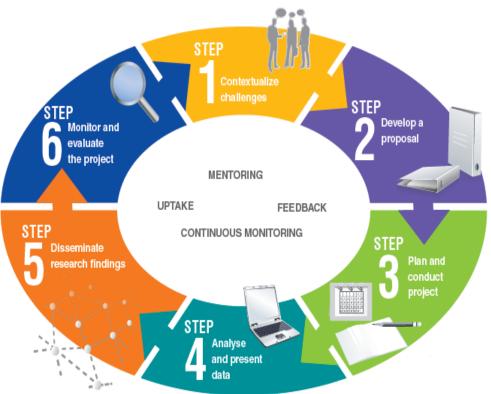
WILEY-BLACKWELL

BMJ|Books

Implementation Research Toolkit

Workbook











NEWS

ABOUT US

RESEARCH

CAPACITY BUILDING

GRANTS

PUBLICATIONS & RESOURCES & NETWORKS

DISEASES & TOPICS

s s

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



EXPANDNET

WHO Library Cataloguing-in-Publication Data

Nine steps for developing a scaling-up strategy.

1.Delivery of health care - standards. 2.Health services - standards. 3.Health planning. 4.Technology, Medical.

5. Technological innovations. I. World Health Organization. II. ExpandNet.

ISBN 978 92 4 150031 9

(NLM classification: W 84)

US NIH D&I information

D&I Scheme: http://grants.nih.gov/grants/guide/pa-files/PAR-13-055.html

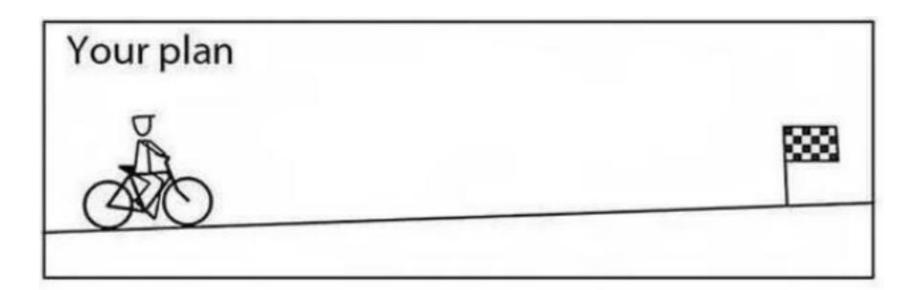
D&I section of the NIH Office of Behavioral and Social Sciences Research:

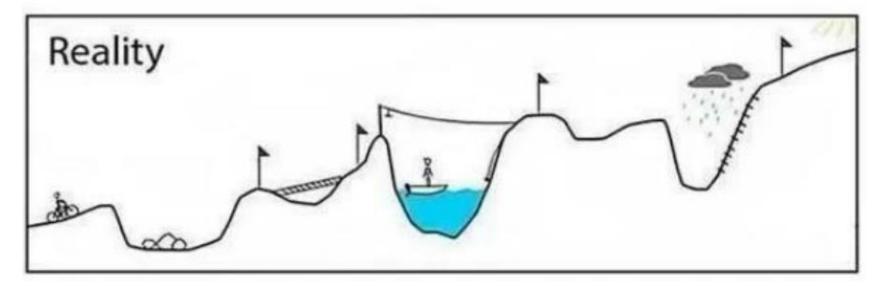
https://obssr.od.nih.gov/scientific areas/translation/dissemination and implementation/

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!





Thank you!