Kaiser Permanente
RESEARCH

Implementation Science: Overview and Proposed Role in Increasing Immunization Rates

October 2, 2014

Brian S. Mittman, PhD
Center for Implementation Practice and Research Support, Dept of Veterans Affairs
Dept of Research and Evaluation, Kaiser Permanente Southern California
School of Medicine, University of California at Los Angeles

KAISER PERMANENTE®

Leveraging implementation science to increase immunization rates

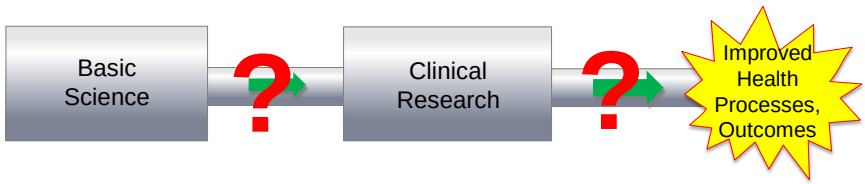
1. What is implementation science? *(aims, scope)*
2. What does it offer *(guidance, insights, tools)*
3. (How) Can implementation science help us increase immunization performance? *(specific suggestions)*

What is implementation research?

1. Clinical research produces new evidence, innovation
2. Initial efforts to promote implementation
3. Measurement of rates of implementation – and implementation (quality) gaps
4. Research to develop and evaluate *implementation programs** to increase adoption

* *quality improvement programs, practice change programs (interventions)*

Health benefits of research



The *Clinical Research Crisis*

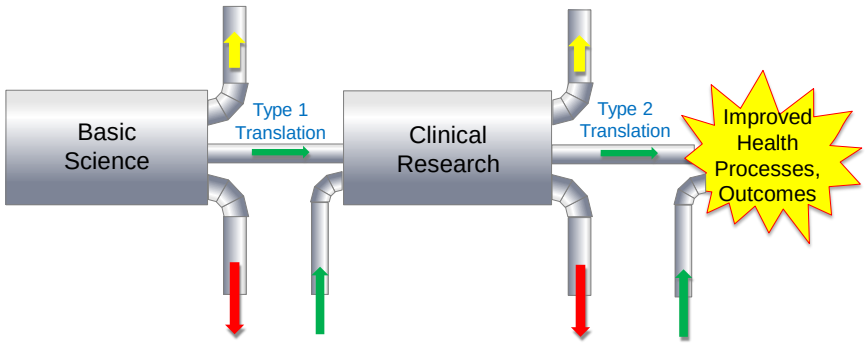
- AAMC Clinical Research Summit: *Clinical Research: A National Call to Action* (Nov 1999)
- IoM Clinical Research Roundtable (2000-2004)

Central Challenges Facing the National Clinical Research Enterprise *JAMA. 2003;289:1278-1287*

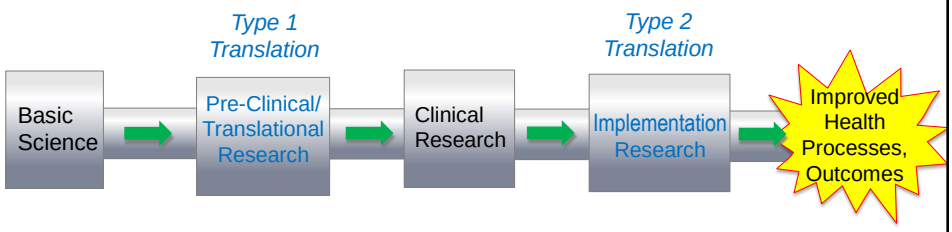
Clinical Research in the United States at a Crossroads
Proposal for a Novel Public-Private Partnership to Establish a National Clinical Research Enterprise *JAMA. 2004;291:1120-1126*

- UK *Cooksey Report* (2006), other US and non-US reports

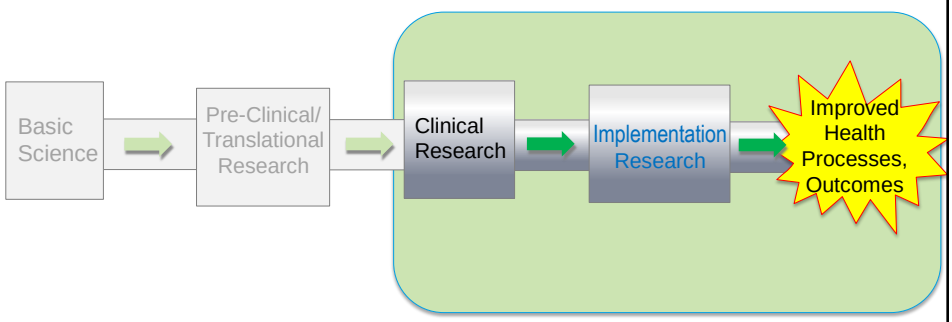
Translational research



Translational research



Implementation research



Implementation science 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.

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

Eccles and Mittman, 2006

Implementation science aims

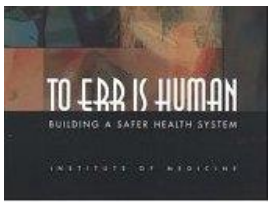
1. Develop reliable strategies for improving health-related processes and outcomes; facilitate widespread adoption of these strategies
2. Produce insights and generalizable knowledge regarding implementation *processes*, *barriers*, *facilitators*, *strategies*
3. Develop, test and refine implementation theories and hypotheses; methods and measures

The *Tower of Babel* problem

- Knowledge translation
- Translational research
- Research utilization, knowledge utilization
- Knowledge-to-action, knowledge transfer & exchange
- Technology transfer
- Dissemination research
- Quality improvement research
- T-1, T-2, T-3, T-4
- Etc.

The "Quality Chasm"

- Institute of Medicine (1999, 2001)



- Quality "report cards" (US, international)

The Quality of Health Care Delivered to Adults in the United States

Elizabeth A. McGlynn, Ph.D., Steven M. Asch, M.D., M.P.H., John Adams, Ph.D., Joan Keesey, B.A., Jennifer Hicks, M.P.H., Ph.D., Alison DeCristofaro, M.P.H., and Eve A. Kerr, M.D., M.P.H. N Engl J Med 2003;348:2635-45.

Implementation research vs. QI research

- QI often focuses on the "here and now" – immediate, local improvement needs via rapid-cycle, iterative improvement, addressing a quality problem
- IS often attempts to develop, deploy and rigorously evaluate a fixed implementation strategy across multiple sites, emphasizing theory, contextual factors, (sometimes) mediators, moderators, mechanisms, addressing an implementation gap
- IS aims to develop generalizable knowledge

Clinical research vs. implementation research

Study type / Study feature	Clinical research	Implementation research
Aim: evaluate a / an …	clinical intervention	implementation strategy
Typical intervention	drug, procedure, therapy	clinician, organizational practice change
Typical outcomes	symptoms, health outcomes, patient behavior	adoption, adherence, fidelity
Typical unit of analysis, randomization	patient	clinician, team, facility

Gaps in the pipeline; opportunities to strengthen implementation science

- Efficacy vs. effectiveness studies
- Research syntheses, guidelines
- Pre-implementation tasks: *quality gap documentation and diagnosis*
- Observational implementation studies
- Phased implementation trials

Implementation science insights

- Multi-level influences, constraints, levers for change
- Contextual influences
- Complex social interventions
- Extreme heterogeneity (across time, place)
- Adaptability and heterogeneity of implementation strategies

Implementation science implications for vaccine delivery policy/practice goals

- Document and diagnose current practices and gaps
- Map multi-level influences
- Identify and assess contextual factors
- Identify core functions for improvement programs
- Develop guidance in operationalizing these functions and adapting improvement strategies for different settings

US, international resources

- NIH Conference on the Science of Dissemination and Implementation (2007 — 2014)
- NIH grant funding, review committee, training programs
- Journals: *Implementation Science*, *Translational Behavioral Medicine*, special issues of general and specialty journals
- NIH CTSAs (selected), PBRNs (AHRQ, other), VA QUERI
- Patient-Centered Outcomes Research Institute (PCORI), AAMC Research on Care Community (ROCC)
- Knowledge Translation Canada, Kings College London Centre for Implementation Science, etc.

Local resources

Health Sciences:

- Community Health, Health Behavior
- Health Services, Management
- GIM, Family/Prev Medicine, Subspec
- Nursing, Dentistry, Psychology, Social Work, OT, PT, other allied

Main Campus:

- Psychology, Sociology, Anthropology, Political Science, Economics
- Management, Education, Public Policy