

A Brief Introduction to Implementation Science

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Division of Cancer Control & Population Sciences (DCCPS)

New Grantees Meeting

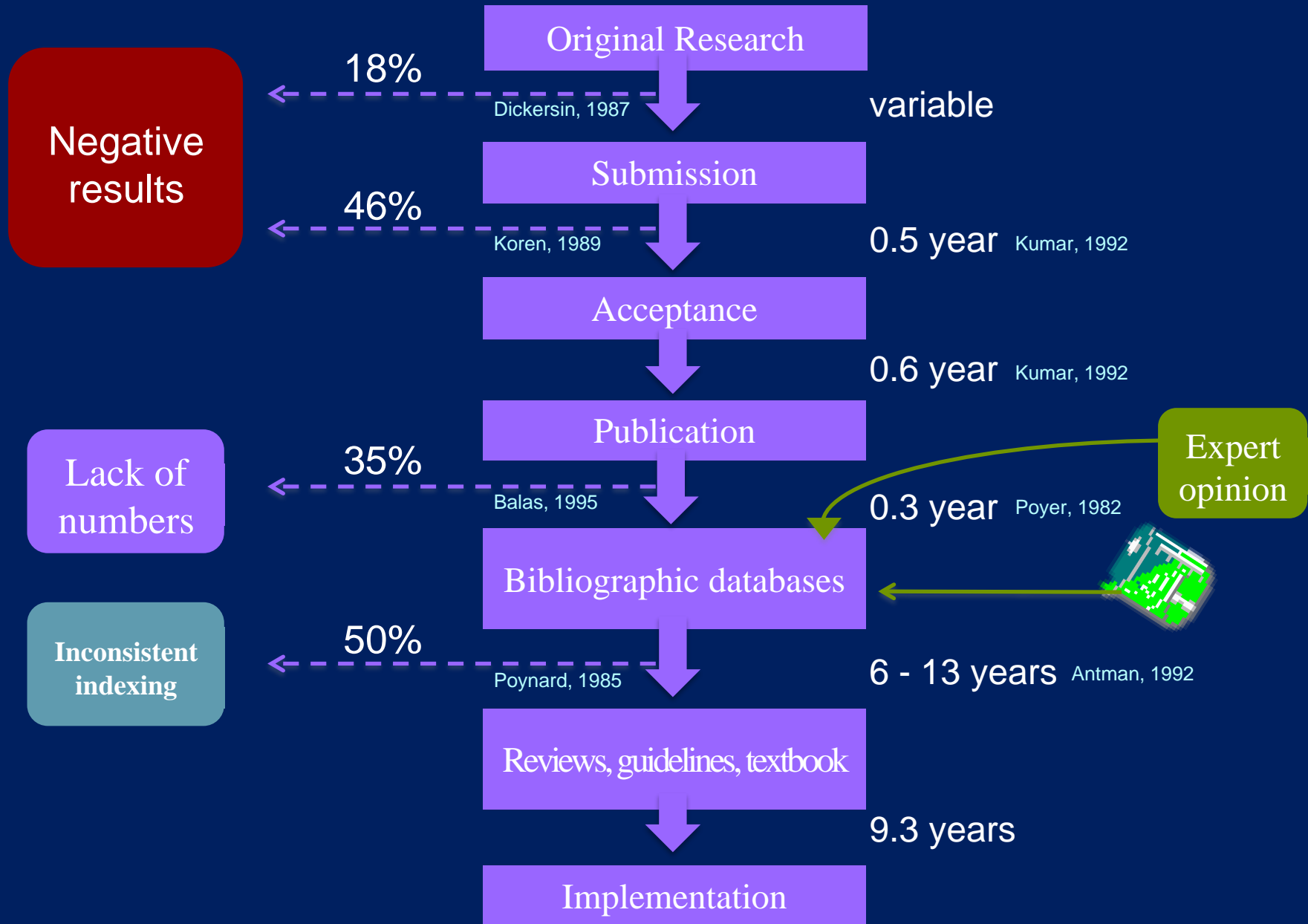
September 19, 2017

Presentation Outline

- Conceptualizing the Challenge
- Current Progress (NIH efforts)
- Opportunities and Resources

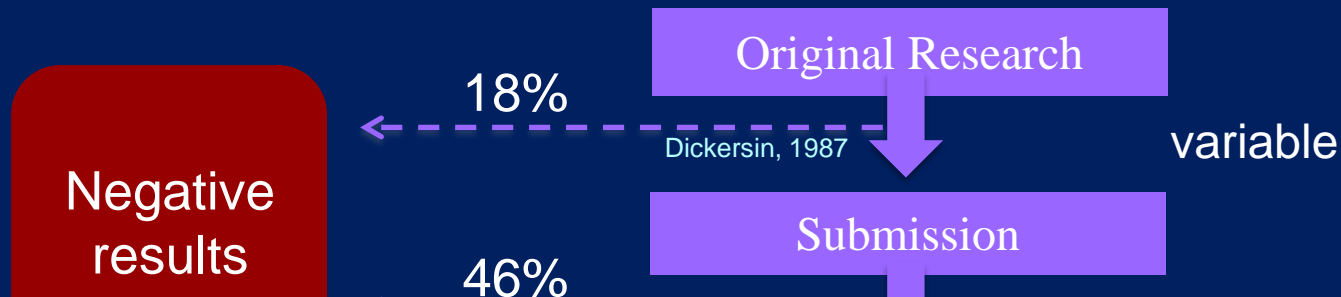
"PUBLICATION PATHWAY"

Balas & Boren, 2000

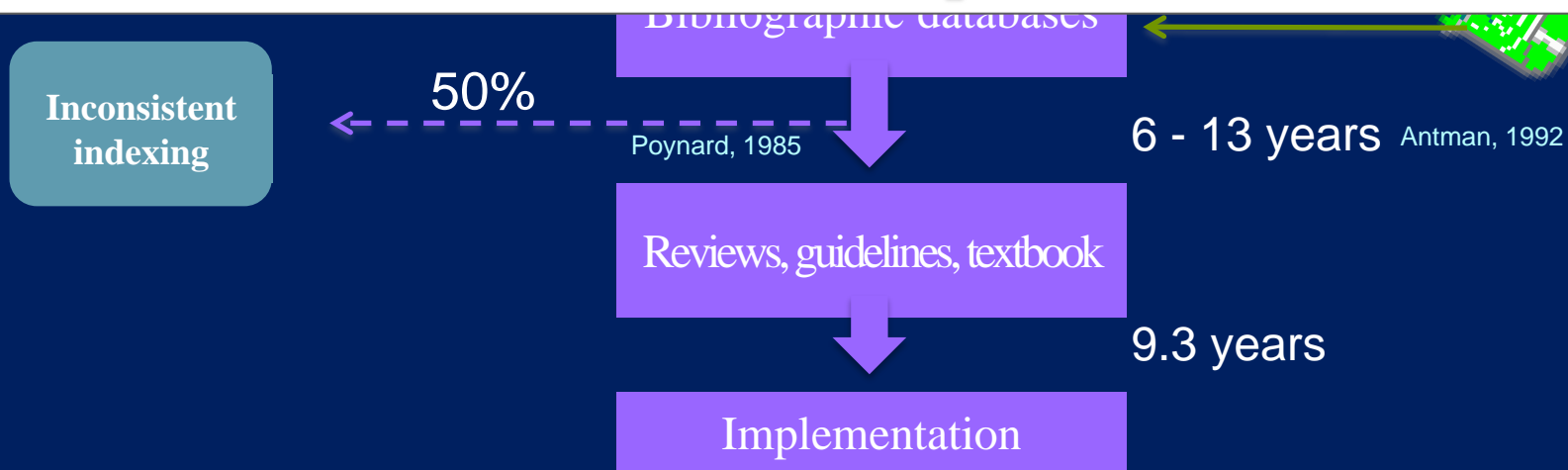


"PUBLICATION PATHWAY"

Balas & Boren, 2000



It takes 17 years to turn 14 percent of original research to the benefit of patient care



We assume... “If you build it...”



An Evidence-Based Cancer Control Program

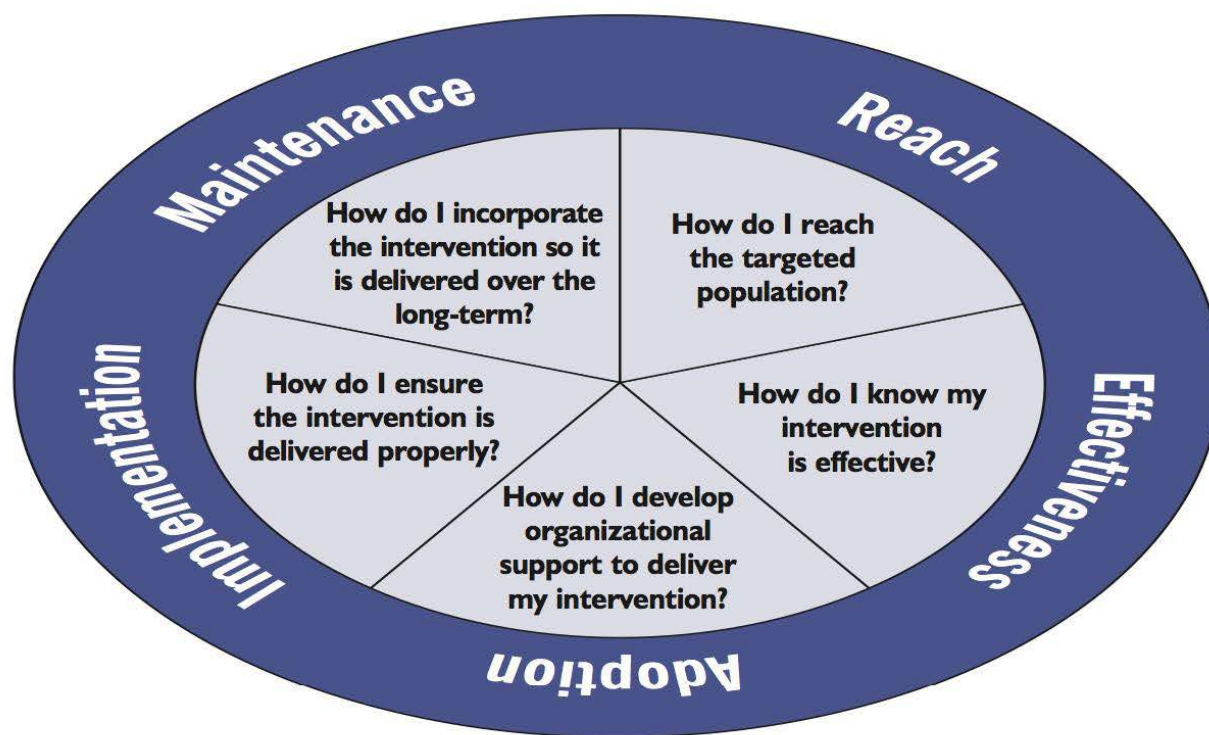
Is only so good as how and whether...

- It is adopted?
- Providers are trained to deliver it?
- Trained providers choose to deliver it?
- Eligible patients receive it?
- The degree to which access/engagement/quality/sustainability exist?

Impact: The degree to which an intervention benefits all those who COULD receive it...

Beyond efficacy/effectiveness

FIGURE 1. Elements of the RE-AIM Framework



Adapted from Glasgow, RE-AIM

Current Landscape and Progress

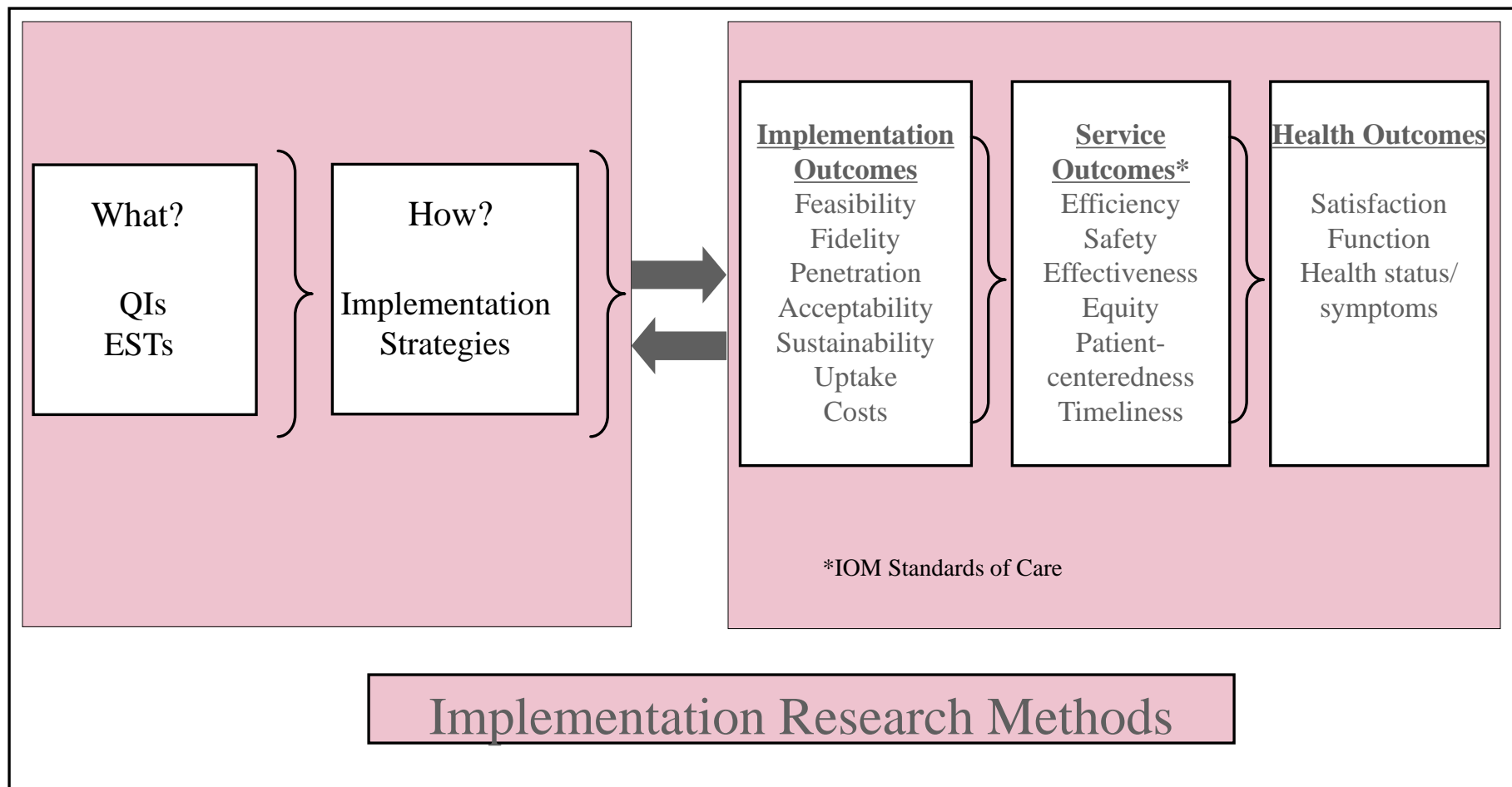
Key Terms

- ***Implementation Science*** is the study of methods to promote the integration of research findings and evidence into healthcare policy and practice.
- ***Dissemination research*** is the scientific study of targeted distribution of information and intervention materials to a specific public health or clinical practice audience. The intent is to understand how best to spread and sustain knowledge and the associated evidence-based interventions.
- ***Implementation research*** is the scientific study of the use of strategies to adopt and integrate evidence-based health interventions into clinical and community settings in order to improve patient outcomes and benefit population health.

Dissemination Research

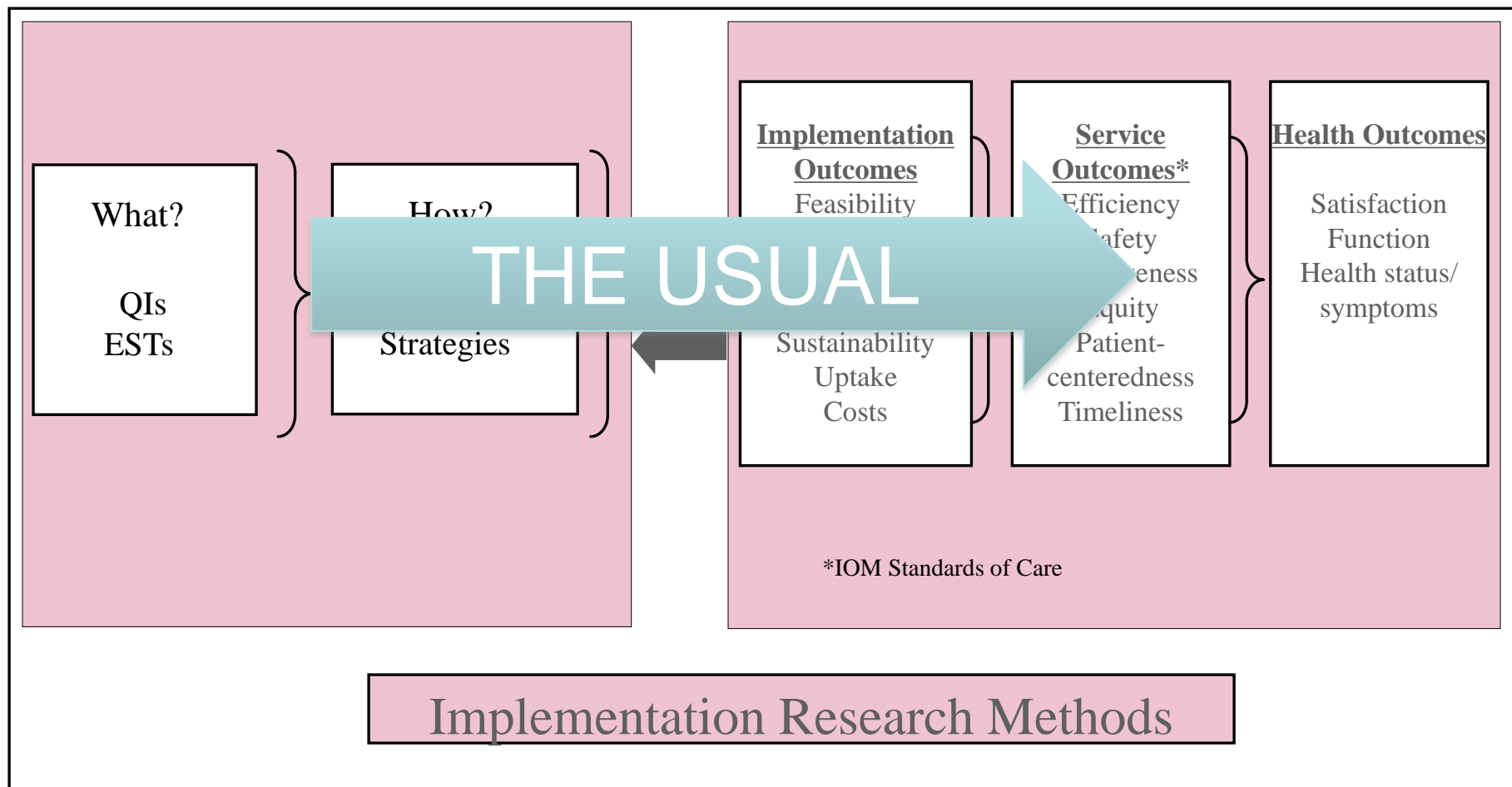
- How the “evidence” is created?
 - Packaging
 - Transmitting
 - Receiving
 - Turning Information into Action
-
- Many of our early efforts in “translating research into practice” jumped over these steps.

Studying Implementation



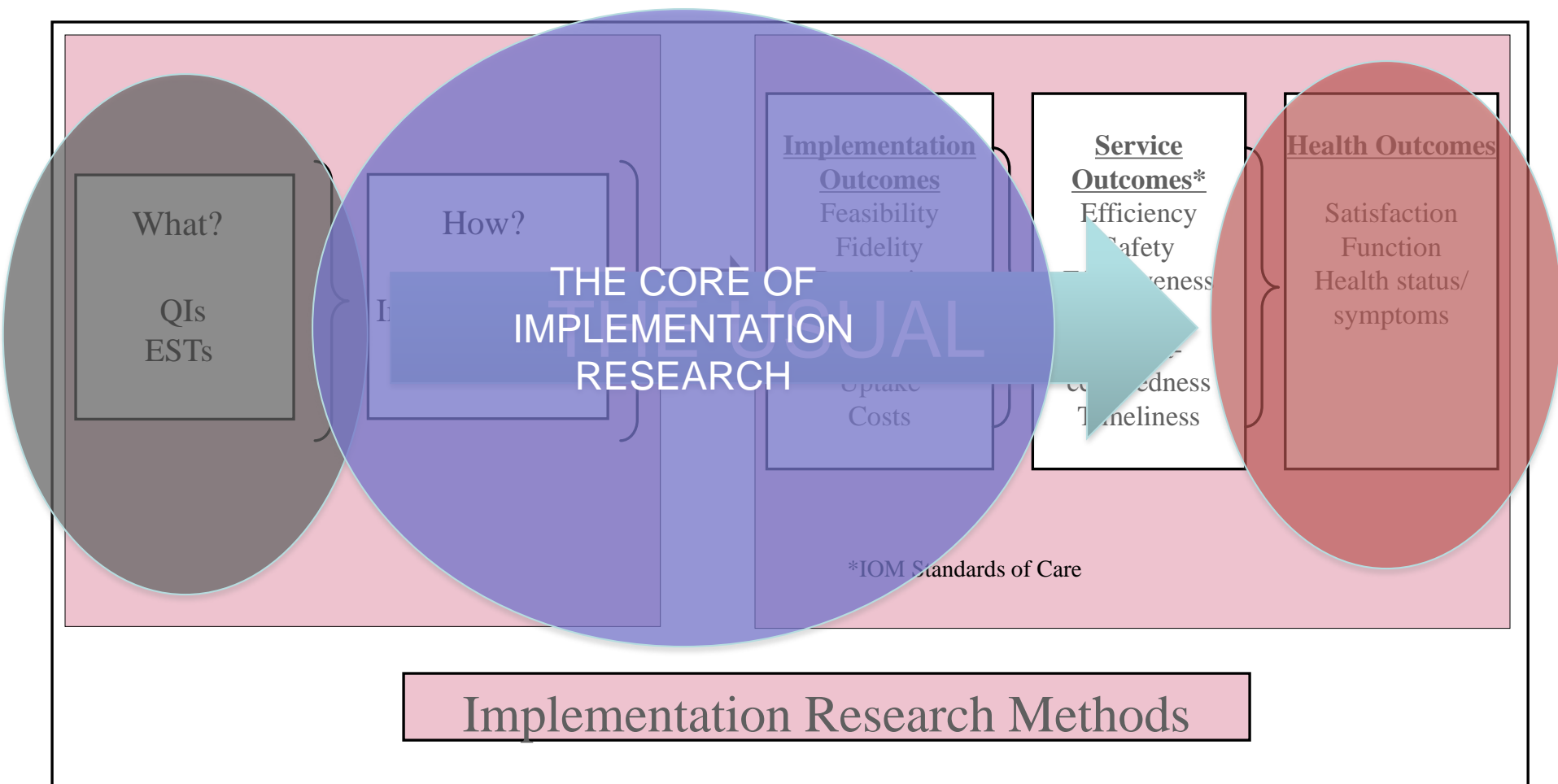
Proctor et al 2009 *Admin. & Pol. in Mental Health & Mental Health Services Research*

Studying Implementation



Proctor et al 2009 *Admin. & Pol. in Mental Health & Mental Health Services Research*

Studying Implementation



Proctor et al 2009 *Admin. & Pol. in Mental Health & Mental Health Services Research*

Current Funding Announcements

- NIH: PAR-16-236; 13-237;13-238* (18 ICs & Offices)
- 2010 NIH standing review committee
- PURPOSE: to support innovative approaches to identifying, understanding, and developing strategies for overcoming barriers to the adoption, adaptation, integration, scale-up and sustainability of evidence-based interventions, tools, policies, and guidelines. Conversely, there is a benefit in understanding circumstances that create a need to “de-implement” or reduce the use of strategies and interventions that are not evidence-based, have been prematurely widely adopted, yield sub-optimal benefits for patients, or are harmful or wasteful.

D&I Research Studies

- Increasing funding opportunities through AHRQ, CDC, NIH, PCORI, RWJF, WT Grant, etc.
 - e.g., > 150 projects through trans-NIH D&I announcements
- CER of implementation approaches
 - Quality Improvement, Organizational Change, Provider Training and Supervision, Financing/Policy Change
- Emerging approaches
 - Learning Collaboratives, technology as dissemination driver
- Methods Devl., System Science, Genomic Medicine

Priority Areas for PARs

- Implementation of genomic testing into practice
- Sustainability/Adaptation of effective practices in a changing health care context
- Impact of social media on demand for evidence-based practices
- Scaling up cancer interventions across health plans, systems, and networks
- De-Implementation of ineffective or suboptimal care
- Implementation in Global Settings

**CANCER
MOONSHOTSM**
**Blue Ribbon Panel
Report**

BRP
Recommendations

About the Panel

Working Groups

Funding
Opportunities

Milestones



Cancer Moonshot Blue Ribbon Panel Report

BLUE RIBBON PANEL 2016

CANCER MOONSHOT



The Blue Ribbon Panel report describes 10 transformative research recommendations for achieving the Cancer MoonshotSM's ambitious goal of making a decade's worth of progress in cancer prevention, diagnosis, and treatment in just 5 years.


Download the
Complete Report

Download an
At-a-Glance


<https://www.cancer.gov/research/key-initiatives/moonshot-cancer-initiative/blue-ribbon-panel>



EVENT

10th Annual Conference on the Science of Dissemination and Implementation in Health

The pre-eminent event to bridge the gap between evidence, practice, and policy in health and medicine.

Learn More

DATE & TIME

December 4-6, 2017

LOCATION

Marriott Crystal Gateway.

Quality research generates the evidence needed to optimize health and health care in the United States and elsewhere. However, the full potential of evidence can only be realized if it is effectively incorporated into health practice and policy.

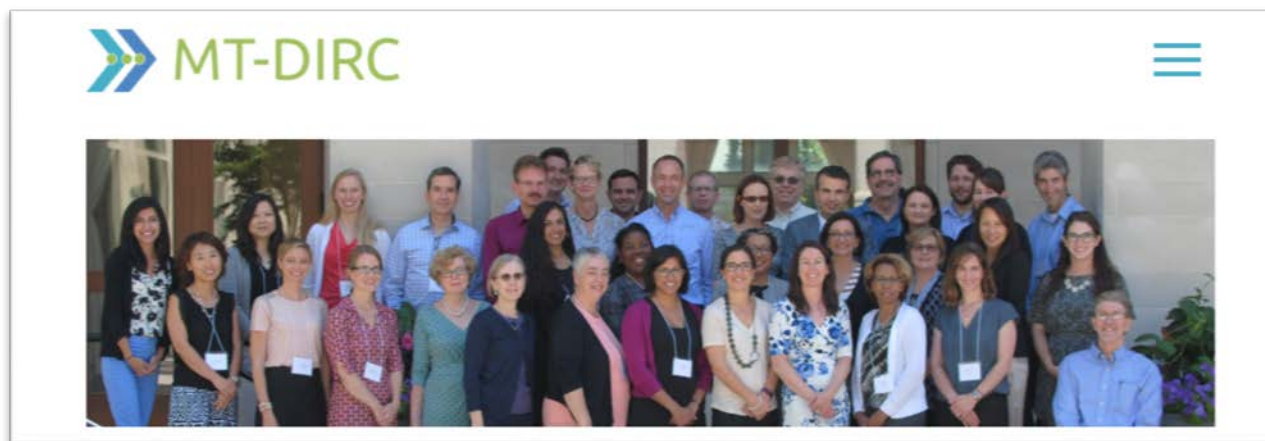
A decade since its inception, the Annual Conference on the Science of Dissemination and Implementation in Health (D&I), co-hosted by the National Institutes of Health (NIH) and AcademyHealth has become the pre-eminent event to bridge the gap between evidence, practice, and policy in health and

**10th Annual Conference on
the Science of
Dissemination and
Implementation in Health**

2017 D&I Call for Abstracts

<http://www.academyhealth.org/events/site/10th-annual-conference-science-dissemination-and-implementation-health>

D&I Research Training...



September 16, 2016 – December 13, 2016

Training Institute for
Dissemination and
Implementation
Research in Health

Washington, D.C.

Middle East and North Africa (MENA)
Implementation Science (IS) Training Course - Principles and Practice

 **Apply Now**

Application Opens: 5 July 2016
Application Closes: 1 August 2016 11:59 PM EDT
Questions? Email PEER@nas.edu



Participants from Bangkok 2015 Training Course present the "abc's" of implementation science. (Photo courtesy of Robert Gasior)

NCI Implementation Science Advanced Topic Webinars

Webinars

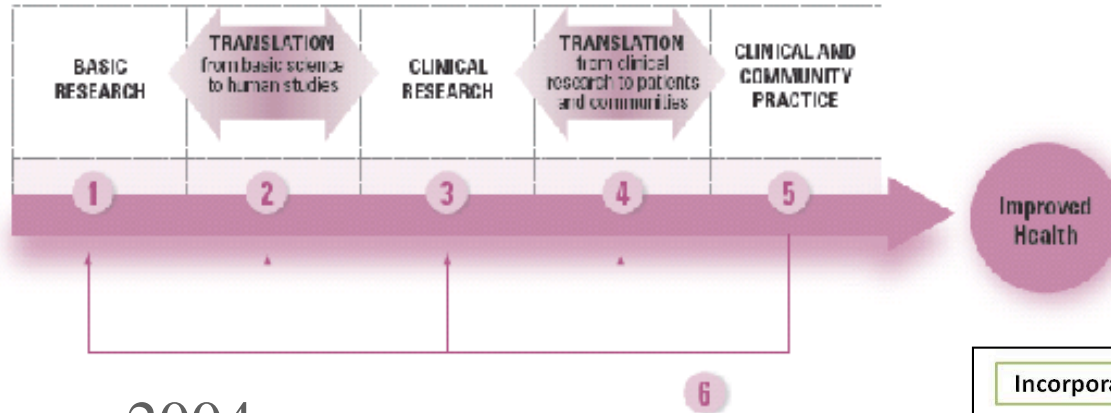
Welcome to the Implementation Science Webinar Series. In 2013, The National Cancer Institute (NCI) Division of Cancer Control & Population Sciences [Implementation Science Team](#) started a webinar series focused on advanced dissemination and implementation research topics. Each session will include approximately 40 minutes for presentation(s) by leaders in the field as well as 20 minutes for engaged discussion and Q&A. Review the list of topics and click on the session title below to register for upcoming sessions or view an archived session

Archived Webinars

<p>Fireside Chat on History and Future Directions of Implementation Science at the US Department for Veterans Affairs</p> <p>November 2016 Features: Dr. Amy Kilbourne; Dr. Brian Mittman</p>	<p>October 2016: Fireside Chat on the Development of Implementation Science & Future Directions</p> <p>October 2016 Features: ; Dr. David Chambers; Dr. Russell Glasgow</p>	<p>July 2016: Are Learning Collaboratives Effective in Implementing Interventions for Obesity and Tobacco Dependence to Reduce Early Mortality in People with Mental Illness?</p> <p>July 2016 Features: ; Dr. Stephen J. Bartels</p>
<p>May 2016: Sustainability of knowledge translation interventions in healthcare decision-making: a scoping review</p> <p>May 2016 Features: ; Dr. Andrea Tricco; Dr. Monika Kastner</p>	<p>April 2016: Identifying, Specifying, and Applying Implementation Strategies</p> <p>April 2016 Features: ; Dr. Byron Powell</p>	<p>March 2016: Advancing Implementation Science through Measure Development and Evaluation</p> <p>March 2016 Features: ; Dr. Cara Lewis</p>
<p>February 2016: CBPR and Community Engaged</p>	<p>January 2016: Researching the impossible: The utility of</p>	<p>December 2015: Mixed Methods in Implementation</p>

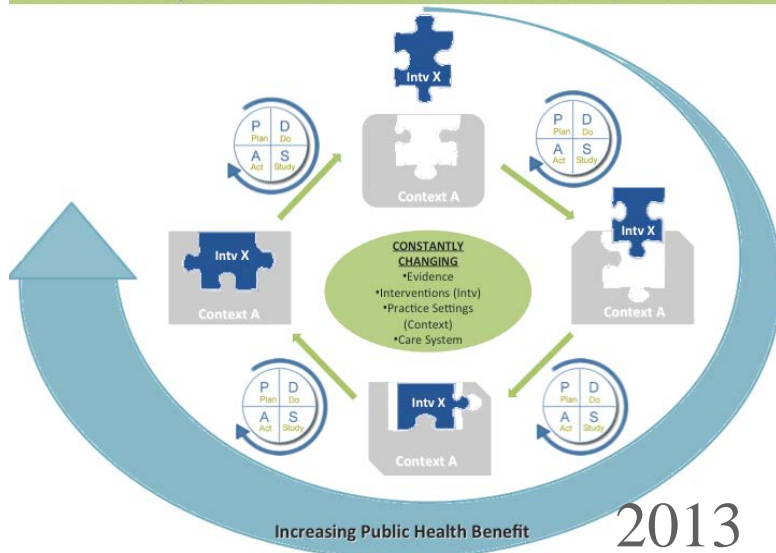
<https://cyberseminar.cancercontrolplanet.org/implementationscience/>

Evolving Paradigms for D&I Science



2004

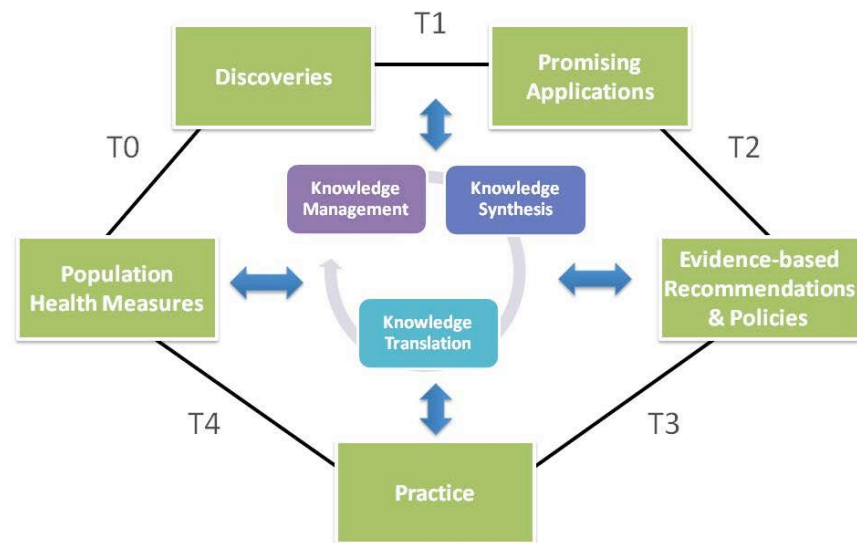
The DSF: Managing the Fit Between an Intervention and Context to Optimize Benefit



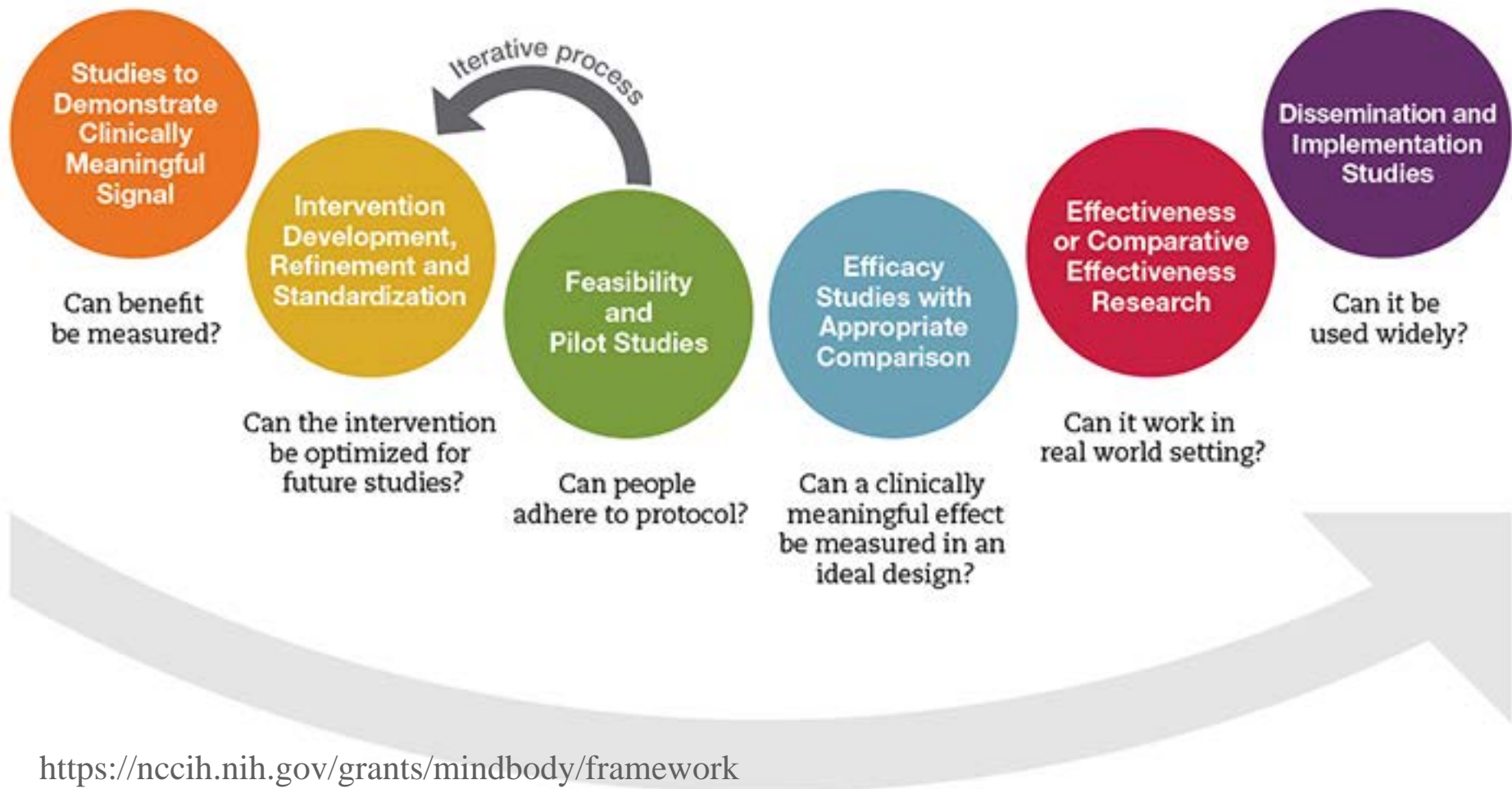
2013

2012

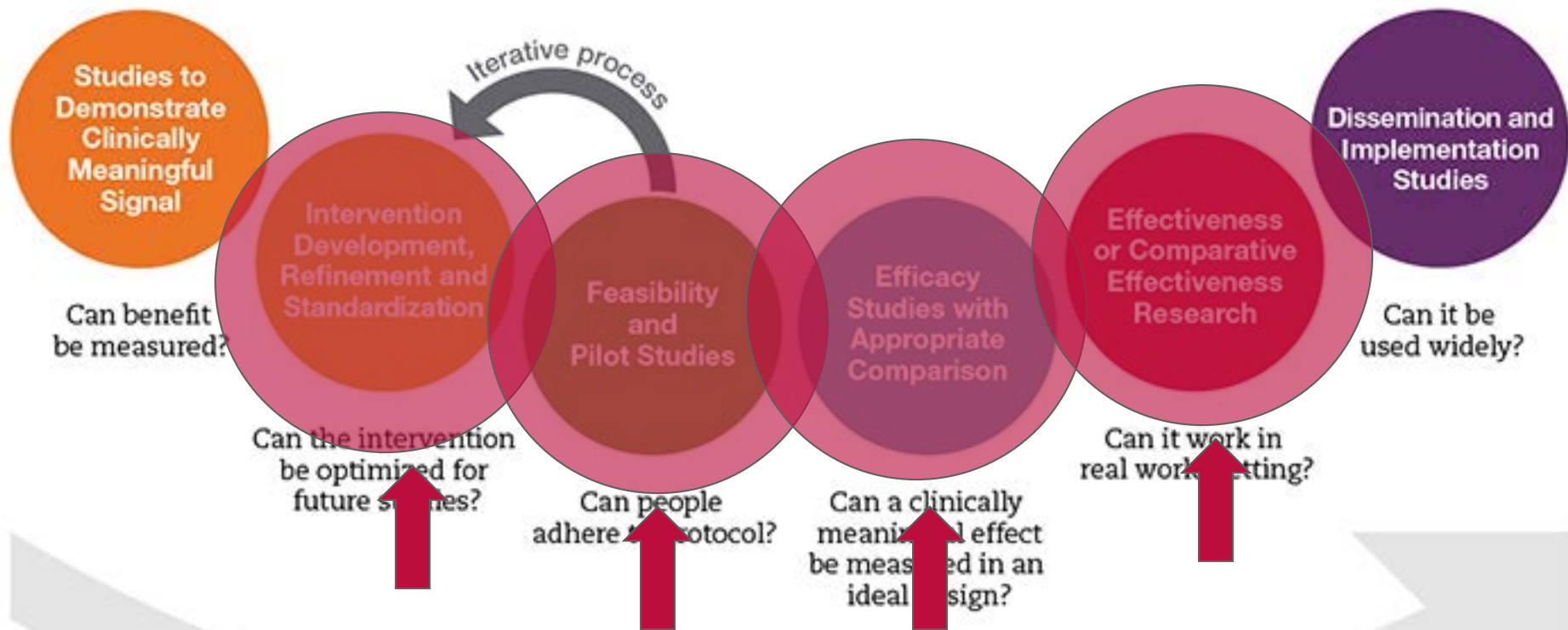
Incorporation of Knowledge Integration into the Translation Continuum



Considering D&I earlier



Considering D&I earlier

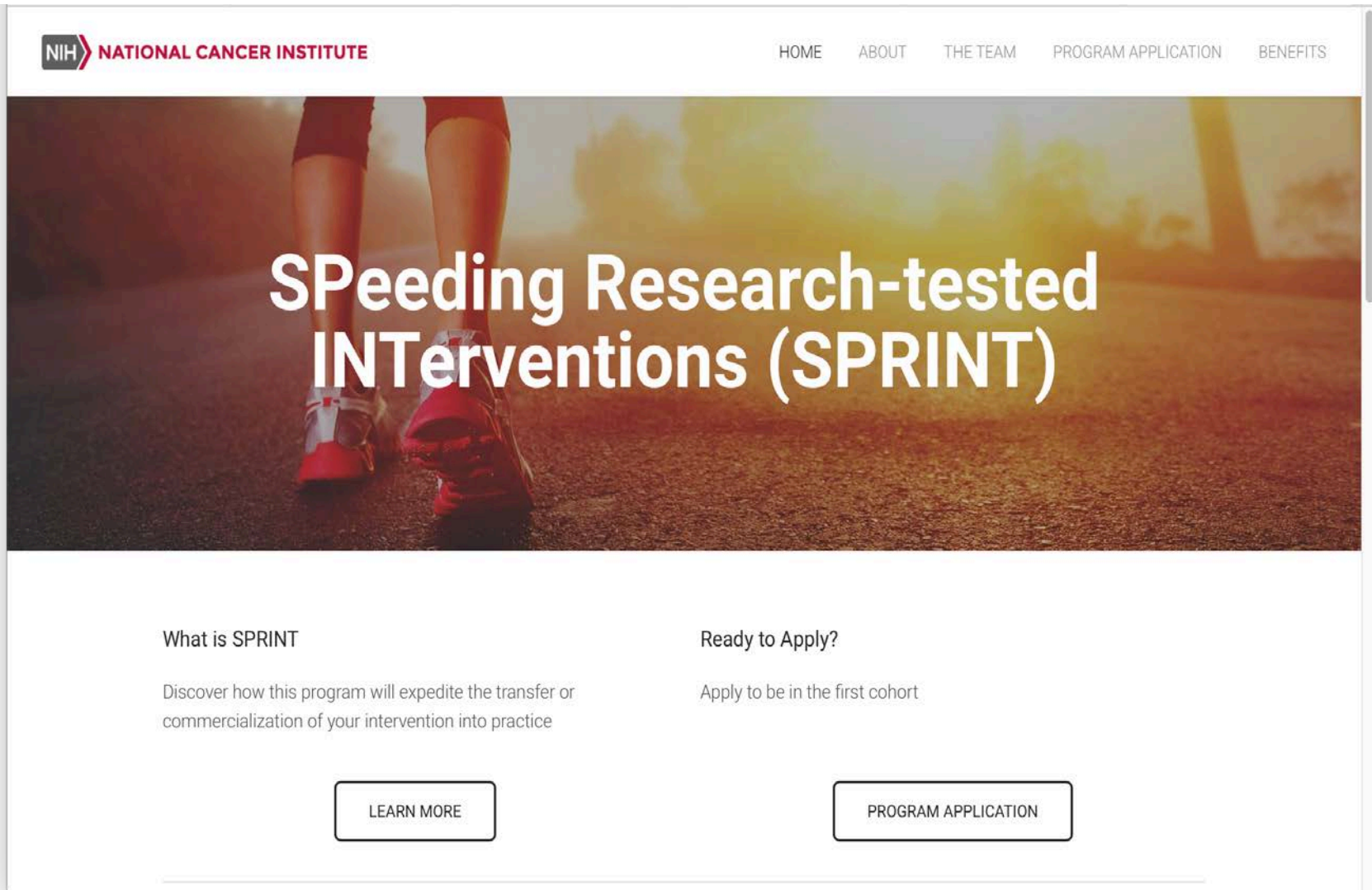


Designing for Dissemination and Implementation

- Who's going to deliver it?
- Fit with ultimate patient population
- Building in tests of training, support, adherence, mediators and moderators to high quality delivery
- Hybrid designs

<https://nccih.nih.gov/clinicaltrials/designing-for-dissemination-and-implementation>

“Designing for Dissemination and Implementation”

A screenshot of the National Cancer Institute's SPRINT website. The header features the NIH logo and the text 'NATIONAL CANCER INSTITUTE' on the left, and a navigation menu with 'HOME', 'ABOUT', 'THE TEAM', 'PROGRAM APPLICATION', and 'BENEFITS' on the right. The main banner image shows a person's legs running on a path at sunset, with the text 'SPeeding Research-tested INTerventions (SPRINT)' overlaid in large white letters. Below the banner, there are two columns of text. The left column is titled 'What is SPRINT' and describes the program's goal to expedite the transfer or commercialization of interventions. It includes a 'LEARN MORE' button. The right column is titled 'Ready to Apply?' and encourages applying to be in the first cohort, with a 'PROGRAM APPLICATION' button.

NIH NATIONAL CANCER INSTITUTE

HOME ABOUT THE TEAM PROGRAM APPLICATION BENEFITS

SPeeding Research-tested INTerventions (SPRINT)

What is SPRINT

Discover how this program will expedite the transfer or commercialization of your intervention into practice

LEARN MORE

Ready to Apply?

Apply to be in the first cohort

PROGRAM APPLICATION

D&I RESOURCES

- <http://dissemination-implementation.org>
- <http://gem-beta.org>
- <http://www.societyforimplementationresearchcollaboration.org>
- <http://cancercontrolplanet.cancer.gov>
- <http://rtips.cancer.gov/rtips/index.do>
- <https://researchtoreality.cancer.gov>

Dissemination & Implementation Models

in Health Research & Practice

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This interactive website was designed to help researchers and practitioners to select the D&I Model that best fits their research question or practice problem, adapt the model to the study or practice context, fully integrate the model into the research or practice process, and find existing measurement instruments for the model constructs. The term 'Models' is used to refer to both theories and frameworks that enhance dissemination and implementation of evidence-based interventions more likely.

Select

Search, view, and select
D&I Models

Adapt

Read strategies for
adapting D&I Models to
research or practice
context

Integrate

Read strategies for
incorporating D&I Models
into the full spectrum of
your project

Measure constructs

Find a list of constructs
and links to
measurement tools
associated with the D&I
Models

Footer info will go here. Links will look like this: [Privacy](#) [Terms](#)

Need Adobe Reader?



Last Updated:

<http://dissemination-implementation.org>

Measurement: Toward Standardization & Harmonization



- Society for Implementation Research Collaboration Instrument Review Project
 - <http://www.societyforimplementationresearchcollaboration.org/sirc-projects/sirc-instrument-project/>
- Grid-Enabled Measures developed by the National Cancer Institute
 - <http://cancercontrol.cancer.gov/brp/gem.html>


GEM-Dissemination and Implementation Initiative (GEM-D&I)
Related Constructs & Measures
[+ Add New Construct](#) [+ Add New Measure](#) [+ Add Existing Construct/Measure](#)

Constructs ▲	Measures	Ratings
Acceptability	Acceptability of Decision Aid Scale	not yet rated Rate This!
Acceptability	Evidence Based Practice Attitude scale	★★★★☆ (average) Rate This!
Acceptability	Suicide Prevention Program Rating Profile	★★★★☆ (average) Rate This!
Acceptability	Therapists' attitudes toward treatment manuals	not yet rated Rate This!
Acceptability	Treatment Evaluation Inventory	★★★★☆ (average) Rate This!
Acceptability	Residents incorporation of EBM in practice	★★★★☆ (average) Rate This!
Acceptability	Atkinson's Perceived Attributes of eHealth Innovations	★★★★☆ (average) Rate This!
Acceptability	Van Schaik's Technology acceptance	★★★★☆ (average) Rate This!
Adaptability	CFIR Adaptability	not yet rated Rate This!
Adherence	Morisky 8-Item Medication Adherence Scale	★★★★☆ (average) Rate This!
Adherence	Morisky 4-Item Self-Report Measure of Medication-Taking Behavior (MMAS-4)	★★★★☆ (average) Rate This!
Adherence	Questionnaire on the Quality of Physician-Patient Interaction	★★★★☆ (average) Rate This!
Adherence	Medical Outcomes Study (MOS) Measures of Adherence	not yet rated Rate This!
Adjustment process	Meaning in Life Scale	★★★★☆ (average) Rate This!
Adopter attitudes	Steckler's Perception of Innovation "Rogers's Adoption Questionnaire"	★★★★☆ (average) Rate This!
Adoption	Roman's measure of adoption in substance abuse treatment (application of the many-facet Rasch model)	not yet rated Rate This!
Adoption	Li, Simon, Bodenheimer, Gillies, Casalino, Schmittiel, & Shortell, adoption	★★★★☆ (average) Rate This!
Adoption	Menachemi, Saunders, Chukmaitov, Matthews, & Brooks	not yet rated Rate This!
Adoption	Noonan, Emshoff, Mooss, Armstrong, Weinberg, & Ball, Adoption, Adaptation, and Fidelity	not yet rated Rate This!
Adoption	Zaidi, Marriott, & Nation, adoption, acceptability and	not yet rated



Implementation Science

Home

About IS ▾

Funding Opportunities ▾

Research & Practice Tools ▾

Training & Education ▾



Resources to help health practitioners and policymakers better understand, plan for and implement evidence-based practices into routine public health settings.

[Learn More](#)

Highlighted Features



FUNDING OPPORTUNITIES

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MEET OUR STAFF

Connect with the team of dedicated scientists and research associates. [VIEW ALL](#)



GRANT APPLICATION RESOURCES

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IS Tweets



NCI_ImplSci @NCI_ImplSci

thanks for the #NCISPRINT coverage @AprilYOH!

Posted 11 hours ago



NCI_ImplSci @NCI_ImplSci

#impsci theme at @QSEN_Institute's 2017 Forum? & a keynote from @AnneSales4? we'll be following the #QSEN17 convo!

<http://ow.ly/AHlq30aOmgd>

Posted on 18 Apr



NCI Epidemiology

✓ @NCIEpi



[\(index.html\)](#)

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Cancer Control P.L.A.N.E.T. portal provides access to data and resources that can help planners, program staff, and researchers design, implement and evaluate evidence-based cancer control programs.

DATA

[State Cancer Profiles](#) [\(//cgi-bin/awredir.pl?url=http://statecancerprofiles.cancer.gov\)](#) (CDC, NCI) [i](#)

COLLABORATION

[Research to Reality](#) [\(//cgi-bin/awredir.pl?url=http://researchto reality.cancer.gov/\)](#) (NCI) [i](#)

RESEARCH SYNTHESIS

[Guide to Community Preventive Services](#) [\(//cgi-bin/awredir.pl?url=http://www.thecommunityguide.org/index.html\)](#) (Federally Supported) [i](#)

[U.S. Preventive Services Task Force](#) [\(//cgi-bin/awredir.pl?url=http://www.uspreventiveservicestaskforce.org\)](#) (Federally Supported) [i](#)

[Evaluation of Genomic Applications in Practice and Prevention \(EGAPP\)](#) [\(//cgi-bin/awredir.pl?url=http://www.egappreviews.org/recommendations/index.htm\)](#) [i](#)

[Additional Research Evidence Reviews \(synthesis.html\)](#)

PROGRAMS

[Research-tested Intervention Programs \(RTIPs\)](#) [\(//cgi-bin/awredir.pl?url=http://rtips.cancer.gov/rtips/index.do\)](#)

EVALUATION

[Reach Effectiveness Adoption Implementation Maintenance \(RE-AIM\)](#) [\(//cgi-bin/awredir.pl?url=http://www.re-aim.org/\)](#) [i](#)

PLAN

TOPICS

- [Breast Cancer \(breast_cancer.html\)](#)
- [Cervical Cancer \(cervical_cancer.html\)](#)
- [Colorectal Cancer \(colorectal_cancer.html\)](#)
- [Diet / Nutrition \(diet.html\)](#)
- [HPV Vaccination \(hvp_vaccination.html\)](#)
- [Informed Decision Making \(informed.html\)](#)
- [Obesity \(obesity.html\)](#)
- [Physical Activity \(physical_activity.html\)](#)
- [Public Health Genomics \(public_health_genomics.html\)](#)
- [Sun Safety \(sun_safety.html\)](#)
- [Survivorship \(survivorship.html\)](#)
- [Tobacco Control \(tobacco_control.html\)](#)

WHAT'S NEW

Cancer Control P.L.A.N.E.T. now links to the International Cancer Control Partnership's (ICCP) new web-portal. Learn more about their [portal](#) [\(//cgi-bin/awredir.pl?url=http://www.iccp-portal.org/about-portal\)](#) and [search](#) [\(//cgi-bin/awredir.pl?url=http://www.iccp-portal.org/cancer-plans\)](#) over 100 international cancer plans and emerging non-communicable disease plans at [http://www.iccp-portal.org/cancer-plans](#) [\(//cgi-bin/awredir.pl?url=http://www.iccp-portal.org/cancer-plans\)](#).

E-NEWSLETTER

[Sign up](#) [\(//cgi-bin/awredir.pl?url=https://planetnewsletter.cancercontrolplanet.org/\)](#) to receive monthly updates on Cancer Control P.L.A.N.E.T.

FEEDBACK

We welcome your [feedback \(contact.html\)](#) on the Cancer Control P.L.A.N.E.T. and its satellite web sites. Thank you for helping to improve this site for the cancer control community.

SPONSORS



Research-tested Intervention Programs (RTIPs)

Moving Science into Programs for People

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[RTIPs Archive](#)
[Frequently Asked Questions](#)
[Fact Sheet](#)
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[Cancer Control P.L.A.N.E.T. Home](#)

Intervention Programs

Search Criteria Used: Survivorship/Supportive Care

[Refine Your Search](#)

Program Title & Description (17 programs alphabetically listed)	Program Focus	Population Focus
1. Alleviating Depression Among Patients With Cancer (ADAPt-C) Designed to enhance the quality of life for cancer survivors. (2011) NCI (Grant number: R01CA105269) Criteria Matched: Survivorship/Supportive Care	Psychosocial - Coping	Cancer Survivors
2. Breast Cancer Education Intervention (BCEI) Designed to enhance the quality of life for breast cancer survivors. (2007) Criteria Matched: Survivorship/Supportive Care	Psychosocial - Coping	Cancer Survivors
3. Bright IDEAS: Problem-Solving Skills Training Designed to help reduce the emotional distress in mothers of children recently diagnosed with cancer. (2005) NCI (Grant number: ca65520) Criteria Matched: Survivorship/Supportive Care	Psychosocial - Coping	Caregivers
4. Coping with Chemotherapy Designed to enhance the quality of life of individuals prior to undergoing chemotherapy. (2002) NCI (Grant number: CA70875) Criteria Matched: Survivorship/Supportive Care	Psychosocial - Coping	Cancer Survivors

Research to Reality: NCI's online community of practice. A “living lab” for implementation science.



R2R engages its community in a collaborative effort to implement evidence-based interventions.

- Learning Communities
- Monthly cyber-seminars
- Discussions
- Cross-walks with RTIPs
- Research/Practice/Policy Connections

Robust community of more than 2,300 cancer control practitioners, researchers, students and clinicians.

In 2014, R2R had 80,000 page views (3,200 average monthly views)

- 33% of discussions are community-driven;
- 73% of discussion posts generate comments

<https://researchtooreality.cancer.gov>





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**NATIONAL
CANCER
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