



July 9-13, 2012

**Training Institute for
Dissemination and
Implementation
Research in Health**

Dolce Hayes Mansion | San Jose, California

Designing for Dissemination

Making Research More Relevant &
Actionable for Translation to Other
Populations and Settings

Lawrence W. Green



The Challenges & Opportunities

- **The two biggest challenges:**
 - To close the gap between what policy makers, program planners, practitioners and communities need & what they are getting from our research
 - Reform some peer review & editorial tendencies
- **The two biggest opportunities**
 - Extend CBPR principles to work with policy makers, program planners & practitioners in use of natural experiments—e.g., evaluation
 - Combine PR with multi-site RCT methods that expand the external validity of the results

[Katz D et al. *AJPH*. August 2011, Vol. 101, No. 8. e17.]



Where Have All the Data Gone? Longtime Passing...

→ 17 yrs

“It takes 17 years to turn 14 per cent of original [applied] research to the benefit of patient care” *

*Balas & Boren, 2000.

Original research

Unknown

Submission

0.5 year

Kumar, 1992

Acceptance

0.6 year

Kumar, 1992

Publication

0.3 year

Poyer, 1982

Bibliographic databases

6.0 - 13.0 years

Reviews, guidelines, textbooks

9.3 years

Antman, 1992

Implementation

18%

Negative results

Dickersin, 1987



46%

Koren, 1989



Lack of numbers, Design issues

Lack of numbers, Design issues

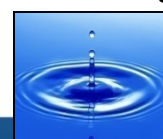
35%

*Balas, 1995



50%

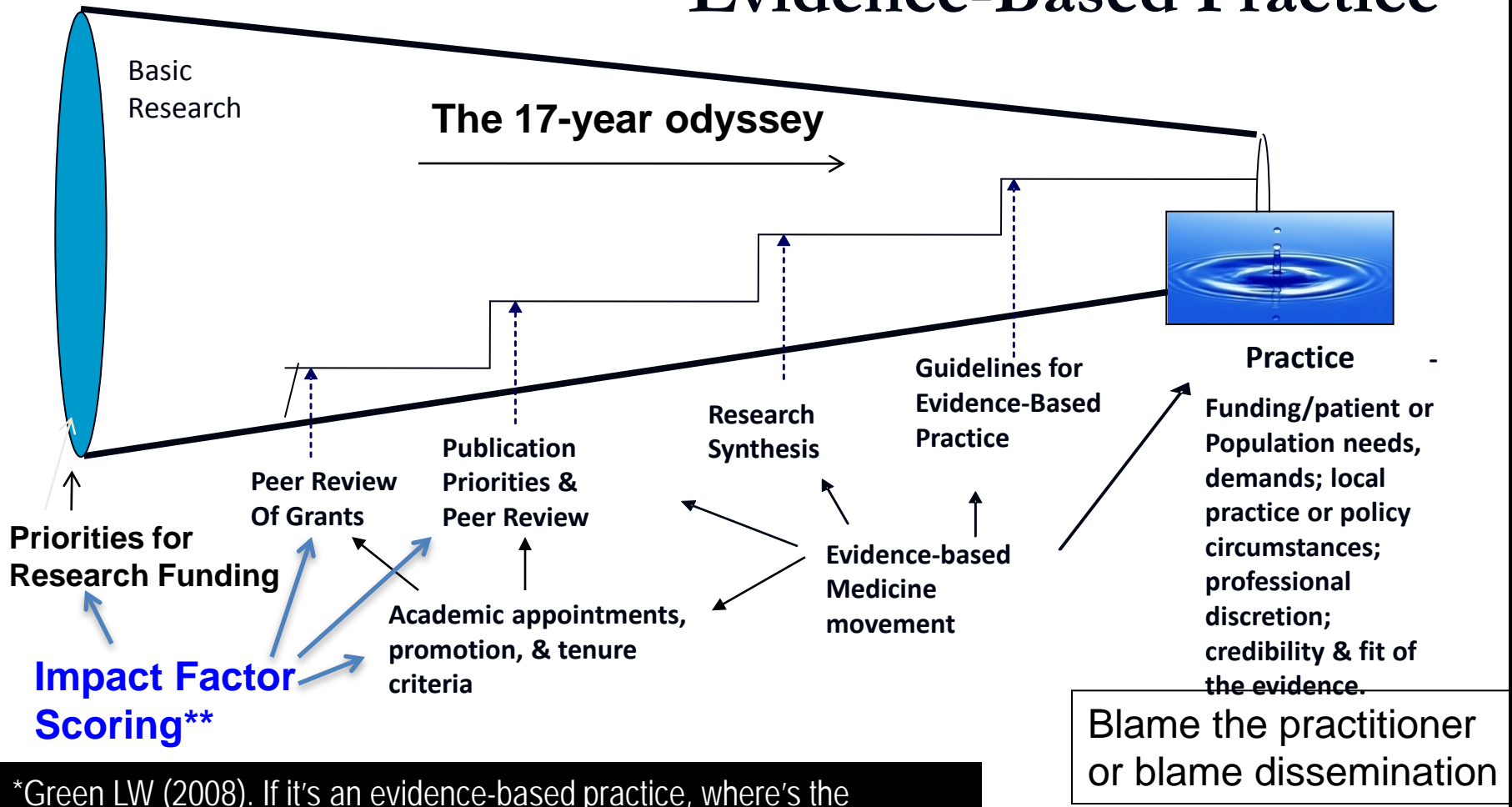
Inconsistent indexing



Poynard, 1985

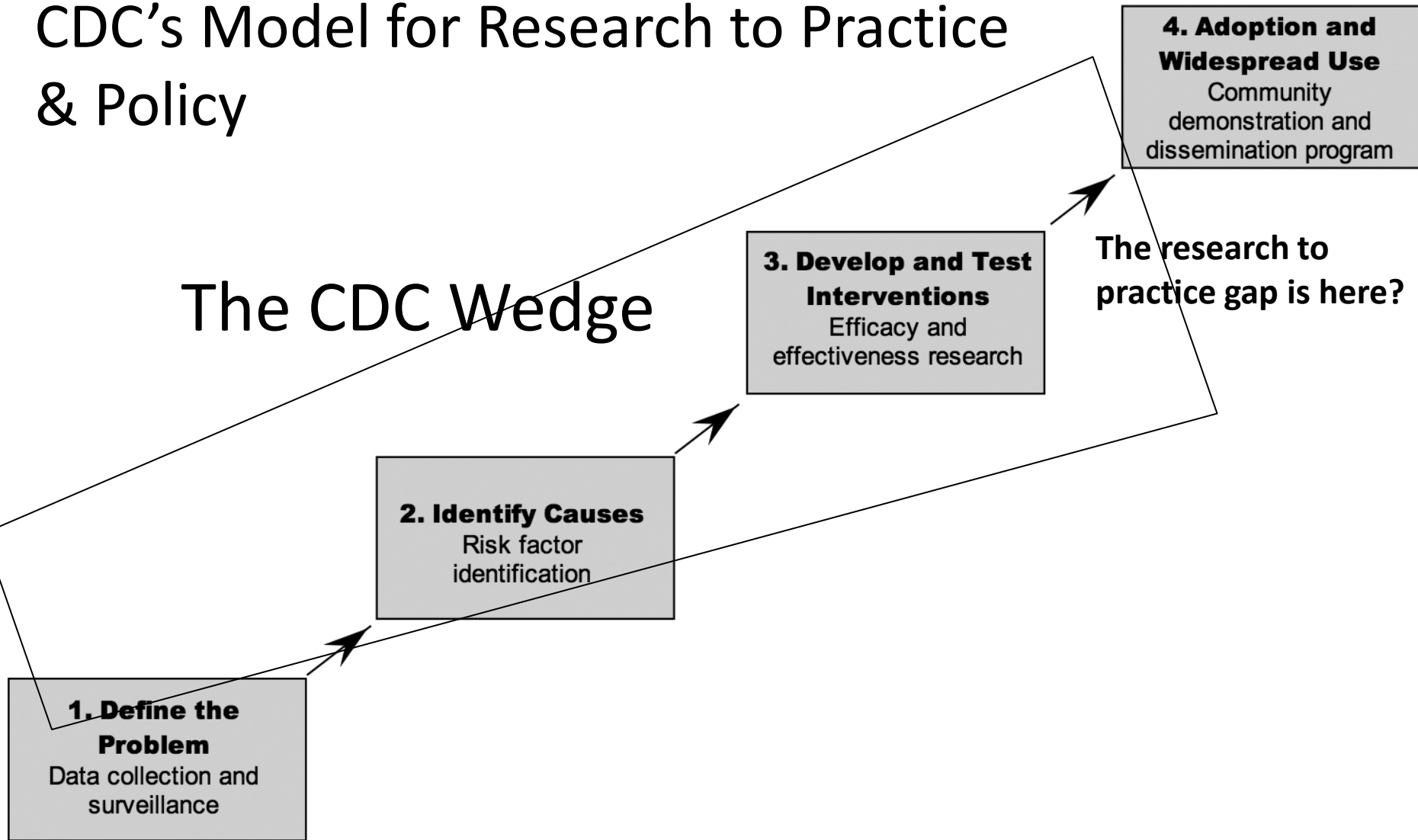


From the Levy Arrow to the Pipeline Fallacy of Producing & Vetting Research to Get Evidence-Based Practice*



CDC's Model for Research to Practice & Policy

The CDC Wedge



Adapted from Green LW, Popovic T et al, CDC Futures Group on Research, Atlanta: CDC, 2004; Sleet DA et al. Health Promot Pract 2003;4:98-102; & Hanson et al *PHR* 2012



Injury Prevention

Research

1. Define the Problem
Data collection and surveillance

2. Identify Causes
Risk factor identification

3. Develop and Test Interventions
Efficacy and effectiveness research



Context ignored

Research to Practice Gap

Context driven

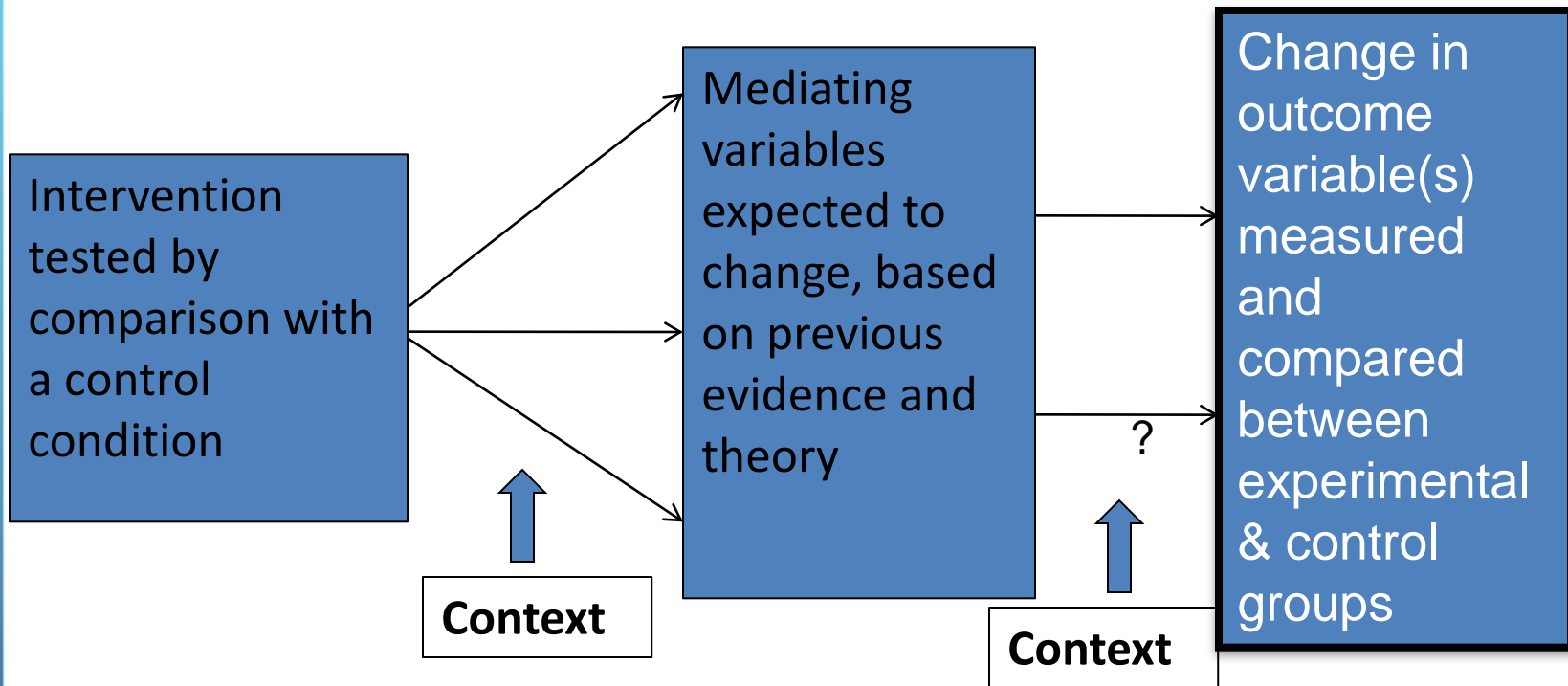


4. Adoption and Widespread Use
Community demonstration and dissemination program

Practice

Safety Promotion

The Prevailing Standard of Evidence: The Randomized Controlled Trial



- Interventions highly standardized.
- Interventions reduced to simplistic form
- Everything else held constant.
- Clients randomized, no choice.
- Interventionists highly trained, restrained & supervised; no discretion.

- Comparison based on average change for each group
- Subgroup analysis discouraged
- Dropouts discounted, ignored
- Cut-off date for outcomes often too soon for change to occur

Problems Identified by IOM Report* (www.nap.edu)

- **Narrow focus: Lack of attention to larger systems context**
- **Lacking details of implementation process**
- **Lack of relevance to real world**
- **Many studies focus on one intervention, but obesity may require a combination of interventions; in fact, some things appear not to work when tested alone, but are essential ingredients in a more comprehensive program**



*Institute of Medicine. *Bridging the Evidence Gap in Obesity Prevention: A Framework to Inform Decision Making*. Washington, DC: The National Academies Press, 2010. Full text online at www.nap.edu.



IOM Conclusions about Status of Evidence

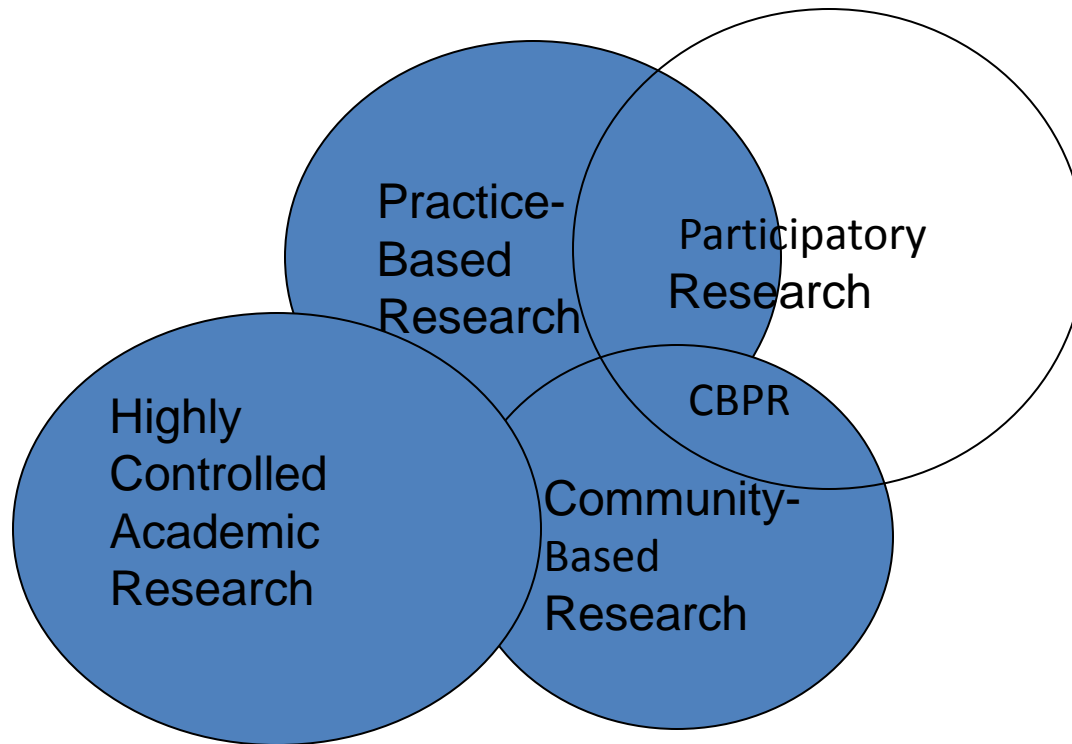
- The current evidence lacks the power to set a clear direction for obesity prevention across a range of target populations
- This lack of evidence for effectiveness seen as a lack of effectiveness
- It is difficult to fund, conduct & publish research on community, environmental, and policy-based obesity prevention initiatives
- Assessing or reporting on generalizability of research results to other populations or settings has not been given priority



Types of Community-Engaged Evidence for Health Research

- **Participatory research evidence**
 - Community-Based Participatory Research (CBPR)
 - Practice-based or action research
- **Surveillance evidence**
- **Population diagnostic evidence**
- **Program evaluation evidence**
 - Multi-component
 - Continuous quality improvement
 - How context effects (moderates) outcomes

The Spheres of Practice-Based, Community-Based, Academic & Participatory Research



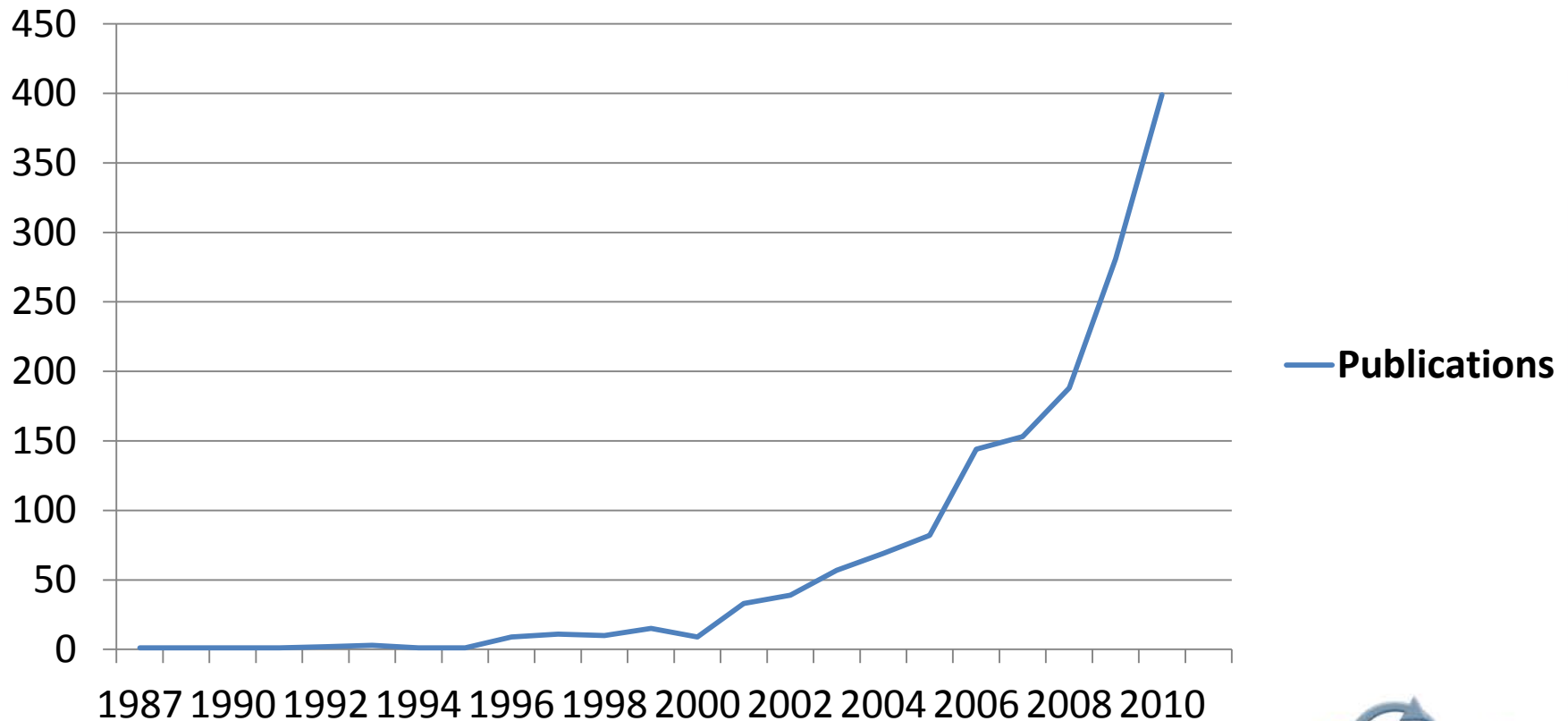
Three Paradoxes

- **The internal validity–external validity paradox**
 - The more rigorously controlled a study testing the efficacy of an intervention, the less reality-based it becomes, so it cannot be taken to scale or generalized
- **The specificity – generalizability paradox**
 - The more relevant and particular to the local context, the less generalizable to other contexts
- **The homophily–social distancing paradox**
 - The effectiveness of indigenous health workers uses their commonalities with the community, but they seem to lose that with increased professionalization; obverse paradox for scientists...

Number of Publications on CBPR

Based on Scopus Search*

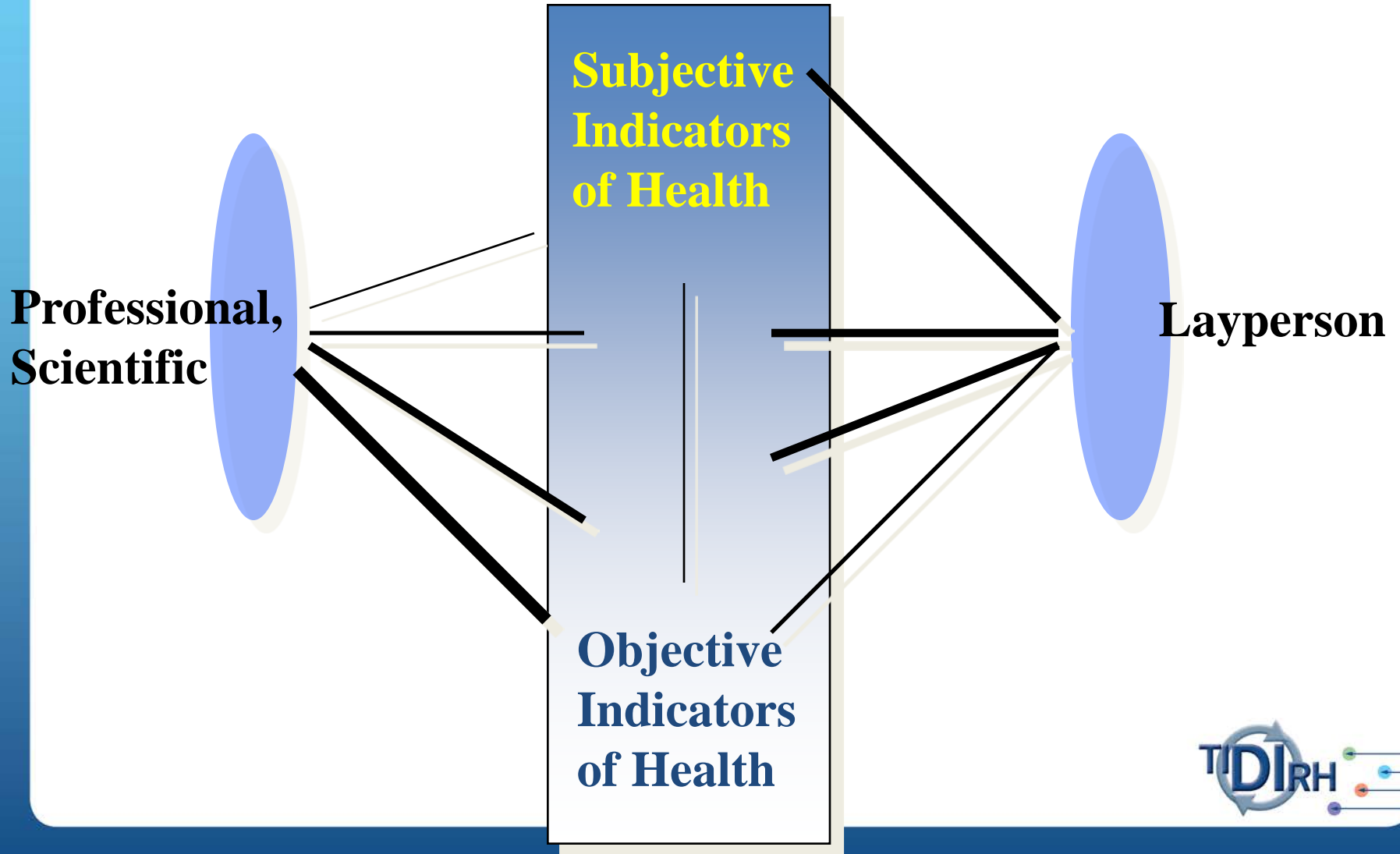
Publications on CBPR




*Based on unpublished Scopus review by Doug Brugge, Tufts U., 2011.



The Lenses of Scientists, Health Professionals and Lay People





- **Take-home points of “Designing for Dissemination”**

- Consider the trade-offs between internal and external validity of original research and evaluation
- If we want more evidence-based practice, we need more practice-based evidence
- Extend CBPR principles to work with policy makers, program planners & practitioners in use of natural experiments—e.g., evaluation
- Combine RCTs with CBPR in multi-site trials (Katz et al., *AJPH*, 2011)

Some References

- Glasgow RE, Green LW, Taylor MV, and Stange KC. An evidence integration triangle for aligning science with policy and practice. *Am J Prev Med.* 2012; 42: 646.
- Garfield SA, Malozowski S, Chin MH, Naryan K M, Glasgow R, Green LW, Hiss RG, & Krumholz HM. Considerations for Diabetes Translational Research in Real-World Settings. *Diabetes Care* 26(9): 2670-2674., Sep 2003.
- Green LW, Glasgow RE, Atkins D, Stange K. Making Evidence from Research More Relevant, Useful, and Actionable in Policy, Program Planning, and Practice: Slips “Twixt Cup and Lip”. *Am J Prev Med.* Dec 2009;37(6S1)S187- S191. Full text online: <http://rwjcsp.unc.edu/resources/articles/S187-S191.pdf>
- Jagosh J, Macaulay AC, Pluye P, Salsberg J, Bush PL, Henderson J, Sirett E, Wong G, Cargo M, Herbert CP, Seifer SD, Green LW, and Greenhalgh T. Uncovering the Benefits of Participatory Research: Implications of a Realist Review for Health Research and Practice. *Milbank Quar.* 2012;90(2):311-346.