Implementation Science
Issues and Opportunities
for Cancer Center
Prevention and Control
Programs

Russell E. Glasgow, Ph.D.
Deputy Director
Implementation Science
National Cancer Institute

ASPO
March 9, 2013
NCI Implementation Science Team Vision

To achieve the rapid integration of scientific evidence, practice, and policy, with the ultimate goal of improving the impact of research on cancer outcomes, and promoting health across individual, organizational and community levels.

IS team "About Us" website (http://cancercontrol.cancer.gov/is/about.html)
Key Issues in Implementation Science (IS)

- Contextual
- Complex
- Multi-component programs and policies
- Non-linear
- Transdisciplinary
- Multi-level
- Addresses “wicked”, messy, important problems

T1 case series efficacy trials

Clinical and behavioral scientists

T2 effectiveness studies
Clinical guideline development
Systematic reviews

Health services and public health scientists

T3 effectiveness studies
Implementation guideline development
Systematic reviews
Mathematic modeling

Dissemination and implementation scientists

T4 use of evidence-based intervention and implementation strategies in the real world

Basic scientists

Distal Stakeholders

Proximal Stakeholders

Examples of Implementation Science Research Programs

- Tobacco control programs—state experiments and national adoption
- VA QUERI program
- Flu-FIT program to increase CRC screening
- Mullen-Fernandez ADAPT program for EB programs
- CPCRN Network—crosscutting research groups
- Lorig Chronic Disease Self-Management Programs UK Adaptation
- NIH Health Care System Collaboratory
- Wetter Ask-Advise-Connect smoking program

Key Lessons Learned in Implementation Science

- There is more than evidence needed for successful adoption, implementation, and sustainability

- Implementation Science is a multi-level affair

- Select the DESIGN and the MODEL that best fits your question—less important WHICH model than that you use it well

- Need to focus on science issues of replication, relevance, transparency, and costs
# RE-AIM—Inequity Implications

<table>
<thead>
<tr>
<th>RE-AIM Issue</th>
<th>Disparity</th>
<th>Overall Impact</th>
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<tbody>
<tr>
<td>Reach</td>
<td>30%</td>
<td>70% of benefit</td>
</tr>
<tr>
<td><strong>Effectiveness</strong></td>
<td>0 (equal)</td>
<td>70% of benefit</td>
</tr>
<tr>
<td>Adoption</td>
<td>30%</td>
<td>49% of benefit</td>
</tr>
<tr>
<td>Implementation</td>
<td>30%</td>
<td>34% of benefit</td>
</tr>
<tr>
<td>Maintenance</td>
<td>30%</td>
<td>24% of benefit</td>
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IS Team Presentation on Health Inequities (Jan. 2013)
Pragmatic Study Methods: Key Characteristics

- Questions from, and important to, stakeholders
- Multiple, heterogeneous settings
- Diverse populations
- Comparison conditions are real-world alternatives
- Multiple outcomes important to decision and policy makers

Thorpe KE et al., *Can Med Assoc J*, 2009;180:E47-57
Tunis SR et al. Practical clinical trials…*JAMA* 2003;290:1624-1632
<table>
<thead>
<tr>
<th>Domain</th>
<th>Final Measure (Source)</th>
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<tbody>
<tr>
<td>1. Overall Health Status</td>
<td>1 item: BRFSS Questionnaire</td>
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<tr>
<td>6. Sleep</td>
<td>2 items: a. Adapted from BRFSS</td>
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<tr>
<td></td>
<td>b. Neuro-QOL [Item PQSLP04]</td>
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<tr>
<td>7. Smoking/Tobacco Use</td>
<td>2 items: Tobacco Use Screener [Adapted from YRBSS Questionnaire]</td>
</tr>
<tr>
<td>10. Demographics</td>
<td>9 items: Sex, date of birth, race, ethnicity, English fluency, occupation, household income, marital status, education, address, insurance status, veteran’s status. Multiple sources including: Census Bureau, IOM, and National Health Interview Survey (NHIS)</td>
</tr>
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</table>
Pragmatic Implementation Trial: Developing and implementing a patient-report tool (MOHR) for provider/patient planning and goal setting

- Nine pairs of primary care clinics (18 total): Half FQHC community health centers (NCI), half other PBRN primary care clinics (AHRQ)
- Cluster Randomized pragmatic study—delayed Ix control—assess at 4 and 8 months
- Clinics selected to be diverse and at different stages of EHR implementation
- Context assessment to be conducted
- Key outcomes include implementation; creation of action plans
- Final protocol designed collaboratively

*Funded by NCI, AHRQ, and NIH OBSSR

www.MyOwnHealthReport.org
Types of Pragmatic Methods and Evidence Needed: 2R’s and “RCT”

- Relevant
- Rigorous and
- Rapid
- Cost informative
- Transparent


The Trans-NIH D&I Funding Announcement (International Investigators Eligible)

- R01 - PAR 13-055 ($500k per annum up to five years)
- R03 - PAR 13-056 ($50K per annum up to two years)
- R21 - PAR 13-054 ($275K up to two years)

- Participating Institutes: NIMH, NCI, NIDA, NIAAA, NIAID, NHLBI, NINR, NIDDK, NINDS, NIDCD, NIDCR, NCCAM, NHGRI*, NIA* & Office of Behavioral & Social Sciences Research

- Standing review committee, Dissemination and Implementation Health Research

- Three submission dates per year: February, June, October

*New Institute Added to PAR in 2013

http://cancercontrol.cancer.gov/funding_apply.html#is
Training Institute for D&I Research in Health (TIDIRH)

GOAL: Provide participants with a thorough grounding in conducting D&I research in health and have them return to their home institutions prepared to share what they have learned to help grow the field of D&I research.

Organizers: OBSSR; NCI; NIMH; VA

- First Annual Training Institute – August 2011 (Chapel Hill, NC)
  - 33 participants; Training materials available online

- Second Annual Training Institute – July 9-13, 2012 (San Jose, CA)
  - 36 participants; Training materials available online

- Upcoming Third Annual Training Institute – June 3-7, 2013 (St. Louis, MO)

Coming in 2013

- Support of Meetings and projects to identify and propose solutions to key D&I research to build the field:
  - Funding Review of and Recommendations for D&I Reporting Criteria.
  - Revamped D&I Science Annual Meeting to focus on key issues.

- Ongoing partnerships with:
  - AHRQ, CDC, National Council on Aging Self-Management Alliance, Office of Cancer Survivorship around issues of multiple chronic conditions and primary care, self-management, practical measure, pragmatic trials and prevention issues.

- Increased training opportunities:
  - Partners in Global health on Writing D&I Grants (with WHO and CGH).
  - Advanced Topics in Implementation Science Research webinar series.
Implementation Science Funding Opportunities

- PCORI—and “true” patient/family-centered research
- “Team Science” and collaborative approaches to care transformation
- Guidelines implementation research, especially across networks—screening, survivorship
- Enhancing patient engagement and long-term use
- Patient Health Records—patient portal to EHR
- Collection and meaningful use of patient report measures for care and research
Future Evidence Needs and Opportunities—
Keys to Advance Implementation Science

- Context—key factors that may moderate results
- Scalability—potential to impact large numbers
- Sustainability
- Health equity impacts
- Patient/citizen/consumer and community perspective and engagement throughout
- Multi-level interactions, especially between policy and practice
Evidence-based Program and RE-AIM Resources

Purpose: Designed to increase breast cancer screening among low-income women (2010)

Program Focus: Awareness building, Behavior Modification and Self-efficacy

Population Focus: Medically Underserved

Self-rating Quiz

Summary

Scores should be interpreted using this scale:

5-10: Excellent
7-6: Good, but could use a little work
5-4: Fair, needs additional planning
< 4: Poor, needs serious attention

It may be helpful to have several members of your team take this self-rating quiz and then compare and discuss your answers.

Find more resources for improving your scores.

Printable Version

RE-AIM Notes

Use this area to take notes about how this program might work for you. Read More about RE-AIM

- Reach
- Effectiveness
- Adoption

Absolute number, proportion and representativeness of settings and intervention agents willing and able to initiate the program.

Your overall rating of this program's potential adoption in your situation:

Barriers to adoption by sites and organizations:

(No max # of characters)

Implementation

Maintenance

http://re-aim.org/resources_and_tools/index.html

http://rtips.cancer.gov/rtips/index.do
Take Home Points

- There is a pressing need for a DIFFERENT type of cancer research, models, and methods — "IS" that translates more rapidly and is more relevant to stakeholders.

- This field is still emerging, but there is agreement on key common points among different models of IS research.

- There are many opportunities for this type of cancer research, especially among research networks and for international coalitions to study context.
Contact me:  glasgowre@mail.nih.gov

IS Team Website:  http://dccps.cancer.gov/is/

IS Team Email:  NCldccpsISteam@mail.nih.gov