National Cancer Institute

Research to Reality: Going to Scale

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BRP CrossTalk

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National Institutes of Health

Take Home Messages: D&I Science

- There *is* a science of implementation and dissemination
  - Familiar (e.g. replication, external validity)
  - Not so familiar (e.g. complexity, causation, sustainability, unintended consequences, adaptive)

- Vital need for research that translates and is relevant in real world setting

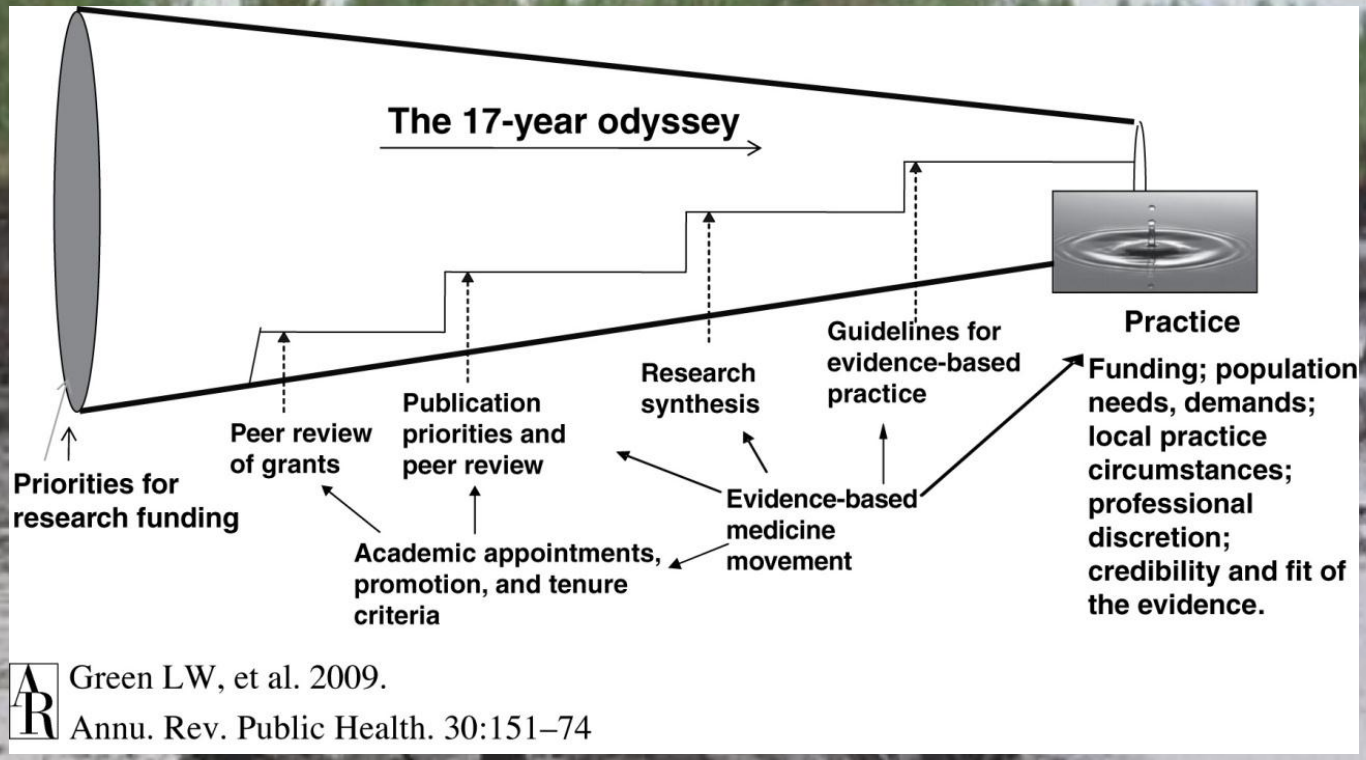
- Opportunities
  - Research community needs to be open to new approaches to “evidence”

Outline

- Current Gap Between Research and Practice
- What Do We Know About Strategies for Going to Scale (D&I Perspective)?
- Use of D&I Decision Support Tools in Practice Settings
- Future Directions/Dissemination and Implementation Opportunities

Translation Continuum

Bench to Bookshelf

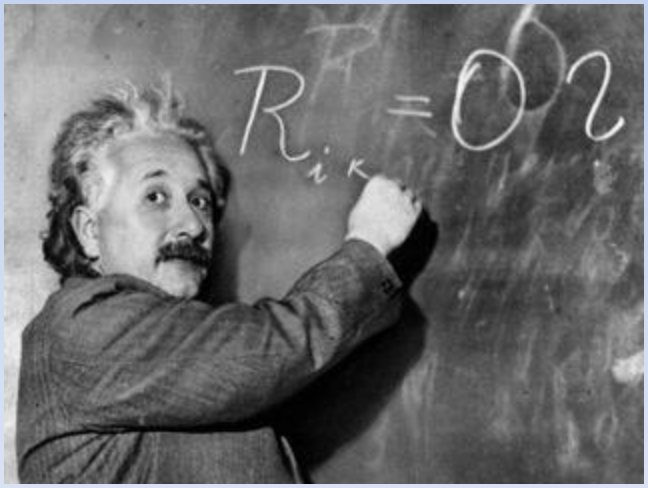


Green LW, et al. 2009.
Annu. Rev. Public Health. 30:151–74

Why do we think that "Trickle Down" research will work now…

…when this has failed for the past 50 years to trickle down public health impact?

*"The significant problems we face cannot be solved by the same **level** of thinking that created them."*



A. Einstein

Breast Cancer Screening Guidelines Development and Implementation Timeline

STEP	POTENTIAL TRANSLATION ISSUES	YEAR	MORTALITY(INCIDENCE)*
Initial Research and Replication Research	Choice of measures; generalizability; Degree measures harmonized, samples similar study(ies).	1966	--
National Breast Cancer Detection Demonstration Program (NBCDDP)	--	1973-74	**31.45** (105.07)
Synthesis Review based on NBCDDP	Criteria used for: inclusion, quality, outcomes, realist review?	1977	**32.48** (100.82)
Guidelines developed by NCI and ACS	Implementation guides? Adaptation guides, feasibility.	1978	**31.73** (100.63)
Guidelines revised by ACS	Consistency with original, costs and ease of implementation	1980 and1983	**31.68** (102.22) and **32.07** (111.15)
AMA, NCI, ACS, and other relevant orgs. develop uniform screening guidelines	Politics, costs, adaptation. Readiness, capacity, incentives, tracking, guidelines.	1988	**33.20** (131.28)
Breast and Cervical Cancer Mortality Prevention Act Passed	--	1990	**33.14** (131.75)
BCCEDP started	Competing demands, cost, meaning.	1991	**32.69** (133.75)
BCCEDP expanded nationwide	Evolution over time, "drift."	1997	**28.21** (137.84)
Community Guide Systematic Review on Breast, Cervical, & Colorectal Cancer Screening	--	2005	**24.03** (124.44)
USPSTF revise clinical guidelines	--	2009	
Complete Cascade	Partnership, relevance, and adaptation are cross-cutting issues.	---	--

*Rates are per 100,000 and are age-adjusted to the 2000 US Std Population. Data from SEER Cancer Statistics Review: 1975-2007.

Glasgow 1/6/2011

Sources:

NIH/NCI Consensus Development Meeting on Breast Cancer Screening Issues and Recommendations (1978). *The Yale Journal of Biology and Medicine*, 51, 3-7

Gordillo , C. (1989). Breast Cancer Screening Guidelines Agreed On by AMA, Other Medically Related Organizations. *JAMA. 262(9):1155.*

Dodd, G.D. (1992). American Cancer Society Guidelines on Screening for Breast Cancer, An Overview. *Cancer Supplement*, 69 (7), 1885-1887

Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. (2002). National Breast and Cervical Cancer Early Detection Program: 1991-2002 National Report. http://www.cdc.gov/cancer/nbccedp/pdf/national_report.pdf.

Parker, P.M. (Eds.). (2009). Breast Cancer Screening: Webster's Timeline History 1967-2007. San Diego, CA: ICON International Group, Inc.

Rapid Learning Approaches

Data Collected:

- With real (and complex) patients
- By real-world staff
- Under real-world conditions and settings
- And evaluated through real-time data (often with Electronic Health Records)

Tunis,S.R.; Carino,T.V.; Williams,R.D.; Bach,P.B. A Rapid Learning Health System. *Health Affairs* (supplement). 2007;26(2):140-149.

Recommended Purpose of Research (ala RE-AIM)

Collect evidence to document interventions that can:

- Reach large numbers of people, especially those who can most benefit
- Be widely adopted by different settings
- Be consistently implemented by staff members with moderate levels of training and expertise
- Produce replicable and long-lasting effects (and minimal negative impacts) at reasonable cost

Ultimate Impact of an Insurance-sponsored Weight Management Program in West Virginia[1]

Dissemination Step	Concept	% Impacted
8.8% of Weight Management sites participated	Adoption	8.80%
5.9% of members participated	Reach	0.52%
91.4% program components Implemented	Implementation	0.47%
43.8% of participants showed weight loss	Effectiveness	0.21%
21.2% individuals maintained benefit	Maintenance	0.04%

[1]Abildso CG, Zizzi SJ, Reger-Nash B. Evaluating an Insurance-Sponsored Weight Management Program With the RE-AIM Model, West Virginia, 2004-2008. Preventing Chronic Disease Public Health Research, Practice, and Policy. 2010. 7(3).

Rationale for Diabetes DVD

- Diabetes self-management education (DSME) is effective, at least short-term
- The majority of patients have not received DSME
- Vast majority of U.S. homes have DVD players
- Education can be individualized
- DVD available for repeated viewing, as needed
- And family can watch together

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Preference Design Features

- Traditional RCT cannot evaluate Reach
- Potential participants randomized to Choice (mailed DVD or class) or RCT condition
- Allows more realistic evaluation of intervention Reach
- Can evaluate impact of Choice on outcomes

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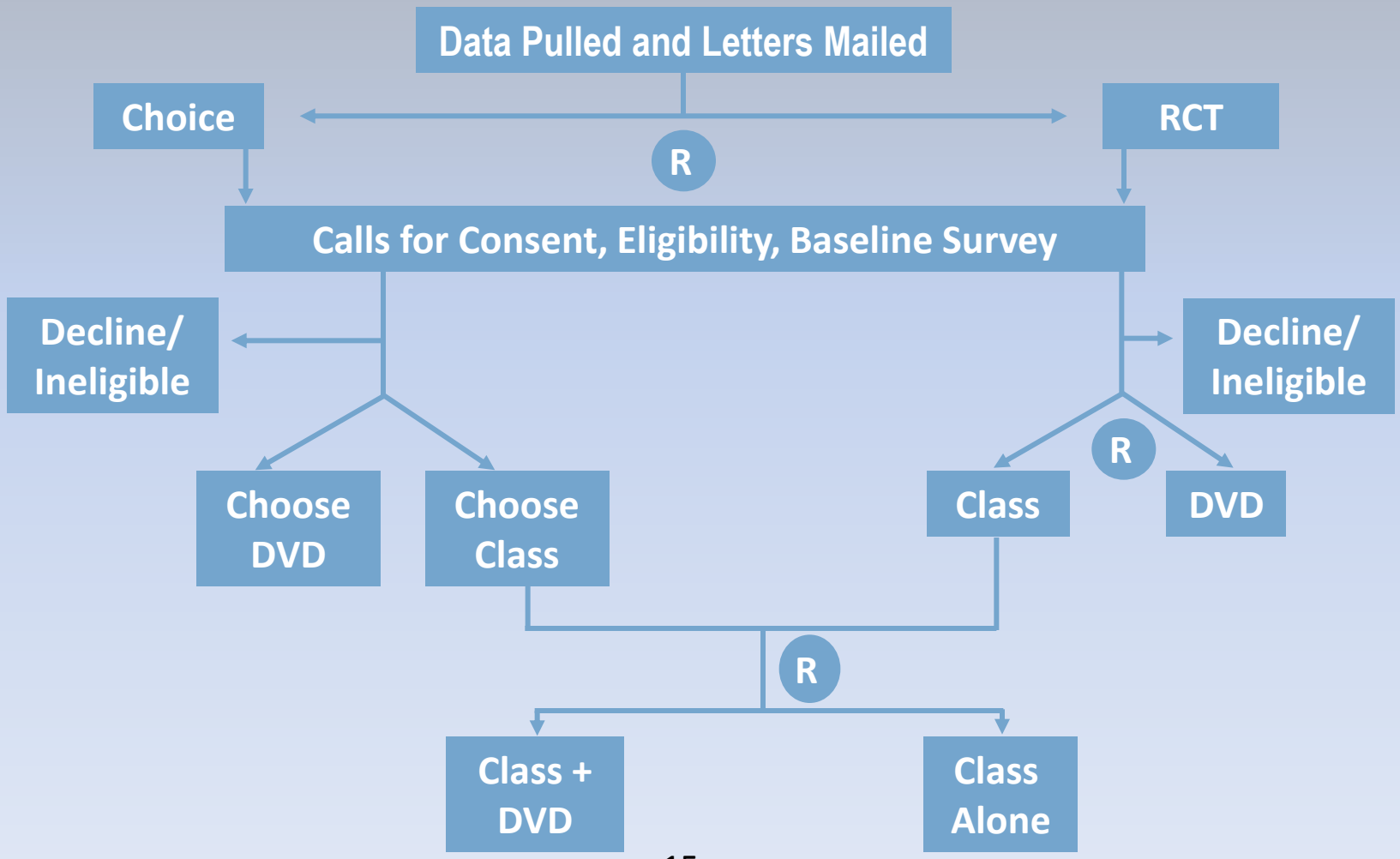
Study Design



Participation

Among Those Confirmed Eligible (n=310)

Choice	70.5%
RCT	55.8%

Among Choice Condition Confirmed Eligible

DVD	55.8%
Class	14.7%

Glasgow RE, Edwards LL, Whitesides H, Carroll N, Sanders TJ, McCray BL. Reach and effectiveness of DVD and in-person diabetes self-management education. Chronic Illn. 2009 Dec;5(4):243-9.

3-Month Results

- Among DVD Condition
  - No differences between Choice and RCT
  - Within group change analyses from baseline:
    - Significant decrement: healthy eating, problem solving
    - Significant improvement: blood glucose testing, A_{1C}, systolic blood pressure
- The DVD appears to substantially increase the reach of diabetes education

Ask the RE-AIM Genie

External Validity: Key Issues

- Research synthesis insufficient for uptake of EBIs
- **Representativeness** –a range of participants, not just willing and eligible
- **Implementation/Adaptation** – Key components, delivery across staff, fit local settings
- **Relevant Outcomes** – effective on multiple measures, across subgroups, cost-effectiveness
- **Maintenance** – long-term effects; sustainable

"What is it about this kind of intervention that works, for whom, in what circumstances, in what respects and why?"- R Pawson

IF AN INTERVENTION WORKS

AND NOBODY CAN USE IT…..

DOES IT STILL MAKE AN IMPACT?

Decisions in "Real World" Settings

- Decisions in absence of "external validity" evidence

- Decisions in complex "real world"settings
  - Time constraints
  - Lack of skilled personnel
  - Perspectives of "Evidence"
  - Inadequate funding
  - Fidelity vs Fit

Will this intervention work in my setting, with my staff, for my community?

Cancer Control P.L.A.N.E.T.

Links to comprehensive cancer control resources for public health professionals

Contact Us
On-line Training
About This Site
Fact Sheet (PDF)
Sponsors
FAQ

Follow 5 steps to develop a comprehensive cancer control plan or program — OR — **Find information by cancer control topic**

Learn why these steps are important

Step 1 Assess program priorities

State Cancer Profiles (CDC, NCI)
- Statistics for prioritizing cancer control efforts in the nation, states, and counties

Step 2 Move from research to practice

Research to Reality (NCI)
- Interactive community of practice for discussion, learning, and enhanced collaboration around evidence-based practice

Find Program Partners in Cancer Control
Find Research Partners in Cancer Control
- Contact information for ACS, CDC, NCI, and CoC program and research partners by state and region

Step 3 Research reviews of different intervention approaches

Guide to Community Preventive Services (Federally sponsored)
- Recommendations for population-based intervention approaches

U.S. Preventive Services Task Force (Federally supported)
- Recommendations on screening, counseling, and preventive medications

Evaluation of Genomic Applications in Practice and Prevention (EGAPP)
- Recommendations for public health genomics

Additional Research Evidence Reviews

Step 4 Find research-tested intervention programs and products

Research-tested Intervention Programs (RTIPs) (NCI, SAMHSA)
- Summary statements, ratings, and products from cancer prevention and control programs tested in research

Step 5 Plan and evaluate your program

Comprehensive Cancer Control Plans
Comprehensive Cancer Control Budgets
- State, tribe and territory plans and budgets

Guidance for Comprehensive Cancer Control Planning (CDC)
- Guidelines for developing a comprehensive cancer control plan

Prevention & Care Management (AHRQ)
- Resources and Materials for linking research and practice

- Breast Cancer
- Cervical Cancer
- Colorectal Cancer
- Diet /Nutrition
- Informed Decision Making
- Physical Activity
- Public Health Genomics
- Sun Safety
- Survivorship
- Tobacco Control

Sponsors

List Serve

- Sign-Up to receive monthly updates on Cancer Control P.L.A.N.E.T.

We welcome your feedback on the Cancer Control P.L.A.N.E.T. and its satellite web sites. To submit feedback, please contact us. Thank you for helping to improve this site for the cancer control community.

Note: This web site is best viewed in Internet Explorer (version 5.0 or higher) or Netscape (version 7.0 or higher) at a screen resolution of 1024 by 768 or more.

http://cancercontrolplanet.cancer.gov

Commit to Quit

- The Need
- The Program
  - Implementation Guide
- Community Guide Finding
- Time Required
- Intended Audience
- Suitable Settings
- Required Resources
- About the Study
- Key Findings
- Program Scores
  - Research Integrity
  - Intervention Impact for Tobacco
  - Intervention Impact for Physical Activity
  - Dissemination Capability
- Publications

For optimal printing results, it is recommended to use the land

The Need

Tobacco dependence continues to be the leading, preve
smoking prevalence rates are declining for both women
men are able to refrain from tobacco use for longer peri
such as concerns about weight gain, the belief that smok
cessation programs for women. Participation in regular,
smokers. Exercise may address psychosocial and physi

The Program

Description

Geared toward adult female smokers, Commit to Quit is
specifically to each participant. The cognitive-behavioral
situations, stress management, and relaxation technique
management, and balancing work and family. The exerci
warm-up, 30-40 minutes of aerobics, and a 5-minute cool-down with stretching. Each person is given an exercise prescription calculated from the peak heart rate achieved on a baseline exercise test.

T. Home

IMPLEMENTATION GUIDE

Commit to Quit

Using an Evidence-Informed Program to develop
a process model for program delivery in the practice setting

Note: Refer to "Using What Works: Adapting Evidence-Based Programs To Fit Your Needs" and specifically the handouts in Modules 4 and 5 to modify and evaluate this program to meet the needs of your organization and audience.

"Using What Works" is available online at
http://cancercontrol.cancer.gov/use_what_works/start.htm.

To receive training on "Using What Works," contact the NCI Cancer Information Service and speak to a Partnership Program Representative in your area. This information is available online at http://cancercontrolplanet.cancer.gov/partners/index.jsp?cctopic=C

I. Program Administration (Type of Staffing and Functions Needed)

Counselor (master's- or doctoral-level clinical health therapist or psychologist recommended)

- Leads each program session and models the use of smoking cessation aids.
- Provides support to participants inside and outside the classroom when participants are struggling with potential relapse.

Exercise Specialist

- Conducts a baseline test with participants to determine their target heart rate range for exercise and monitors exertion levels during exercise sessions.
- Supervise exercise sessions and provide support inside and outside the gym.

II. Program Delivery

For additional information on modifying program materials, refer to Module 4, Handouts #2 and

5 A Day Peer Education Program

- The Need
- The Program
- Time Required
- Intended Audience
- Suitable Settings
- Required Resources
- About the Study
- Program Scores
  - Research Integrity
  - Intervention Impact
  - Dissemination Capability
- Publications

For optimal printing results, it is recommended to use the landscape orientation when printing program summary pages.

The Need

The U.S. Department of Health and Human Services and the U.S. Department of Agriculture recommend that Americans eat at least five daily servings of fruit and vegetables. Though these foods seem to confer protection against several forms of cancer and other diseases, Americans consume fewer servings than recommended. Further, national efforts to increase consumption relying on mass media messages, point-of-purchase promotions, and product labeling may not be reaching important subpopulations, such as minority and lower socioeconomic adults who currently consume fewer servings than White and more affluent Americans. A peer-based health education program at the workplace may overcome barriers to health promotion for these subpopulations by tailoring information to their cultural values, and relying on the informal networks present at work to influence behavior.

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The Program

The 5 A Day Peer Education program employs peer educators and their social networks to deliver nutrition education to co-workers in the workplace during the workday. Trained peer educators promote the 5 A Day message using their own informal methods of communicating and modeling dietary change, presenting their co-workers with a monthly booklet of information to help them make a transition to a healthier diet, and sharing gifts with their co-workers to remind and support them in dietary change efforts. The distributed materials contain culturally and regionally appropriate nutrition information for Anglo and Mexican diets in Arizona to influence knowledge, attitudes, stages of change, skills, and barriers for eating fruits and vegetables.

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Time Required

The program was delivered over a nine-month period. Peer educators spent approximately two hours each week with co-workers to discuss eating fruits and vegetables as part of a healthy diet. Peer educators were also required to attend a 16-hour training program held over an eight-week period, and eight

Products

Preview and order the materials from the developer

Notes

Use this area to make notes about how this program might work for your situation, using the RE-AIM framework. You will be able to print notes for several programs as an aid for making comparisons between programs.

REACH

Size of target population:

Portion of this population this intervention could reach:
--Select Proportion--

Demographic focus of this intervention:
Black, Hispanic, Young Adult, Adult

Your target demographic:

Confidence this intervention will reach your key groups:
--Select Rating--

Barriers to reaching your target population:

Confidence you can overcome these barriers:
--Select Rating--

EFFICACY

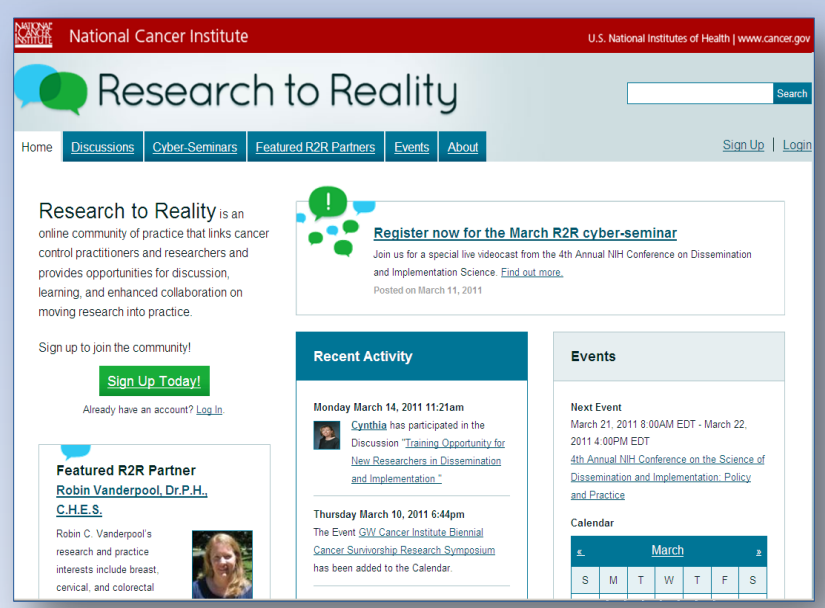
Strengths of this intervention:

Research to Reality (R2R): A Virtual Community of Practice

A dialogue between practitioners and researchers on how to move evidence-based programs into practice

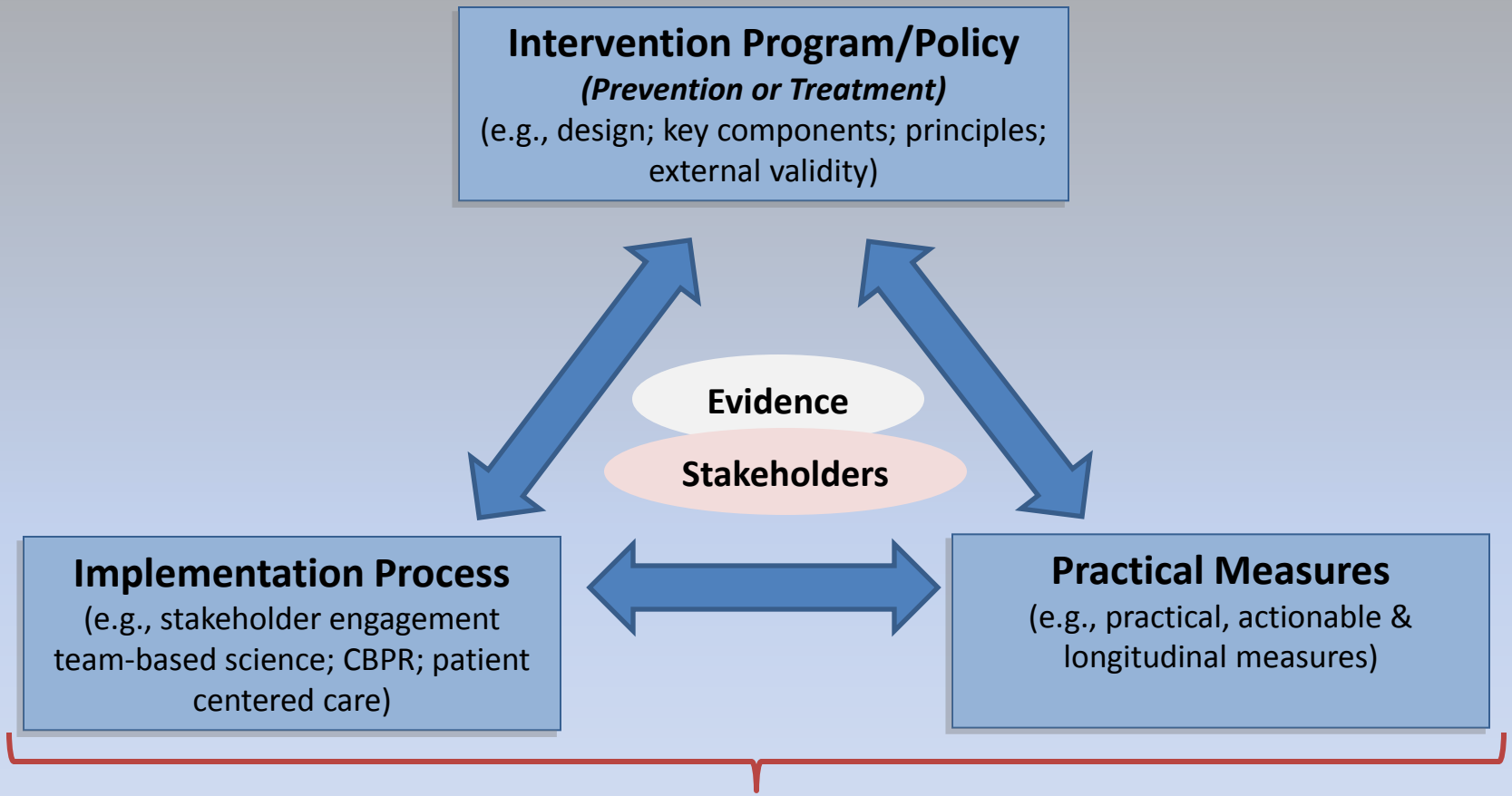
- Launched February, 2011 (NCI)
  - Linked to Cancer Control P.L.A.N.E.T. Step 2

- Site Features:
  - Monthly cyber-seminars
  - Discussion forums
  - An events calendar
  - Featured partners
  - Community profiles



https://ResearchtoReality.cancer.gov

Current and Future Directions


Intervention Program/Policy
(Prevention or Treatment)
(e.g., design; key components; principles; external validity)
Evidence
Stakeholders
Implementation Process
(e.g., stakeholder engagement team-based science; CBPR; patient centered care)
Practical Measures
(e.g., practical, actionable & longitudinal measures)
Multi-Level Context
Intrapersonal/Biological
Interpersonal
Organizational
Policy
Community/Economic
Social/Environment

Identifying Practical Patient-Report Measures for the Electronic Health Record (EHR)

- Rationale: One thing is missing from all the investment and advances in EHRs- patient reports

- Scope: 13 areas most commonly encountered in adult primary care related to:
  - **Health Behaviors**- tobacco, healthy eating, medication adherence, physical activity, substance use
  - **Psychosocial Factors**-
    - Outcomes- quality of life, depression, anxiety, sleep, stress/distress, patient goals and preferences
    - Influences- health literacy/numeracy, demographics

Patient Report EHR Measures Project Phases

- Identify 2-3 candidate measures

- Widespread web-based wiki activity

  YOU are invited: www.gem-beta.org

  (till April 4)

- Meeting on May 2-3- Day 1 town hall followed by Day 2 invited stakeholder decision makers

- Post Meeting and Beyond: Your advice, suggestions?

Evidence that…

IS MORE	IS LESS
Contextual	Isolated
Practical, efficient	Abstract, intensive
Robust, generalizable	Singular (setting, staff, population)
Comparative	Academic
Comprehensive	Single outcome
Representative	From ideal settings

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