# A Review and Comparison of Frameworks used in Behavioral Intervention Development Research

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# Changing unhealthy behaviors is the "single greatest opportunity to reduce premature deaths..."



Schroeder et al. (2007, *NEJM*) after McGinnis (1993, *JAMA*)



#### 2015 NAS/IOM report on "Measuring the Risks and Causes of Premature Death"

*The Challenge: How can we design more effective health-related behavior change interventions?* 

In biomedical research, a well-defined translational process exists that guides the development of new basic biological discoveries into efficacious therapies

Building better behavioral interventions depends on defining a similar process to accelerate the translation of basic behavioral science research into more effective behavioral interventions The translational research spectrum applied to health behavior change research



### The drug development process



Many behavioural interventions designed according to the ISLAGIATT principle

# It Seemed Like A Good Idea At The Time

### Patient has changed their behaviour! Intervention worked!

But how did it work? Can we do it again? Can we train others to do the same?

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# Using a framework to guide behavioral intervention development:

Encourages a more progressive, systematic and unified approach to developing & testing behavioral interventions, as opposed to the more fragmented, "one-fell-swoop" approach we have now

Promotes the "bridging" of basic and applied behavioral research, potentially leading to new & innovative approaches to changing behavior & improving health

Encourages the development of behavioral interventions that are well-characterized, appropriately tested & optimized prior to testing in larger, more expensive Phase III trials

Leads to identification of "failures" earlier in the process, allowing for refinement of interventions and reducing premature testing of "weak" behavioral interventions in Phase III trials



"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

# NIH Stage Model

How successful is behavioral science at producing behavioral interventions that are used in the real world?



Lisa Onken, Ph.D. NIA

- Basic science
  - Poorly connected to applied science (e.g., efficacy + effectiveness trials)
- Applied science
  - Efficacy poorly connected to effectiveness
  - Often, efficacy does not translate to effectiveness
- Bottom Line: Efficacious interventions may never be implemented

# Intervention Development + Translation: Partnering Basic Science w/ Clinical Science



Varda Shoham + Daniel Wegman:

Bringing basic research on paradoxical processes into intervention development

Michael Otto + Mark Bouton + Michael Davis:

Bringing basic research on extinction into intervention development

Greg Siegle:

Linking cognitive + affective neuroscience to intervention development







Solution #1: Change the Delivery System Solution #2: Change the Interventions

"But we cannot change behavioral interventions to be more effective until we know what the essential elements of a treatment are."

## **Elements of Efficacious Intervention X**



## Solution #2: Change the Interventions

Mechanism of Action, Essential Elements + Translation

Mechanism of action (MOA) research involves elucidating the processes underlying the effects of an intervention. This is an inherently translational (T1) research process that brings basic science ideas, theories, paradigms and findings into applied/clinical studies.

Understanding MOA + determining essential elements of interventions will help:

- -- Boost intervention effects (by knowing what to emphasize)
- -- Streamline interventions (by knowing what to drop + emphasize)

This will help make evidence-based interventions into equally or more potent, and more usable, less costly, more community-friendly behavior change interventions – facilitating translation (T2) into real world settings.



Onken, Carroll, Shoham, Cuthbert & Riddle. Clinical Psychol Science, 2014, 2, 22-34.

#### Stage Model: Stage I (Intervention Generation/Refinement)

Key Features & Goals

(1)Intervention standardization/Creation of intervention manual

(2) Development of new intervention

(3)Modification/Refinement/Adaptation of existing intervention to:

- Boost treatment effects
- Make more community-friendly
- Adapt for particular populations
- Develop or improve therapist training intervention

(4)Pilot testing of intervention

#### Focus on Mechanism of Action (applies to all Stages)

# Science of Behavior Change (SOBC) Experimental Medicine Approach



# The NIH Common Fund's Science of Behavior Change (SOBC) Program

<u>http://commonfund.nih.gov/behaviorchange/</u> <u>https://scienceofbehaviorchange.org/</u>

- Supports:
  - basic research to improve our understanding of the psychological & social *mechanisms* underlying behavior change across multiple diseases and conditions
  - translational research to use this knowledge to develop more effective and economical behavioral interventions



An Experimental Medicine Approach to Behavior Change seeks to answer the question:

"What are the processes/mechanisms that drive behavior change?"

Requires:

- -- Identifying targets (processes/mechanisms) that drive behavior change
- -- Experimental methods for engaging the target
- -- Valid measures of target engagement

### **Example: Mechanisms of Self-Regulation**



Delay Discounting is a way to quantify delay of gratification: choice of a larger delayed reward vs. smaller immediate reward indicates greater valuation of future



20

15

10 Delay (s)

5

The more you discount future rewards, the more impulsive you are



### Identifying Hypothesized Mechanisms

Implications for Intervention Development: Tests hypotheses for how an intervention causes behavior change





## Developing Tools: Measures and Manipulations

Implications for Measures Development: Ensure valid measurement of target engagement



#### Science of Behavior Change (SOBC) Approach

#### Key Features & Goals

#### Emphasis on

- Identifying the processes/mechanisms that drive behavior change & can serve as appropriate targets of behavior change interventions
- Identifying the most appropriate assessments and manipulations of targets in each of these domains for behavior change science

Provides a series of steps for identifying and validating treatment targets:

 (1) identify a set of *putative targets* within a psychological or behavioral domain that is implicated in health behavior;
 (2) leverage existing or developing new experimental or intervention approaches to *engage the targets*;
 (3) identify or develop *appropriate assays (measures)* to permit verification of target engagement; and
 (4) test the degree to which engaging the targets *produces a desired change in health behaviors*

Medical Research Council (MRC) Framework for the Development and Evaluation of Complex Interventions to Improve Health



The MRC Framework Key points



- Behavioral interventions to improve health are typically complex rather than uni-dimensional
- Yet few intervention development & evaluation frameworks acknowledge &/or incorporate complexity
- The MRC framework is intended to provide guidance for developing, evaluating & implementing "complex" behavioral interventions
- It does not describe in detail or prescribe specific study designs, methods or analyses to be used but rather *describes issues* & *questions to be addressed* across 4 stages of behavioral intervention development, evaluation & implementation
- It does provide a series of case studies that illustrate approaches that can be taken at each stage of the framework

#### **Box 2** What makes an intervention complex?

#### Some dimensions of complexity

- Number of and interactions between components within the experimental and control interventions
- Number and difficulty of behaviours required by those delivering or receiving the intervention
- Number of groups or organisational levels targeted by the intervention
- Number and variability of outcomes
- Degree of flexibility or tailoring of the inter vention permitted

Implications for development and evaluation

- A good theoretical understanding is needed of how the intervention causes change, so that weak links in the causal chain can be identified and str engthened
- Lack of impact may reflect implementation failure (or teething problems) rather than genuine ineffectiveness; a thorough process evaluation is needed to identify implementation pr oblems.
- Variability in individual level outcomes may reflect higher level processes; sample sizes may need to be larger to take account of the extra variability, and cluster- rather than individually-randomized designs considered.
- Identifying a single primary outcome may not make best use of the data; a range of measures will be needed, and unintended consequences picked up where possible.
- Ensuring strict fidelity to a protocol may be inappropriate; the intervention may work better if adaptation to local setting is allowed.

#### Craig et al., Developing & evaluating complex interventions: the new MRC guidance, 2008

#### Developing and evaluating complex interventions: the new Medical Research Council guidance

<u>Peter Craig</u>, programme manager,<sup>⊠1</sup> <u>Paul Dieppe</u>, professor,<sup>2</sup> <u>Sally Macintyre</u>, director,<sup>3</sup> <u>Susan Michie</u>, professor,<sup>4</sup> <u>Irwin</u> <u>Nazareth</u>, director,<sup>5</sup> and <u>Mark Petticrew</u>, professor<sup>6</sup>

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#### Developing an intervention

Questions to ask yourself include: Are you clear about what you are trying to do: what outcome you are aiming for, and how you will bring about change? Does your intervention have a coherent theoretical basis? Have you used this theory systematically to develop the intervention? Can you describe the intervention fully, so that it can be implemented properly for the purposes of your evaluation, and replicated by others? Does the existing evidence – ideally collated in a systematic review – suggest that it is likely to be effective or cost effective? Can it be implemented in a research setting, and is it likely to be widely implementable if the results are favourable?

If you are unclear about the answers to these questions, further development work is needed before you begin your evaluation. If you are evaluating a policy or a service change as it is being implemented, rather than carrying out an experimental intervention study, you still need to be clear about the rationale for the change and the likely size and type of effects, in order to design the evaluation appropriately.

#### Piloting and feasibility

Questions to ask yourself include: Have you done enough piloting and feasibility work to be confident that the intervention can be delivered as intended? Can you make safe assumptions about effect sizes and variability, and rates of recruitment and retention in the main evaluation study?

# The Behaviour Change Wheel & the The Capability Opportunity Motivation – Behaviour (COM-B) Model

# Problems with behaviour change interventions

- Poor definition of interventions
  - Limited ability to develop science/theory
  - Limited ability to generalise findings
- No understanding of mechanisms of change
  - If effective, unclear why it worked, can't replicate...
  - If ineffective, not sure why...

We need to:

- Build a taxonomy to define & standardize behaviour change techniques
- Articulate & test causal mechanisms of change



Susan Michie, Ph.D. UCL

## Need for a common language Biomedicine vs Behavioural Science



Which of these would you find easier to replicate?

Which of these could you explain to someone else?

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### Identifying Behaviour Change Techniques

#### Behaviour Change Technique (BCT)

"An observable, replicable, and irreducible component of an intervention designed to alter or redirect causal processes that regulate behaviour"

#### $\rightarrow$ Active ingredients of behaviour change interventions

(Abraham & Michie, 2008)

Provides a common standardized vocabulary to define behaviour change intervention components



OUR CHANGE

# BCT Taxonomy (2013)

ann. behav. med. (2013) 46:81-95 DOI 10.1007/s12160-013-9486-6

ORIGINAL ARTICLE

The Behavior Change Technique Taxonomy (v1) of 93 Hierarchically Clustered Techniques: Building an International Consensus for the Reporting of Behavior Change Interventions

Consensus study with experts

Susan Michie, DPhil, CPsychol • Michelle Richardson, PhD • Marie Johnston, PhD, CPsychol • Charles Abraham, DPhil, CPsychol • Jill Francis, PhD, CPsychol • Wendy Hardeman, PhD • Martin P. Eccles, MD • James Cane, PhD • Caroline E. Wood, PhD

Published online: 20 March 2013 © The Society of Behavioral Medicine 2013

> HEALTH BEHAVIOUR CHANGE RESEARCH GROUP

## Evidence-based Approach to Behaviour Change: The Behaviour Change Wheel



#### Key Aspects

Specify your target behaviour clearly Understand why behaviour is not currently happening Use evidence-based techniques to change behaviour

Michie, Atkins & West. The Behaviour Change Wheel: A Guide To Designing Interventions, 2014

### The Behaviour Change Wheel


## The Capability Opportunity Motivation – Behaviour (COM-B) Model



## The COM-B Model





#### Intervention functions



Broad categories through which an intervention can change behaviour



Intervention function	Definition
Education	Increasing knowledge or understanding
Persuasion	Using communication to induce a positive or negative feelings or stimulate action
Incentivisation	Create expectation of reward
Coercion	Create expectation of punishment or cost
Training	Imparting skills
Restriction	Using rules that limit engagement in the target behaviour or competing or supporting behaviour
Environmental restructuring	Changing the physical or social context
Modelling	Provide an example for people to aspire to or imitate
Enablement	Increasing means/reducing barriers to increase capability or opportunity

# Identify Behaviour Change Techniques linked to intervention functions

Environmental restructuring	Most frequently used BCTs: • Adding objects to the environment • Prompts/cues • Restructuring the physical environment
	<ul> <li>Less frequently used BCTs:</li> <li>Cue signalling reward</li> <li>Remove access to the reward</li> <li>Remove aversive stimulus</li> <li>Satiation</li> <li>Exposure</li> <li>Associative learning</li> <li>Reduce prompt/cue</li> <li>Restructuring the social environment</li> </ul>



# Key features of Behaviour Change Wheel & COM-B Model

- 1. Specify target behaviour precisely
- Use behavioural theory to *develop interventions* systematically
- 3. Describe mechanisms through which these work
- 4. Specify behaviour change techniques, linking these to theory
- 5. Improve reporting, *using standardised, shared terminology*
- 6. Facilitate combining evidence in systematic reviews to inform practice

## The ORBIT Model for for Developing Behavioral Treatments for Chronic Diseases



## Obesity Related Behavioral Intervention Trials (ORBIT) RFA program

 Objective: To translate findings from basic research on human behavior to develop more effective interventions to reduce obesity & improve obesity-related health behaviors

#### • Mechanism:

- Trans-NIH U01 (Cooperative agreement)
- Supported by NHLBI, NCI, NIDDK, NICHD, OBSSR
- 7 ORBIT research sites & 1 Resource & Coordination Unit (RCU)
- Each research center supports interdisciplinary project teams of basic and applied biological, clinical, behavioral and social scientists who are developing novel obesity-related interventions through formative & experimental research, early phase trials & pilot studies





Translating Ideas into Interventions: The Process of Developing Behavioral Interventions NIH-sponsored Workshop December 6-7, 2010

> What model or framework can we use to guide the behavioral intervention development process?

> Which study designs & methods are most appropriate for the development of behavioral interventions?

> How do we create environments that foster creativity & encourage the development of innovative behavioral interventions?





## The ORBIT Model for Behavioral Intervention Development



Czajkowski, Powell, Adler, Naar-King, Reynolds, Hunter, Laraia, et al., *Health Psychology*, 2015 Oct; 34(10): 971-982.



## The Revised ORBIT Model



Powell LM. Chapter 3: Behavioral Treatment Development. In LM Powell, KE Freedland & PG Kaufmann (Eds) *Behavioral Clinical Trials.* NY: Springer, 2020.



## The ORBIT Model



Czajkowski, Powell et al., *Health Psychology*, 2015; Powell, Freedland, Kaufmann, *Behavioral Clinical Trials*, Springer, 2020

## SIGNIFICANT CLINICAL QUESTION

Objective is to articulate a health need or clinical question requiring a solution "with the precision of a basic science hypothesis" (Coller, 2008)

Begin with a health issue that poses a significant problem:

- -- A disease that is increasing in numbers, severity, exclusively affects or is increasing in a subgroup
- -- A health problem for which no treatment exists, or treatment is not very effective (could be optimized)
- -- Requires a new approach to improve outcomes
- -- Involves a novel risk factor or new approach to treatment

## How can we identify the important *clinical* & *public health* questions that need to be answered?

- We can gain insights from clinicians in the field what are the problems they identify & prioritize?
- Public health officials, community leaders & members can identify issues of critical need in their communities
- Evidence reviews (e.g., Cochrane), guideline panel recommendations, NIH Workshop findings & recommendations – all can be sources of "clinically significant" questions that are unresolved or lack sufficient evidence
- The clinical questions we ask also need to take the patient's point of view into account what are the important questions to patients and their families?



## The ORBIT Model



Czajkowski, Powell et al., *Health Psychology*, 2015; Powell, Freedland, Kaufmann, *Behavioral Clinical Trials*, Springer, 2020

## What is basic behavioral science research?

- Seeks to answer the question: why do people behave as they do?
- Concerned with uncovering the fundamental principles and processes which govern how human beings:
  - perceive the environment
  - process information
  - make decisions
  - experience, express and regulate emotion
  - form and change attitudes, beliefs and values
  - become and remain motivated to change behavior
  - Interact with others & with their environments



## The ORBIT Model



Czajkowski, Powell et al., *Health Psychology*, 2015; Powell, Freedland, Kaufmann, *Behavioral Clinical Trials*, Springer, 2020

## Phases of Behavioral Treatment Development: ORBIT Model

## Phase I: Design

Phase Ia -- *Define* the scientific foundation & basic treatment elements

- Identify behavioral risk factor target & clinically significant milestones
- Providé basic behavioral & social science research basis for treatment components & targets
- Describe pathways through which treatment can affect outcomes
- Identify candidate intervention components

#### Study Designs & Methods:

- Systematic reviews to determine treatment targets & potential intervention elements
- Laboratory & field experiments to identify behavioral & biological mechanisms of action
- Observational studies to identify key intervention targets & points of "entry"
- Qualitative & mixed methods research to assess acceptability of proposed approach to end-users – "user-centered" research

## SOBC's experimental medicine approach + the ORBIT Model



Czajkowski, Powell et al., *Health Psychology*, 2015; Powell, Freedland, Kaufmann, *Behavioral Clinical Trials*, Springer, 2020

## Phases of Behavioral Treatment Development: ORBIT Model

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#### Identifying candidate intervention components: The Behaviour Change Wheel



### Phases of Behavioral Treatment Development: ORBIT Model

#### Phase I: Design

Phase Ib – *Refine* the intervention for strength & efficiency

- Identify essential treatment components
- Determine aspects of delivery (mode, frequency, duration, dose, intensity)
- Determine need for tailoring (e.g., for subgroups)

#### Study Designs & Methods:

- Small-N, case series &/or experimental studies that test effects of varying an intervention's content, timing, frequency, duration, intensity & mode of delivery; dose-finding studies
- Novel methods for developing, testing & refining behavioral interventions such as the Multiphase Optimization Strategy (MOST) & adaptive interventions (SMARTs)

## Fit Families SMART Design N=181



*Figure 2.* Sequential Multiple Assignment Randomization Trial (SMART) design and participant flow. 5 families were removed from the study by the research team and are not included in the numbers shown. MIS = Motivational interviewing and skills (Phase 1); HB-MIS = Home-based motivational interviewing and skills; OB-MIS = Office-based motivational interviewing and skills; RP = Relapse Prevention; CS = Continued Skills; CM = Contingency Management.



## The ORBIT Model



Czajkowski, Powell et al., *Health Psychology*, 2015; Powell, Freedland, Kaufmann, *Behavioral Clinical Trials*, Springer, 2020

### Phases of Behavioral Treatment Development: ORBIT Model

#### Phase II: Preliminary Testing

Phase IIa – *Proof-of-Concept Studies* to determine if the intervention can achieve a *clinically significant signal* on the relevant behavioral risk factor

• Typically non-randomized, no control group, small-N

Phase IIb – *Feasibility & Pilot Testing* to determine:

- whether the intervention is feasible & acceptable
- numbers available for screening & recruitment
- estimates of yield (screening to enrollment ratio), drop-out rate, crossovers, adherence to treatment

#### Phase IIc – *Phase II Efficacy Trial* to determine:

- whether the intervention has an effect on a behavioral or intermediate outcome of interest
- outcome is typically in the mechanistic pathway &/or related to the ultimate clinical or physical health outcome of interest

#### ORBIT Behavioral Intervention Development Model: Rationale & Key Features

#### Begin with the "end" in mind

- Emphasis on producing meaningful clinical &/or public health impact
- Process is guided by *"significant clinical questions"* from end users patients, providers

#### Progression from basic research to more clinical/applied stages

- Many behavioral interventions are "stuck" in pre-efficacy phases testing how to achieve small changes in behavior without moving to Phase III & IV RCTs with clinically important endpoints
- Pushes toward the efficacy trial & beyond
- Emphasizes the importance of developing a long-term, systematic program of intervention development, culminating in Phase III/IV trials

#### Each phase includes "clinically meaningful" milestones

- Need to specify a priori criteria for moving to next phase of the intervention development process
- Emphasis is on achieving "clinically significant" (not just statistically significant) change in behavioral targets

#### Flexibility in terms of:

- Number & types of studies within phases
- Duration of each phase
- Movement from one phase to the next (can "skip" a phase if necessary)

#### Flow is *bi-directional*

- Allows for "failure" & return to earlier phases as needed
- Encourages optimization of intervention before large-scale testing



# Intervention development frameworks: Which to choose?



### Behavioral Intervention Development Models: Common Elements

- Define a systematic intervention development process to link ideas, basic behavioral research findings & theory to clinical & public health applications
- Highlight importance of *identifying the processes/mechanisms* that drive behavior change & can serve as appropriate targets of behavior change interventions
- Bi-directional, iterative movement through phases return to earlier phases if needed, de-stigmatizes "failure"
- Emphasize importance of transdisciplinary & team science approaches
- Frameworks are complementary & can be integrated or used in combination -- e.g., ORBIT w/ SOBC experimental medicine approach + BCW/COM-B model

## Behavioral Intervention Development Models: Defining Features

#### Stage Model

- Mechanistic/basic behavioral research should be embedded in ALL stages
- Goal is interventions that can be implemented in clinical/public health settings

#### SOBC Experimental Medicine Approach

- Identification of underlying mechanisms as potential targets of intervention
- Development of assays/measures of target change/engagement
- Test ability of intervention to change mechanistic target & health-related behavior
- Terminology mirrors early phases of drug/device development

#### MRC Framework

- Focus on complex (multilevel, multicomponent) interventions & policy/systems level interventions
- Use of theory, systematic reviews, modelling & ensuring implementability

#### Behaviour Change Wheel & COM – B Model

- Importance of developing & utilizing a precisely defined & standardized set of behavior change techniques
- Importance of linking theory to BCTs in behavior change research

#### ORBIT Model

- Emphasis on achieving "clinically significant" not just statistically significant behavior change
- Flexible & iterative but progressive pushes forward toward efficacy trial
- Terminology mirrors drug development process (Phase I & II Clinical Trials)

Intervention development frameworks are like navigation systems.....





## or architectural plans....



.... They are a vehicle to help you achieve your goals



#### Funding Opportunity Announcements

<i>PAR-18-559: Cancer Prevention and Control Clinical Trials Grant Program (R01 Clinical Trial Required)</i>	PAR-19-309: Stimulating Innovations in Behavioral Intervention Research for Cancer Prevention and Control (R21 Clinical Trial Optional)
Supports "Phase O-IV clinical trials involving investigations in cancer prevention or controlincludes development and testing of interventions" for cancer-related risk behaviors such as: • tobacco use • energy balance • sun exposure • vaccine uptake • screening behavior • treatment adherence • environmental modifications and policy changes aimed at altering cancer-related health behaviors	To provide support for research aimed at "developing and evaluating novel strategies to improve cancer-related health behaviors" including: • Diet • Diet • Obesity • Smoking • Physical activity & sedentary behavior • Sleep & circadian dysfunction • Alcohol use • Adherence to cancer-related medical regimens Can be used to support "early-phase (basic-to-clinical) behavioral translation studies (e.g., Phase I or Phase II studies, as defined by the ORBIT model for behavioral
Can be used to support early-phase translational research at any stage of the ORBIT model	treatment development

### NEW NIH Funding Opportunity Announcement!

Notice of Special Interest (NOSI): Development and Preliminary Testing of Health-related Behavioral Interventions NOT-OD-20-106

*Purpose:* To highlight interest in the systematic development of novel health-related behavioral interventions that leverage new, emerging or understudied areas in basic behavioral and social sciences research (bBSSR).

#### Issued by:

Office of Behavioral and Social Sciences Research National Cancer Institute National Institute on Aging National Center for Complementary and Integrative Health National Institute of Arthritis and Musculoskeletal and Skin Diseases National Institute of Dental and Craniofacial Research National Institute on Drug Abuse National Institute of Mental Health National Institute of Nursing Research

## *The "Nuts and Bolts" of Behavioral Intervention Development: Study Designs, Methods and Funding Opportunities*

Presented by: Theories and Techniques of Behavior Change Interventions SIG

#### SBM 2019 Annual Meeting in Washington, D.C. PRE-CONFERENCE WORKSHOP Wednesday, March 6, 2019 8:30 a.m. – 2:15 p.m. Register before February 6 for early bird rate: www.sbm.org/meetings/2019

This seminar will provide investigators an opportunity to:

- (1) learn about the ORBIT model, a new framework for behavioral treatment development;
- (2) learn about appropriate study designs and methods for early-phase behavioral intervention research;
- (3) apply the ORBIT model and knowledge about relevant methodologies to their own behavioral treatment development projects;
- (4) identify early-phase translational research funding opportunities and develop grant applications to support intervention development research.

#### PRESENTERS

Susan Czajkowski, PhD, National Cancer Institute, NIH Lynda Powell, PhD, Rush University Medical Center Walter Dempsey, PhD, Harvard University Kenneth Freedland, PhD, Washington University at St. Louis Frank Perna, PhD, National Cancer Institute, NIH Ty Ridenour, PhD, RTI International Elizabeth K. Towner, PhD, Wayne State University



# Special Issue: From Ideas to Efficacy in Health Psychology

A special issue on early-phase translational research in health psychology and behavioral medicine

Editors: Leonard Epstein, Ph.D., Susan Czajkowski, Ph.D. & Kenneth Freedland, Ph.D.

Will highlight research that translates concepts or findings from basic behavioral and social sciences research and/or other relevant scientific disciplines into interventions to improve one or more health-related behavioral or psychosocial risk factors.

## ACCELERATING THE PATHWAY FROM IDEAS TO EFFICACY

Developing More Effective Interventions for Lifestyle Behaviors Related to Chronic Diseases



#### September 28 – 29, 2016

## ldeas⇔Interventions <u>https://i2ihub.org</u>

Building early-phase behavioral translational research capacity by:

•Creating and growing a community of scientists interested in early-phase translational research to share ideas, collaborate on projects, network & learn from each other

 Promoting institutional and structural changes to support early-phase behavioral intervention research

The goal: To establish a viable and *sustainable* "pipeline" for basic-to-clinical behavioral research





## Thank You! Questions?







