National Cancer Institute

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

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ASPO
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National Institutes of Health

IMPLEMENTATION SCIENCE
INTEGRATING SCIENCE, PRACTICE, AND POLICY

NCI Implementation Science Team Vision

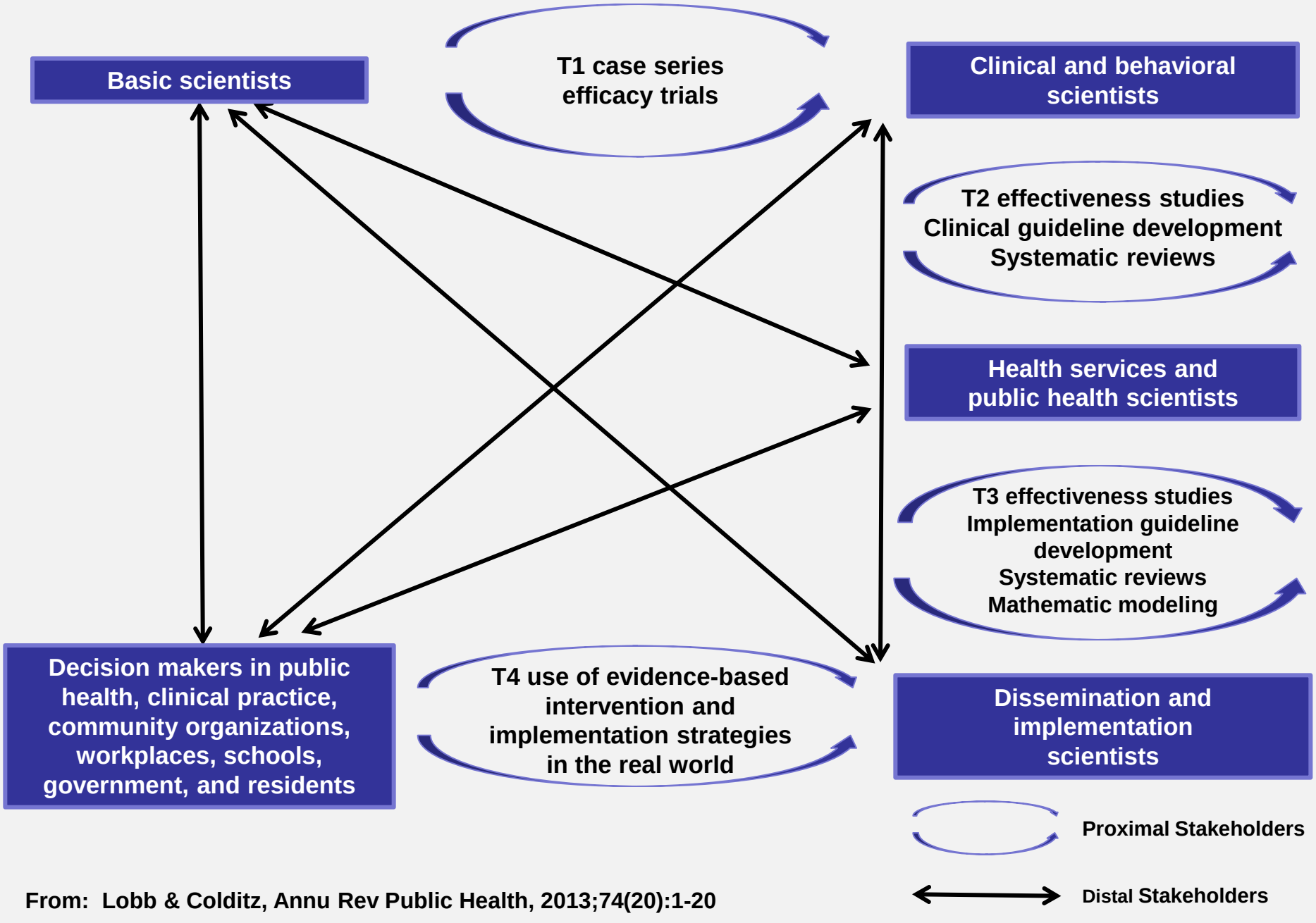
To achieve the rapid integration of scientific evidence, practice, and policy, with the ultimate goal of improving the impact of research on cancer outcomes, and promoting health across individual, organizational and community levels.

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

Glasgow R & Steiner J. (2012). In: *Dissemination and Implementation Research*. Brownson R, Colditz G, and Proctor E (Eds.). Oxford University Press



From: Lobb & Colditz, Annu Rev Public Health, 2013;74(20):1-20

Bench to Bookshelf

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

RE-AIM Issue	Disparity	Overall Impact
Reach	30%	70% of benefit
Effectiveness	**0 (equal)**	**70% of benefit**
Adoption	30%	49% of benefit
Implementation	30%	34% of benefit
Maintenance	30%	24% of benefit

IS Team Presentation on Health Inequities (Jan. 2013)
http://cancercontrol.cancer.gov/IS/presentations.html

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
Glasgow RE et al. Practical clinical trials…*Med Care* 2005;43(6):551-557

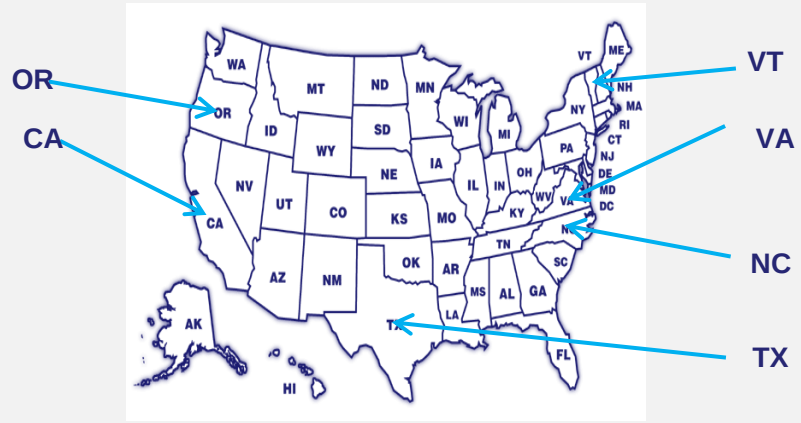
EHR Measures for Primary Care

Domain	Final Measure (Source)
1. Overall Health Status	1 item: BRFSS Questionnaire
2. Eating Patterns	3 items: Modified from Starting the Conversation (STC) [Adapted from Paxton AE et al. Am J Prev Med 2011;40(1):67-71]
3. Physical Activity	2 items: The Exercise Vital Sign [Sallis R. Br J Sports Med 2011;45(6):473-474]
4. Stress	1 item: Distress Thermometer [Roth AJ, et al. Cancer 1998;15(82):1904-1908]
5. Anxiety and Depression	4 items: Patient Health Questionnaire—Depression & Anxiety (PHQ-4) [Kroenke K, et al. Psychosomatics 2009;50(6):613-621]
6. Sleep	2 items: a. Adapted from BRFSS b. Neuro-QOL [Item PQSLP04]
7. Smoking/Tobacco Use	2 items: Tobacco Use Screener [Adapted from YRBSS Questionnaire]
8. Risky Drinking	1 item: Alcohol Use Screener [Smith et al. J Gen Int Med 2009;24(7):783-788]
9. Substance Abuse	1 item: NIDA Quick Screen [Smith PC et al. Arch Int Med 2010;170(13):1155-1160]
10. Demographics	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)

MyOwnHealthReport

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"

- **R**elevant
- **R**igorous and

- **R**apid
- **C**ost informative
- **T**ransparent

Glasgow R, *Health Education and Behavior, 2013, April, in press*.
Glasgow R, Chambers D. *Clinical and Translational Science*, 2012, 5(1):48-55

http://cancercontrol.cancer.gov/IS

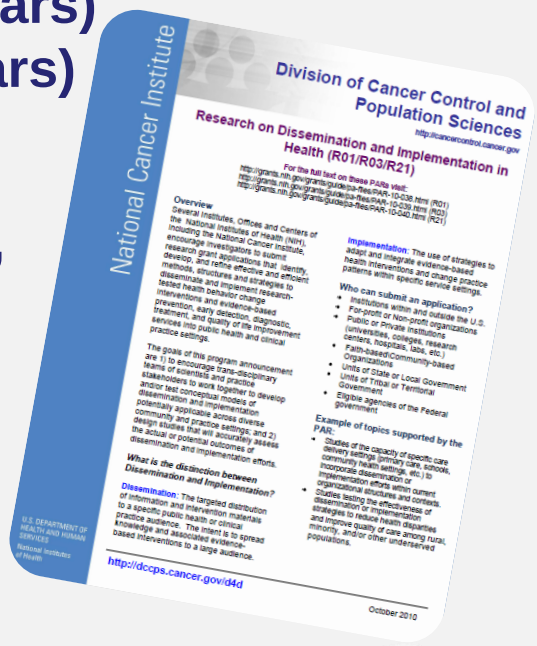
The Trans-NIH D&I Funding Announcement (International Investigators Eligible)

- **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**

http://conferences.thehillgroup.com/OBSSRinstitutes/TIDIRH2011/index.html

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

http://conferences.thehillgroup.com/OBSSRinstitutes/TIDIRH2012/index.html

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

http://conferences.thehillgroup.com/OBSSRinstitutes/TIDIRH2013/index.html

Meissner HI, Glasgow RE, Vinson CA, Chambers D, Brownson RC, Green LW, Ammerman AS, Weiner BJ, Mittman B. The U.S. training institute for dissemination and implementation research in health. *Implement Sci.* 2013 Jan 24;8(1):12

Coming in 2013

- **Support of Meetings and projects to identify and propose solutions to key D&I research to <u>build</u> the field:**
  - **Funding Review of and Recommendations for D&I Reporting Criteria.**
  - **Revamped D&I Science Annual Meeting to focus on key issues.**
- **Ongoing <u>partnerships</u> 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 <u>training</u> opportunities:**
  - **Partners in Global health on Writing D&I Grants (with WHO and CGH).**
  - **Advanced Topics in Implementation Science Research webinar series.**

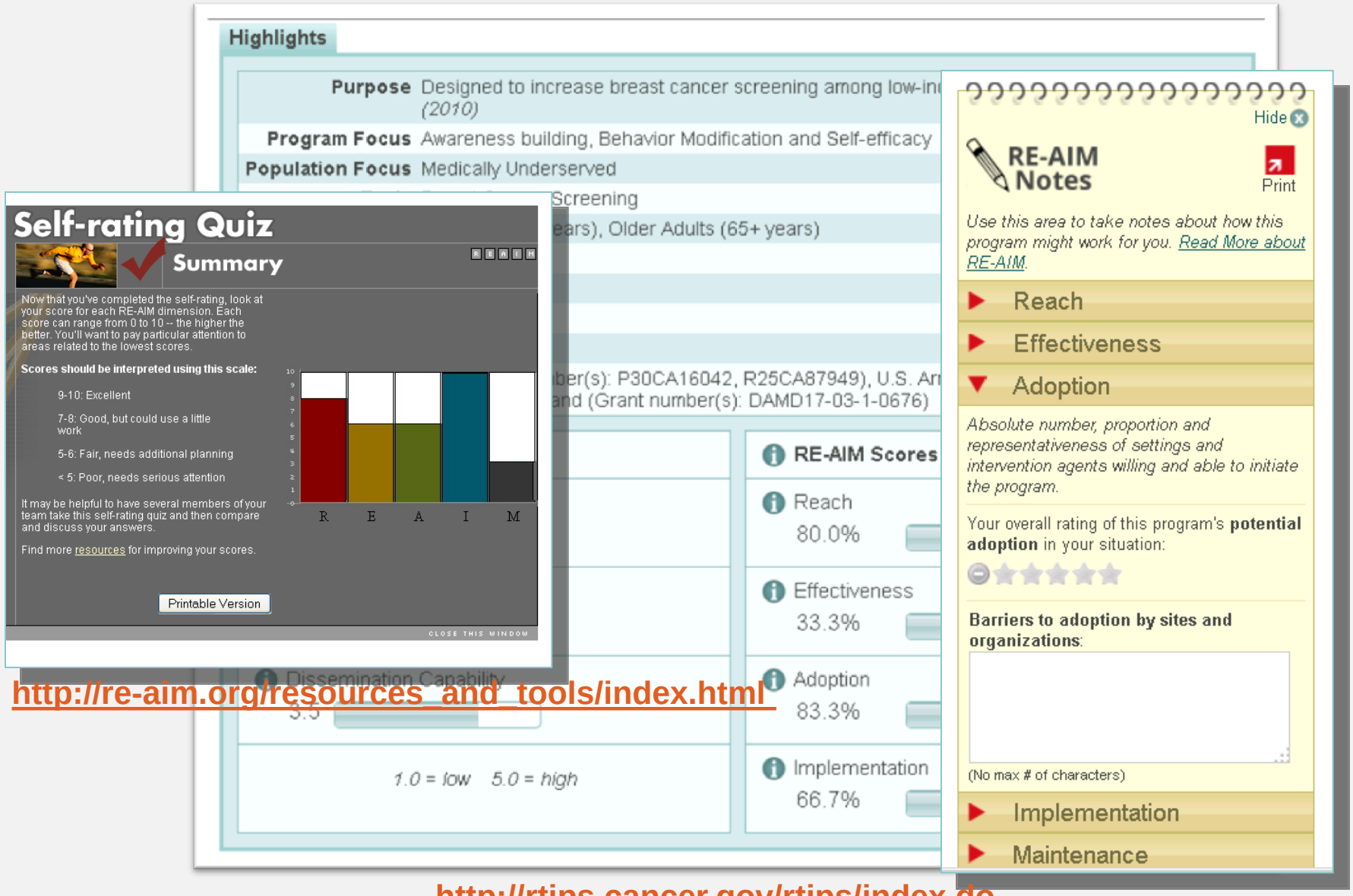
Implementation Science Funding Opportunities

- 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



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**

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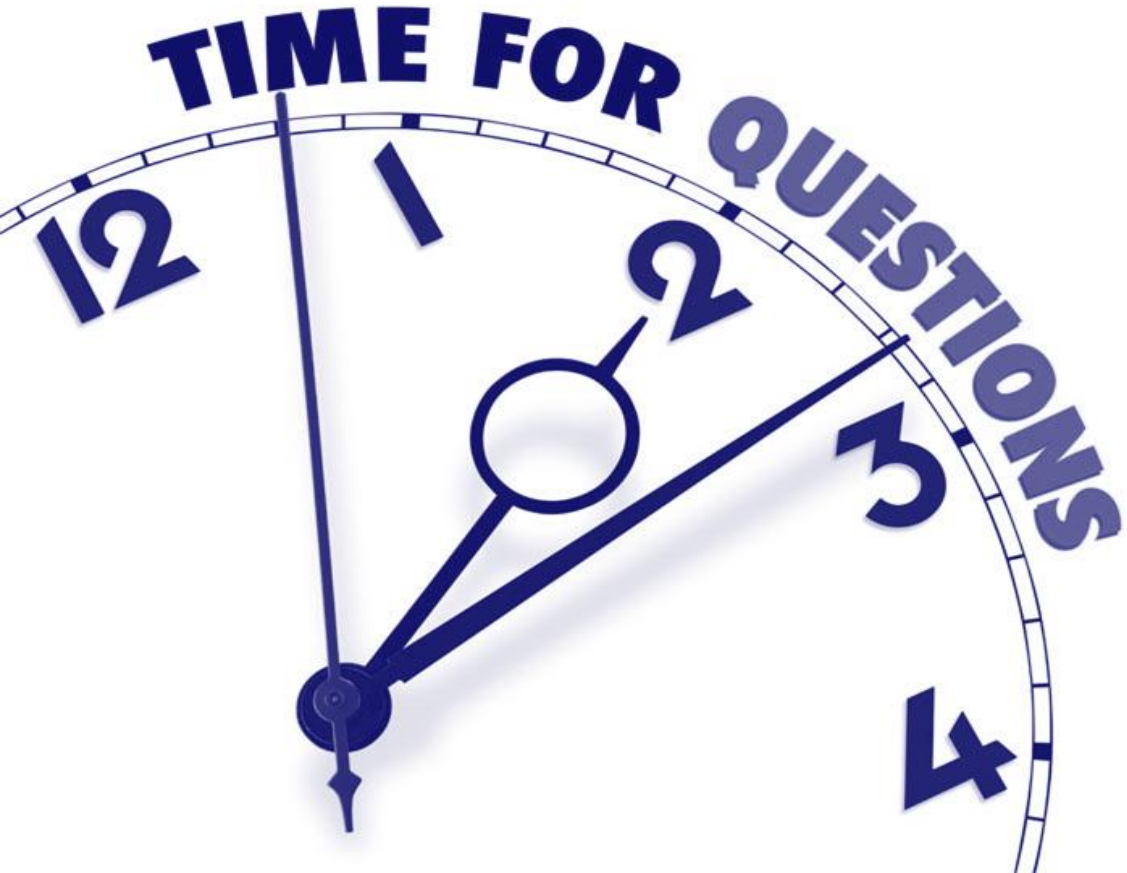
IS Team Email: NCIdccpsISteam@mail.nih.gov



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