Establishing a common language: D4D terms and definitions

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DESIGNING FOR DISSEMINATION METHODS INTENSIVE

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IF AN INTERVENTION WORKS

AND NOBODY CAN USE IT......

DOES IT STILL MAKE AN IMPACT?

Diffusion-Dissemination-Implementation Continuum

Discovery/ Development   **Delivery**

Diffusion
1. Research diffusion
...the passive process by which a growing body of information about an intervention, product, or technology is initially absorbed and acted upon by a small body of highly motivated recipients (Lomas, 1993).

2. Diffusion research
...centers on the conditions which increase or decrease the likelihood that a new idea, product, or practice will be adopted by members of a given culture (Rogers, 1995).

Dissemination
1. Research dissemination
...active process through which the information needs (pull) of target groups working in specific contexts (capacity) are accessed, and information is "tailored" to increase awareness of, acceptance of, and use of the lessons learned from science (Kerner, 2007).

2. Dissemination research
...the study of processes and variables that determine and/or influence the adoption of knowledge, interventions or practice by various stakeholders (Lomas, 1997).

Implementation
1. Research implementation
...the utilization of strategies or approaches to introduce or modify evidence-based interventions within specific settings. This involves the identification of and assistance in overcoming barriers to, the application of new knowledge obtained from a disseminated message or program (Lomas, 1993).

2. Implementation research
...research that supports the movement of evidence-based interventions and approaches from the experimental, controlled environment into the actual delivery contexts where the programs, tools, and guidelines will be utilized, promoted, and integrated into the existing operational culture (Rubenstein & Pugh, 2006).

"If you can't explain it simply, you don't understand it well enough."

- Albert Einstein

What does this really mean? (as I understand it)

Term:	What we do (examples):
Dissemination	• Understand our target audience • Package the evidence/intervention • Create and use appropriate channels
Dissemination research	• Measure the rate and speed of dissemination • Identify who was and wasn't reached • Compare approaches
Implementation	• Support initial uptake and implementation • Identify and work with local champions • Provide technical assistance/training
Implementation research	• Measure the level/degree of implementation • Compare strategies • Identify barriers

Designing for D&I defined

#1: Designing for Dissemination refers to a **set of processes** that are considered and **activities** that are undertaken throughout the **planning, development, and evaluation** of an intervention to **increase** its **dissemination potential.**[1]

#2: Designing for diffusion is the taking of **strategic steps early in the process** of **creating and refining** an evidence-based intervention to increase its chances of being **noticed, positively perceived, accessed**, and **tried** and then **adopted, implemented, and sustained** in practice.[2]

#3: The **process** of ensuring that evidence-based interventions are **developed** in ways that match well with **adopters' needs, assets, and time frames**. D4D might apply to any actionable finding or packaging/designing interventions.[3]

[1] Rabin BA and Brownson RC. Terminology for D&I research in health 2017
[2] Dearing et al. Am J Prev Med 2013
[3] Brownson RC. Personal Communication

How well are we doing in D4D?

Affiliation	n	%
University	172	65%
CDC PRC affiliate	63	
NIH	25	9%
CDC	34	13%
Other	34	13%
	266	100%

Brownson et al. Designing for Dissemination Among Public Health Researchers: Findings From a national survey in the United States. *Am J Public Health* July 18, 2013

It is an obligation of researchers to disseminate their research to those who need to learn about it and make use of the findings.

disagree 3%

neither agree nor disagree 9%

strongly agree 51%

agree 36%
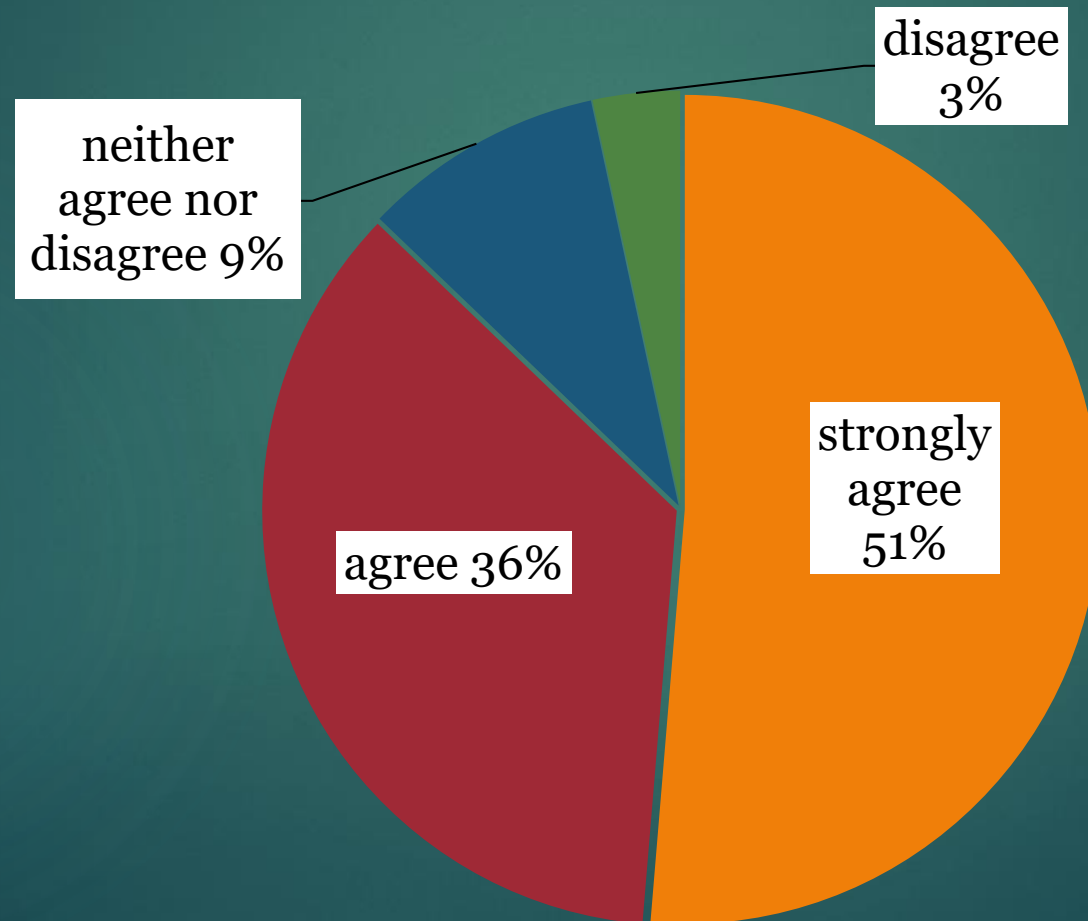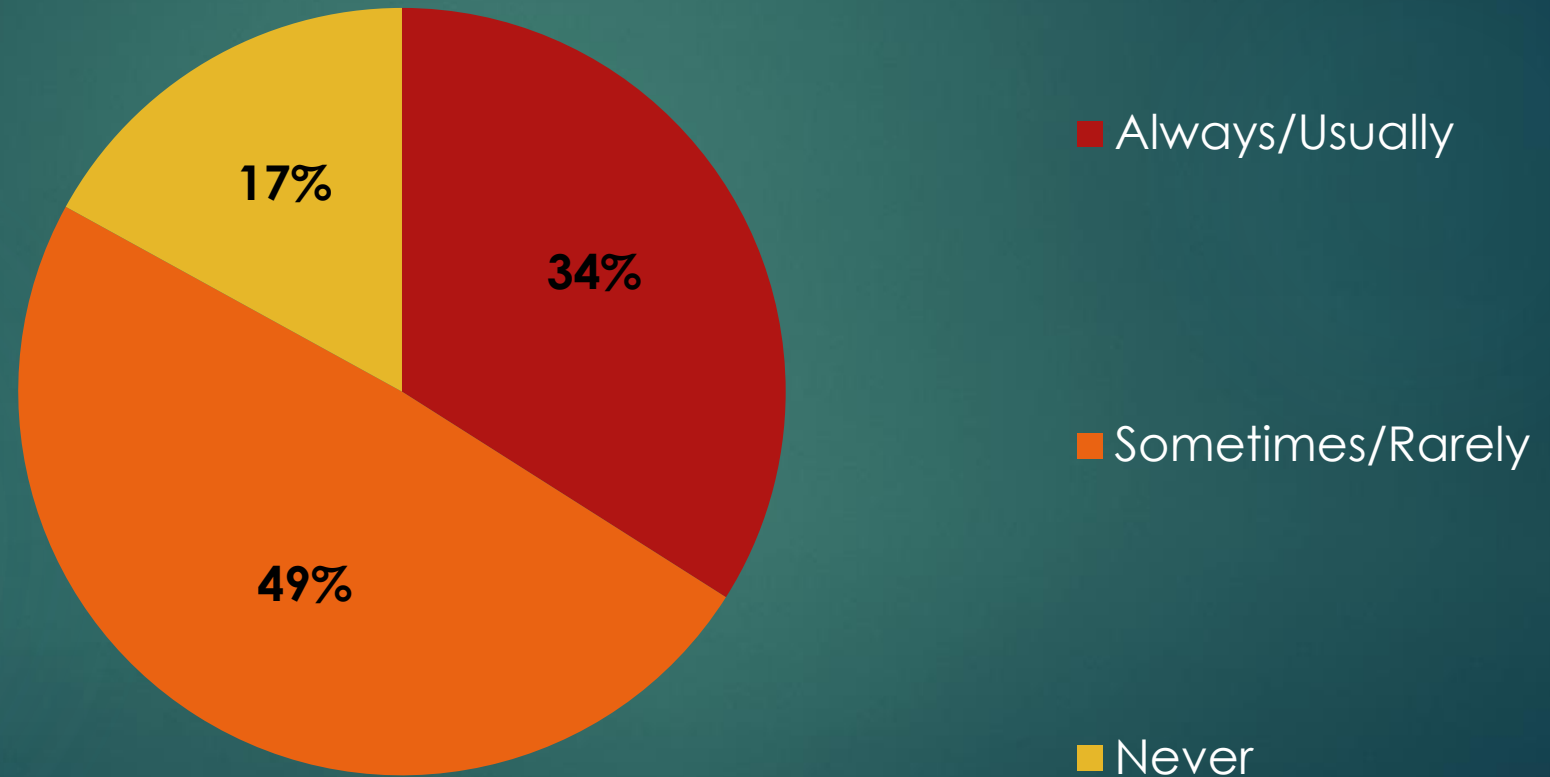
At what stage in the research process do you usually plan dissemination activities?
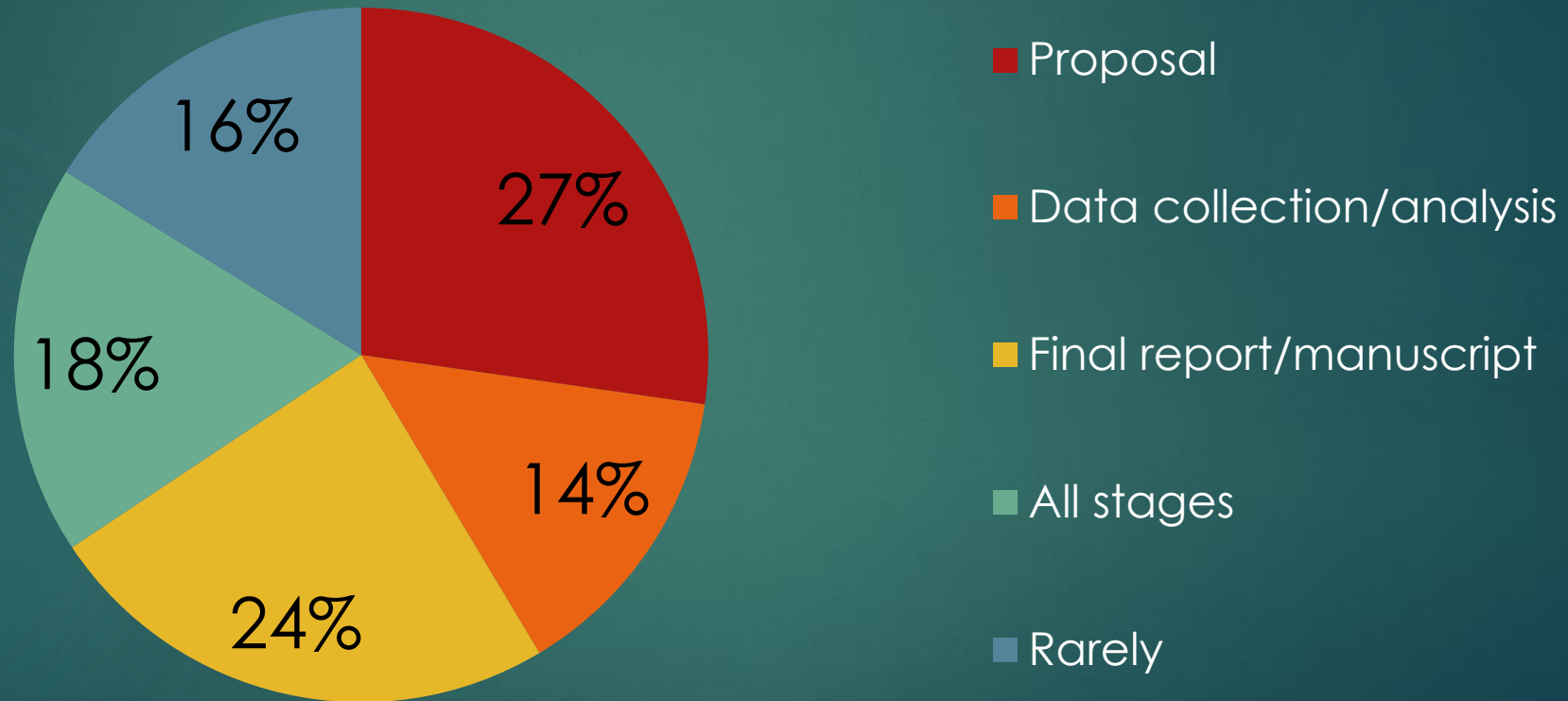
Overall, how do you rate your efforts to disseminate your research findings to non-research audiences?
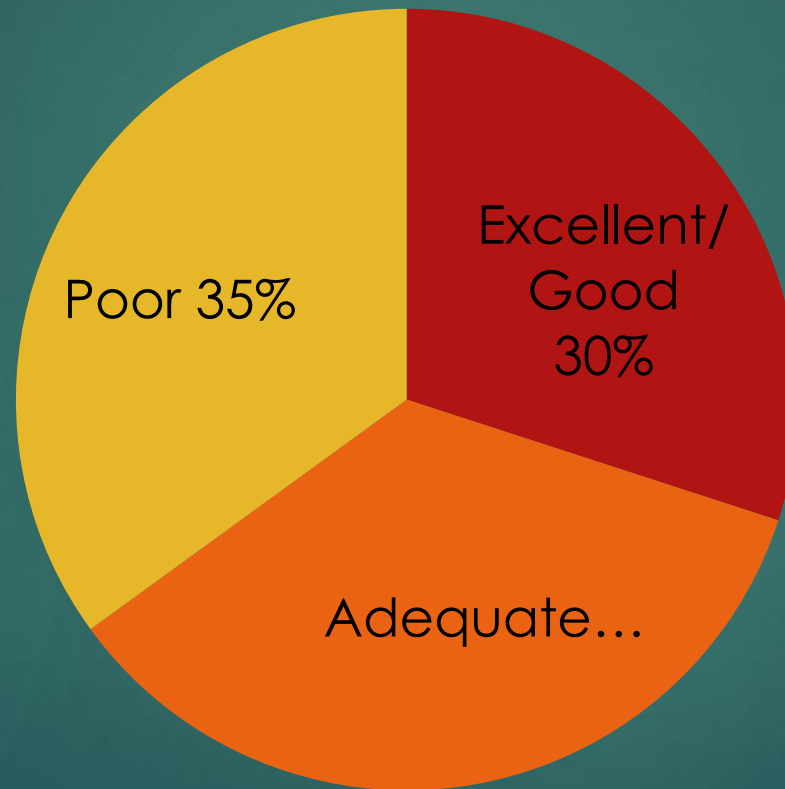
Multivariate predictors of excellent dissemination

▶ Important for their department (OR=2.3; 95% CI=1.2-4.5)

▶ Expected by funder (OR=2.1; 95% CI=1.3-3.2)

▶ Worked in policy/practice setting (OR=4.4; 95% CI=2.1-9.3)

▶ NIH least effective among settings

Disconnect between practice and research

How local public health agencies learn about research findings?	How researchers perceive they most effectively reach practitioners?
1. Professional associations	1. Journal articles
2. Seminars/workshops	2. Face-to-face meetings
3. Email alerts	3. Media interviews
4. Journal articles	4. Press releases

What really matters for adopters?

1. ****Cost :** dollars or physical infrastructure

2. ****Complexity:** the extent to which the innovation is perceived as difficult to teach, adopt, or implement

3. ****Compatibility:** the extent to which the innovation is consistent with the adopter's characteristics

4. **Evidence:** the degree to which the evidence supports action

5. *Trialability:* the degree to which the innovation can be experimented on a limited basis without a large investment

6. *Observability:* the degree to which the results of an innovation are visible to others

Dearing JW. Res Soc Work Pract. 2009 Sep 1; 19(5): 503–518.
http://crn.hostworks.net/media/3399/innovation_attributes_measurement_2_.pdf

Strategies for D4D

Domain
System changes
Shift research funder priorities and processes
Shift researcher incentives and opportunities
Develop new measures and tools
Develop new reporting standards
Identify infrastructure requirements
Processes
Involve stakeholders as early in the process as possible
Engage key stakeholders (receptors) for research through audience research
Identify theories/frameworks/models for dissemination efforts
Identify the appropriate means of delivering the message
Products
Identify the appropriate message
Develop summaries of research in user-friendly, nonacdemic formats (audience tailoring)

Strategies for D4D

PLAN FOR D&I FROM THE START

ENGAGE YOUR TARGET USERS

CHOOSE AND INTEGRATE A THEORETICAL MODEL/FRAMEWORK

CHOOSE DESIGNS THAT ALLOW YOU TO GENERATE OUTCOMES THAT INFORM REAL WORLD PERFORMANCE

CHOOSE MEASURES THAT MATTER IN THE REAL WORLD

USE LEARNINGS FROM THE DOI LITERATURE AND SOCIAL MARKETING

USE AN ITERATIVE APPROACH FOR THE DEVELOPMENT OF YOUR INTERVENTION

MAKE IT EASY ON FUTURE ADOPTERS

PLAN FOR D&I FROM THE START

▶ Understand the needs, interests, and capacity of target users

▶ Include D&I activities into initial budget and timeline

▶ Devote resources to D&I

▶ Identify active strategies for D&I

▶ Identify partners from possible target users and establish a relationship with them

ENGAGE YOUR TARGET USERS

- Needs assessment
- Identify potential adopters
- True, ongoing partnership

CHOOSE DESIGNS THAT ALLOW YOU TO GENERATE OUTCOMES THAT INFORM REAL WORLD PERFORMANCE

- RCT is OK but should be flexible/not always feasible
- GRT, PCT, longitudinal designs
- Choose diverse settings/target users

Recommendations to increase the D&I potential of interventions

"Too often, again, there's a tendency to try to screen out those who might make the particular signal of an intervention more complicated. Yet, those very same people are the ones who we want to benefit from these interventions. So a better fit between the patient population, as they exist in real-world settings, and the efficacy and effectiveness trials that are initially establishing the evidence base for the intervention would be incredibly helpful."

▶ **David Chambers, D. Phil.**

Deputy Director of Implementation Science, National Cancer Institute

▶ Narrative library link to video

The 'How'

Consider Context & Capacity When Designing Active Dissemination Strategies

From the literature on dissemination we know:
1. Dissemination doesn't happen spontaneously
2. Passive approaches to dissemination are largely ineffective
3. Single-source prevention messages are generally less effective than comprehensive approaches.

This study suggests that:
1. It is critical that dissemination be informed by 'real world' practice audiences
2. A key component to the successful dissemination of the Guide's evidence-based guidelines requires a sound understanding of contextual factors
3. In order to enhance the application of the Guide's physical activity recommendations we must:
   - Develop audience specific materials to meet the needs of multiple groups at multiple levels
   - In coordination with 'partners':
     - Adapt interventions
     - Provide appropriate tools & ongoing technical assistance

Type 1 Evidence:
- Etiology of diseases and the magnitude, severity and preventability of risk factors and diseases

The 'What'

Type 2 Evidence: Systematic Reviews
- Community Guide's evidence-based physical activity recommendations

The 'Where'

Role of State Health Agencies & Their 'Partners'
- State Physical Activity Contact identifies 'partners'

What's Missing?

Type 3 Evidence: Consider Context & Capacity

Audience Research-Case studies to assess 'partner':
- Understanding of the concept of evidence-based approaches to promoting physical activity
- Awareness of the Guide's physical activity recommendations
- Perceptions of benefits & barriers that may influence adoption & implementation of the Guide's evidence-based physical activity recommendations

In coordination with 'partners':
- Identify key modifiable contextual factors that may enhance adoption/implementation of the Guide's evidence-based recommendations including:
  - Key enabling factors
  - Key restraining factors

SOCIO-POLITICAL FACTORS
[e.g. priorities, burden, media, political climate, funding, partnerships, special populations]

Example: Increase Capacity through Public Health Workforce Training

- Carefully plan, target & tailor trainings to meet the needs of multiple groups at multiple levels.
- Sustainability: Institutionalization of evidence-based training

Questions that may help drive trainings:
- What does the audience(s) need to know (content)?
- Who do they need to hear it from (source)?
- How can they best be reached (vehicle)?
- Who or what might influence their attitude to the message they receive (context/ environment)? (*Adapted from Petty et al [32]*)

The 'Impact'

CHANGE
- Evidence-based decision making at multiple levels.
- Increase the capacity of individuals & organizations to develop physical activity programs & policies using the Community Guide's evidence-based recommendations as a starting point.
- Sustainability: Institutionalization of evidence-based decision making.

CHOOSE MEASURES THAT MATTER IN THE REAL WORLD

▶ Outcomes that matter to users

▶ Measures of external validity

▶ Measures of unanticipated outcomes

▶ Process measures that explain why the intervention works

▶ Measures of sustainability/maintenance

▶ Cost, cost-effectiveness

USE SOCIAL MARKETING APPROACHES AND LEARNINGS FROM THE DOI LITERATURE

- ▶ Perceived
  - ▶ Relative advantage
  - ▶ Complexity
  - ▶ Compatibility
- ▶ Audience Segmentation
- ▶ Needs assessment
- ▶ Frequent iterative testing

Recommendations to increase the D&I potential of interventions

"Branding and marketing are relevant here at a number of levels. One is that I think that the universe of evidence-based programs, the ones that are closer to adoption have probably done a better job of thinking through some of the questions that branding and marketing people think through. Understanding audiences, understanding constraints, considering cost, those are classic sort of, kind of marketing level strategies. We don't always do that in preparing our program."
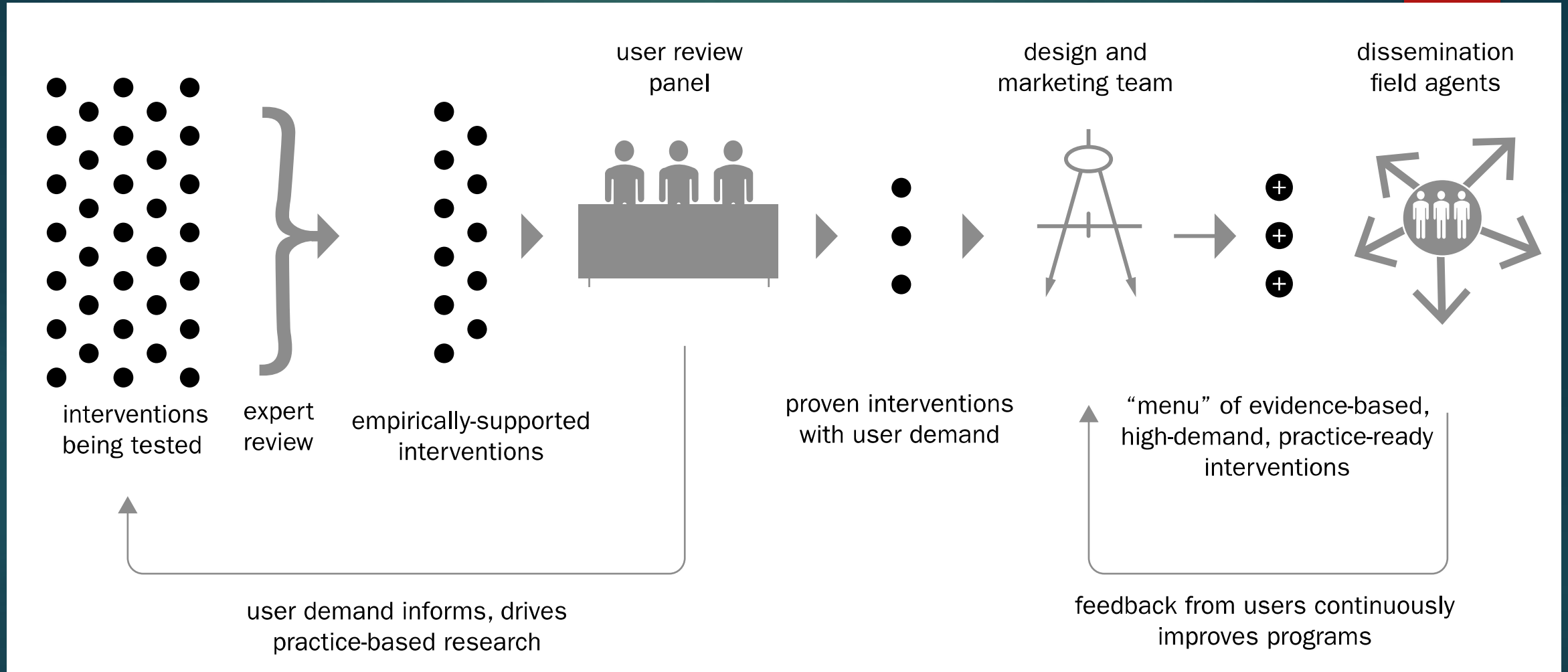
- **Matt Kreuter, Ph.D.**

Kahn Family Professor of Public Health, Washington University in St. Louis

- Narrative library link to video

Marketing and distribution perspective on D4D

A fundamental obstacle to successful dissemination and implementation of evidence-based public health programs is the near-total absence of systems and infrastructure for marketing and distribution.
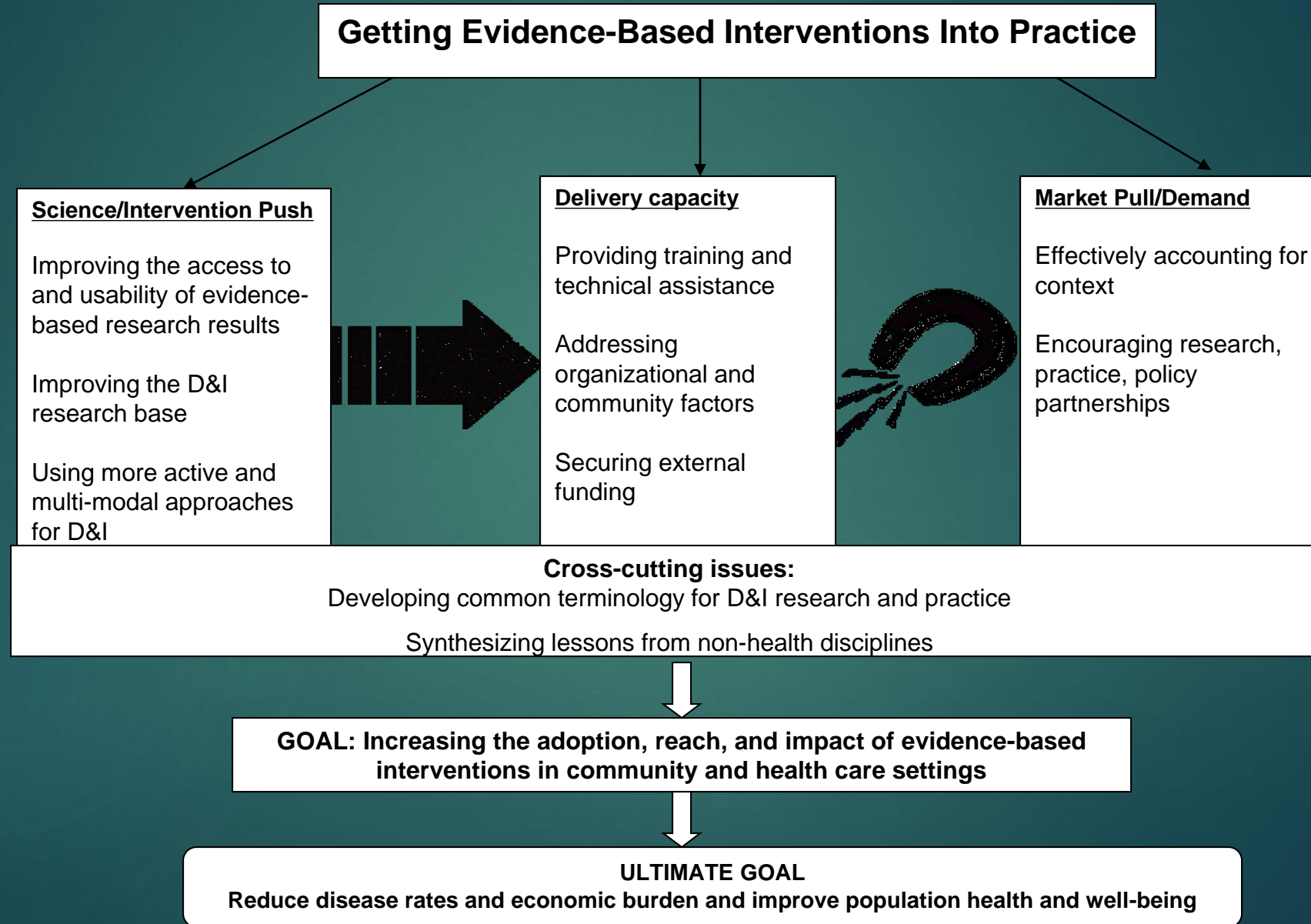
Knowledge brokers

- 'Adopting the concept of knowledge brokers', a knowledge translation and exchange strategy emerging in Canada to promote interaction between researcher and end users, as well as to develop capacity for evidence-informed decision making [41]. Dobbins et al. suggest that strategies that are more interactive and involve face- to-face contact show promising results and the involvement of decision makers in the research process is associated with a higher degree of research uptake.

For example, learn from communication scientists

Source ↔ Message ↔ Channel ↔ [ ]
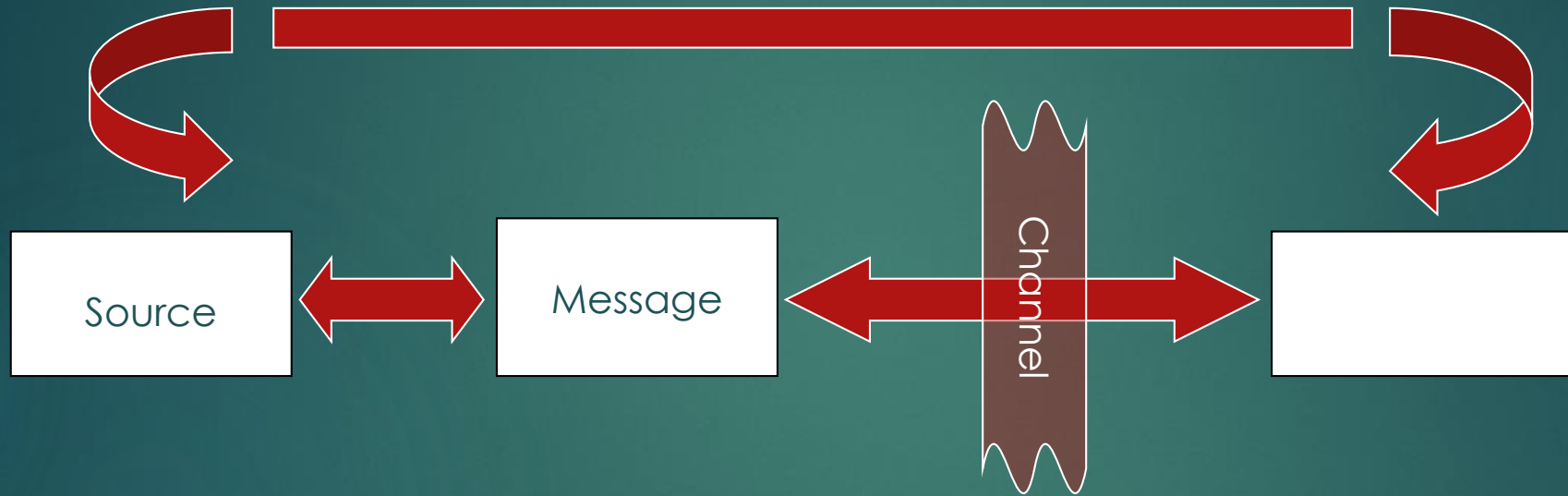
Slater, M. D., et al. (2006). Segmentation on a shoestring: health audience segmentation in limited-budget and local social marketing interventions. *Health Promot Pract* **7**(2): 170-173.

Summary

Getting Evidence-Based Interventions Into Practice

Science/Intervention Push

Improving the access to and usability of evidence-based research results

Improving the D&I research base

Using more active and multi-modal approaches for D&I

Delivery capacity

Providing training and technical assistance

Addressing organizational and community factors

Securing external funding

Market Pull/Demand

Effectively accounting for context

Encouraging research, practice, policy partnerships

Cross-cutting issues:
Developing common terminology for D&I research and practice

Synthesizing lessons from non-health disciplines

GOAL: Increasing the adoption, reach, and impact of evidence-based interventions in community and health care settings

ULTIMATE GOAL
Reduce disease rates and economic burden and improve population health and well-being

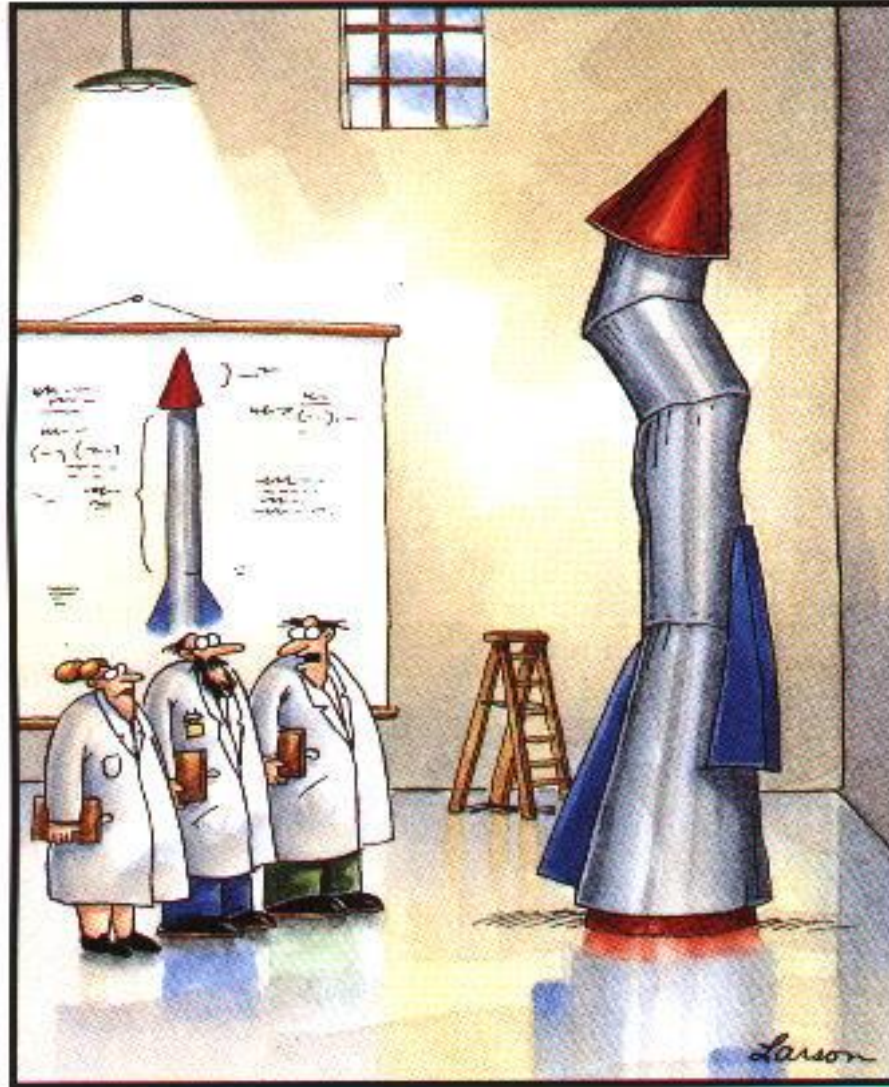# PREPARE A BUSINESS CASE

- Cost-effectiveness
- Cost measures
- Measures that matter for users

MAKE IT EASY ON FUTURE ADOPTERS

▶ Spelled out business case

▶ List in EB databases

▶ Create support materials/services for adopters

▶ Spell out why the program works

Know what you don't know…

"It's time we face reality, my friends. …
We're not exactly rocket scientists."

Discussion topics

- How D4D is different from Dissemination science?

- What is the subject of D4D?

- How does D4D differ from D4I and D4S? Do these differ substantially?

- What are some additional D4D strategies?

- How do we measure the impact of D4D and whether D4D is successful?

Discussion topics

▶ **How D4D is different from Dissemination science?**

▶ What is the relationship between these two areas?

▶ Are they identical/overlapping?

Discussion topics

▶ **What is the subject of D4D?**

  ▶ Is D4D concerned with evidence from effectiveness studies?

  ▶ Does it focus on products with proven efficacy/effectiveness?

Discussion topics

- **How does D4D differ from D4I and D4S?**

  - Do these differ substantially?

  - Are there strategies that are unique to D4D, D4I, D4S?

Discussion topics

▶ **What are some additional D4D strategies?**

  ▶ Does the organization of D4D strategies as structures, processes, products, systems changes make sense?

  ▶ Are there additional strategies that are not included in the current list?

Discussion topics

- **How do we measure the impact of D4D?**

  - What measures do we have to assess the impact of D4D?

  - How do we define success in D4D?