

# Implementation Science Centers for Cancer Control (IS-C<sup>3</sup>)

*David Chambers, DPhil*

*Cancer Moonshot Implementation Teams:*

- *Prevention and Early Detection: Implementation of Evidence-Based Approaches for Prevention and Screening*
- *Prevention and Early Detection: High-Risk Cancers*
- *Symptom Management*

# Implementation Science Working Group Report: Implementation of Evidence-based Prevention and Screening Approaches

- **Issue:** Suboptimal uptake of evidence-based cancer prevention and screening programs, particularly among underserved populations.
- Can we better implement what has already been developed and tested?
- Effective scale-up of CRC screening and follow-up, HPV vaccination, and tobacco cessation interventions could result in:
  - 389,900 fewer new cancer cases annually
  - 318,500 fewer cancer deaths annually

A robust knowledge base around implementation strategies would make significant progress toward this goal.

# We have hundreds of evidence-based programs to implement

## Research-Tested Intervention Programs (RTIPs)

Home Search for Programs Submit a Program Topic Areas Tools and Resources About

### Moving from Research to Programs for People

#### Search from 187 Evidence-Based Intervention Programs

RTIPs is a searchable database of evidence-based cancer control interventions and program materials and is designed to provide program planners and public health practitioners easy and immediate access to research-tested materials.

SEARCH CURRENT PROGRAMS

#### New programs on RTIPs

##### HPV Vaccination

Making Effective HPV Vaccine Recommendations

Post date: December, 2017

##### Obesity

Exercise and Nutrition to Enhance Recovery and Good Health for You (ENERGY)

Post date: November, 2017

##### Diet/Nutrition

SIPsmarter

Post date: October, 2017

New evidence-based programs are released periodically. Please check for updates.

#### News and Announcements

RTIPs Highlighted at University of Kentucky



#### Program Submission

We are interested in continuing to add to the current listing of the evidence-based programs on the RTIPs website and appreciate your consideration of submitting your program. For more information on evidence-based program submission, read the [RTIPs Submission and](#)



#### Research to Reality

##### Search Research to Reality

(R2R), NCI's online community of practice that links cancer control practitioners and researchers, for collaboration, cyber-seminars, and discussions. Users can



#### RTIPs Connects with Research Reviews

The [Guide to Community Preventive Services](#) (the Community Guide) provides guidance on the effectiveness of types of interventions, which may include interventions



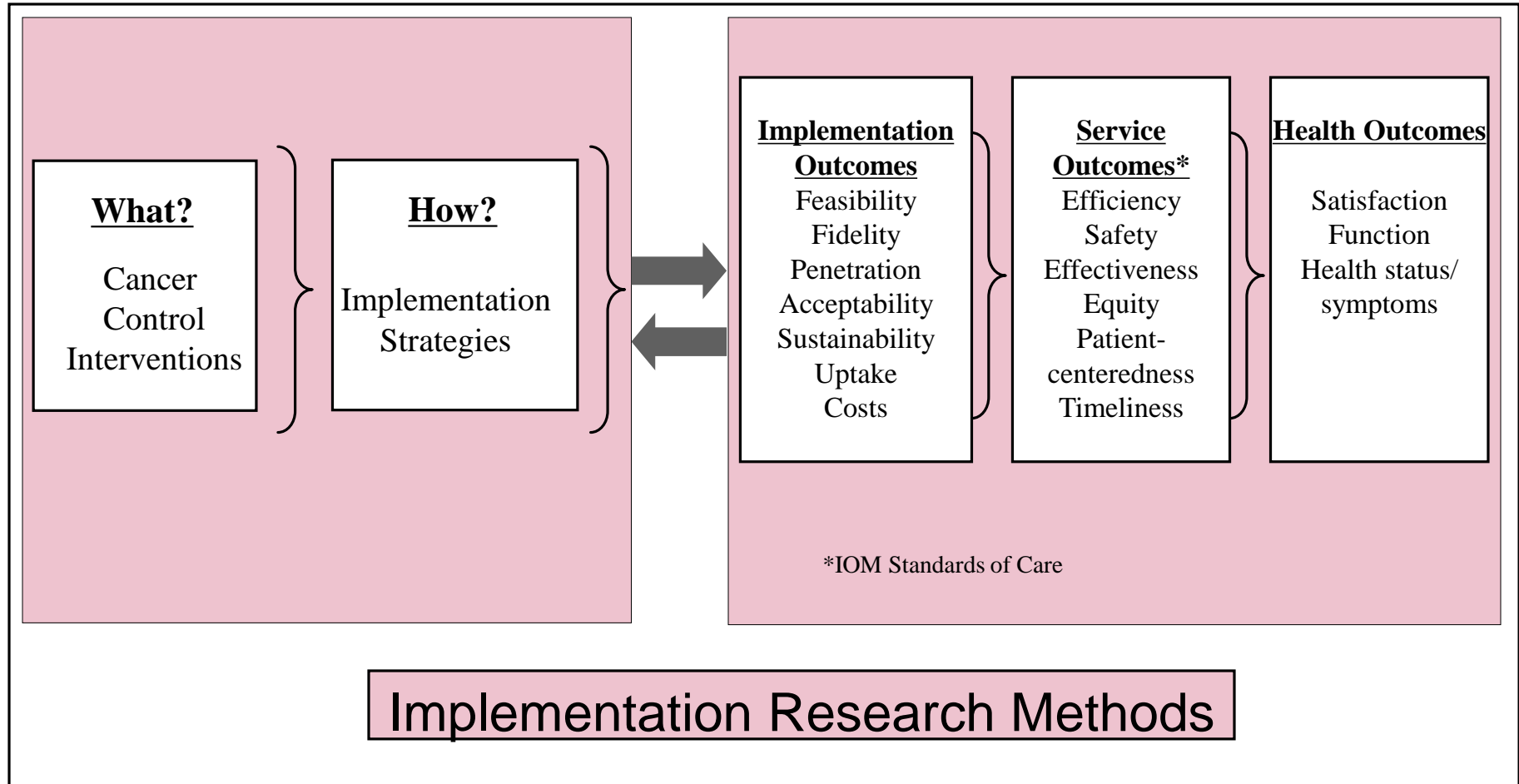
#### Resource for Adaptation and Implementation

[Putting Public Health Evidence in Action](#). The Cancer Prevention and Control Research Network (CPCRN) has created an interactive training



<https://rtips.cancer.gov/rtips/index.do>

# But Need Implementation Science to Drive Population Benefit...



# Building from the Blue Ribbon Panel Report: Implementation of Evidence-based Prevention and Screening Approaches

## What are we doing in response?

- ACCSIS—Implementation Strategies to improve CRC Screening, Follow-up, Referral to Care
- IMPACT—Programs to improve symptom management across Cancer Tx
- Hereditary Cancers RFA—Programs to Improve Cascade Screening and Referral to Tx
- 
- *Tobacco Cessation Supplements to Cancer Centers*
- *HPV Cancer Center Supplements to understand local factors affecting Vax Uptake*

# Current Needs for Scaling Up Implementation Science

- Leveraging existing clinical and community sites where cancer control interventions are delivered to form an **“implementation laboratory”**
- Development and execution of **natural experiments** and **rapid-cycle testing** of innovative approaches to implementing evidence-based interventions
- Development and testing of **valid, reliable and pragmatic measures of implementation constructs** not currently available
- Generation of **pilot studies** in **emergent areas** of implementation science under-represented in the current NCI portfolio
  - E.g. implementation of precision medicine, de-implementation, local adaptation of interventions, mechanistic studies of implementation strategies
- **Nationwide support** for implementation scientists in cancer control,
  - annual meetings, training and mentoring support, technical assistance on proposals, collaborative workspace for innovative study concepts

# Implementation Science Centers for Cancer Control (IS-C<sup>3</sup>)

Goal: Scaling Up IS Efforts Across Moonshot (and then some)

1. Administrative Core
2. IS Laboratories: Established Collaborations with Health and Community Systems (e.g. Oncology, Primary Care, Community Settings)
3. Measurement and Methods Core
4. Set of Innovative Research Pilots
5. Network Core
  - Shared capacity to run program-wide IS Consortium (host annual meetings/dissemination of findings/training)

# An Example of an IS-C<sup>3</sup> on Intervention Adaptation

Administrative Core (Leadership, Structure, Advisors)

Methods & Measurement Core

- Multi-level measurement of ITV adaptation
- Framework for real-time data capture
- Aggregating existing data to identify local adaptations
- Developing new measures of context affecting ITV adaptation

Innovative Pilot Research Projects

- Study of local A&F efforts to tailor screening to underserved pops
- Study use of technology to adapt follow-up strategies to specific barriers
- Use of NLP to develop necessary adaptations for missed screening

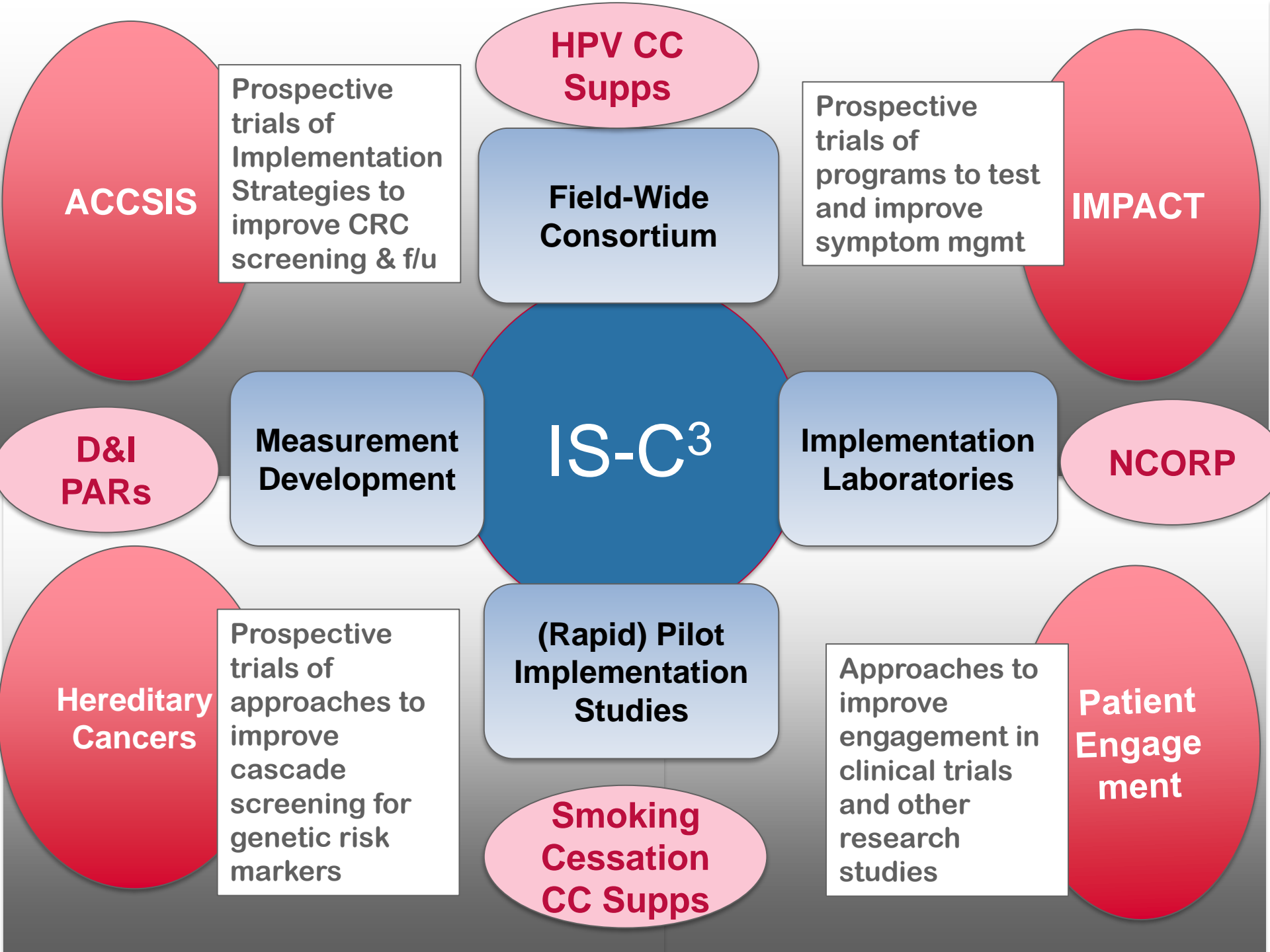
“Implementation Laboratory” Core

- 80 small and medium primary care practices across 3 states
- Common EHRs
- Leadership buy-in
- Experience with conducting HC-practice research
- Articulated needs around adaptations to existing ITVs
- Natural experiments

Network Core

- Dissemination of findings
- Connecting with IS Moonshot grantees
- Host annual IS Consortium
- Share tools, data across field
- Promote training





**HPV CC  
Supps**

**Field-Wide  
Consortium**

Prospective  
trials of  
programs to test  
and improve  
symptom mgmt

**IMPACT**

**ACCSIS**

Prospective  
trials of  
Implementation  
Strategies to  
improve CRC  
screening & f/u

**IS-C<sup>3</sup>**

**Implementation  
Laboratories**

**NCORP**

**D&I  
PARs**

**Measurement  
Development**

**(Rapid) Pilot  
Implementation  
Studies**

Approaches to  
improve  
engagement in  
clinical trials  
and other  
research  
studies

**Patient  
Engage  
ment**

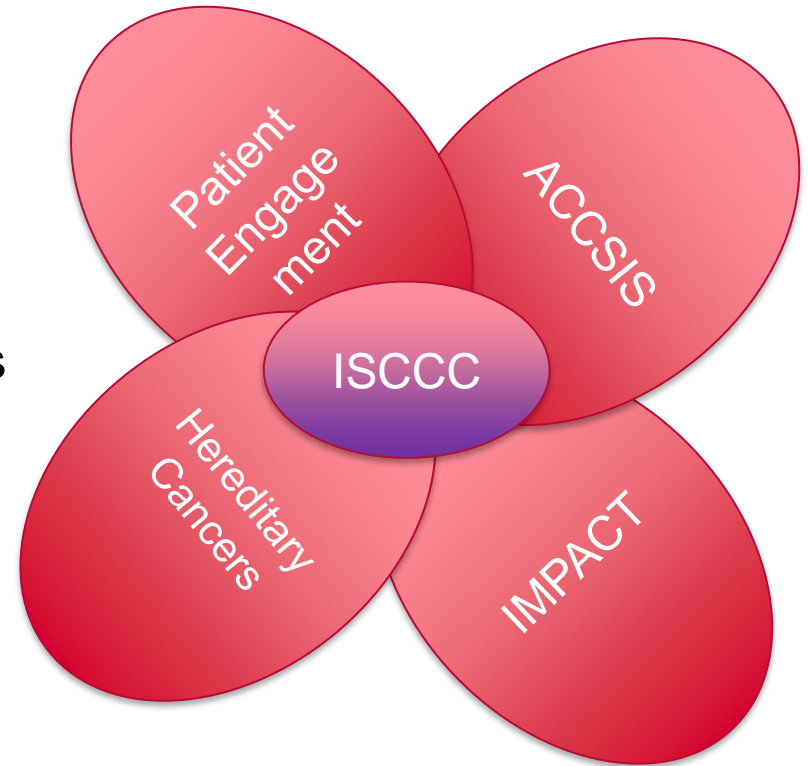
**Hereditary  
Cancers**

Prospective  
trials of  
approaches to  
improve  
cascade  
screening for  
genetic risk  
markers

**Smoking  
Cessation  
CC Supps**

# Implementation Science Centers for Cancer Control RFA Concept (via 3 Moonshot Teams)

- 4-5 Research Centers
  - Implementation “Laboratories”
  - Methods Development, Network Cores
  - Pilot Implementation Studies
  - Common Data Repositories
  - Building a Field-wide Consortium
- 3 Advanced Centers (\$2M per yr); 2 Developing (\$1M per yr) [P50/P20]
  - Advanced Ctrs in established areas (Cancer Prevention, Screening, Symptom Management)
  - Developing Ctrs in newer areas (precision medicine, de-implementation)
- **FY19 Budget: \$8M TC (\$40M TC over 5 years)**



# BSA Sub-Committee Feedback and Responses (Thanks!)

- **Explicit expectations of administrative/leadership functions**
  - Description of administrative core responsibilities
- **Central importance of “data ecosystem”**
  - Common Data Elements required, new measures developed for broader field, recognizing diverse needs
- **Individual center activities vs. “consortium” activities**
  - E.g. opportunities for aspiring IS investigators within centers vs. participation in consortium to build field capacity
- **Clarification of number and types of pilots**
  - R03/R21 scale; 4-8 for advanced centers, 2-4 for developing centers
- **Distinction b/w developing vs. advanced centers**
  - Number of pilots; scale of the implementation lab; network size; scientific focus
- **NCI role of coordination across centers**
  - NCI’s IS team can foster trans-center coordination (data sharing, dissemination, meeting support)

**THANK  
YOU**

**CMIT co-chairs** Paul Pinsky, Kathy Helzlsouer, Asad Umar, Paul Jacobsen, Ann O'Mara and team members

**DCCPS Colleagues:** Bob Croyle, Wynne Norton, **April Oh**, Stacey Vandor, **Cindy Vinson**, and Implementation Science Team