

CONSORTIUM • PBRN

# VA WOMEN'S HEALTH RESEARCH NETWORK

Supporting Practice and Research Collaboration

## **Spotlight on Women Cyberseminar Series**

Funded by the VA HSR&D (Project# SDR 10-012)



Using Implementation Science to Improve Women's Health  
in VA: Applying QUERI Frameworks and Approaches

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July 7, 2011

# Outline

➤ Part 1: Introduction: overview of implementation science

Part 2: Policy/practice foundations of implementation, implementation science

Part 3: Implementation science frameworks

Part 4: Implementation research resources and future directions

# Poll question: Audience Composition

1. Have you served as PI or key investigator for a VA implementation study?
  - Yes, and it was funded
  - Yes, but it was not funded
  - No

Increased investment and activity in implementation and implementation research are critical to achievement of key VA – and societal – goals in health and health care:

- ◎ Quality, outcomes: gaps in life expectancy, quality of life, gender/racial equity, use of effective care, prevention
- ◎ Cost: % of US GDP devoted to healthcare
- ◎ Obesity, substance abuse, etc.

# What is implementation research? A typical sequence

1. Development of new evidence, innovation
2. Initial efforts to promote implementation
3. Measurement of adoption and implementation (quality) gaps
4. Research to develop and evaluate *implementation (QI) programs* to increase implementation

# Innovation in medical treatment

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ORIGINAL CONTRIBUTION

JAMA-EXPRESS

## Effects of Controlled-Release Metoprolol on Total Mortality, Hospitalizations, and Well-being in Patients With Heart Failure

The Metoprolol CR/XL Randomized Intervention Trial in Congestive Heart Failure (MERIT-HF)

**Conclusions** In this study of patients with symptomatic heart failure, metoprolol CR/XL improved survival, reduced the need for hospitalizations due to worsening heart failure, improved NYHA functional class, and had beneficial effects on patient well-being.

*JAMA. 2000;283:1295-1302*

[www.jama.com](http://www.jama.com)

# Advocacy for adoption

**JAMA**<sup>®</sup>

The Journal of the American Medical Association

**Vol. 283 No. 10, March 8, 2000**

**Editorial**

## **$\beta$ -Blocker Therapy for Heart Failure**

**The Evidence Is In, Now the Work Begins**

Robert M. Califf, MD; Christopher M. O'Connor, MD

*JAMA.* 2000;283:1335-1337.



# Guidance for adoption

# Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION



**ACC/AHA 2005 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Update the 2001 Guidelines for the Evaluation and Management of Heart Failure): Developed in Collaboration With the American College of Chest Physicians and the International Society for Heart and Lung Transplantation: Endorsed by the Heart Rhythm Society**

Sharon Ann Hunt, William T. Abraham, Marshall H. Chin, Arthur M. Feldman, Gary S. Francis, Theodore G. Ganiats, Mariell Jessup, Marvin A. Konstam, Donna M. Mancini, Keith Michl, John A. Oates, Peter S. Rahko, Marc A. Silver, Lynne Warner Stevenson, Clyde W. Yancy, Elliott M. Antman, Sidney C. Smith, Jr, Cynthia D. Adams, Jeffrey L. Anderson, David P. Faxon, Valentin Fuster, Jonathan L. Halperin, Loren F. Hiratzka, Sharon Ann Hunt, Alice K. Jacobs, Rick Nishimura, Joseph P. Ornato, Richard L. Page and Barbara Riegel

*Circulation* 2005;112;e154-e235; originally published online Sep 13, 2005;

# Incentives for adoption

# Circulation

American Heart  
Association®   
*Learn and Live™*

**ACC/AHA Clinical Performance Measures for Adults With Chronic Heart Failure:  
A Report of the American College of Cardiology/American Heart Association Task  
Force on Performance Measures (Writing Committee to Develop Heart Failure  
Clinical Performance Measures): Endorsed by the Heart Failure Society of America**

Robert O. Bonow, Susan Bennett, Donald E. Casey, Jr, Theodore G. Ganiats, Mark A. Hlatky, Marvin A. Konstam, Costas T. Lambrew, Sharon-Lise T. Normand, Ilcana L. Pina, Martha J. Radford, Andrew L. Smith, Lynne Warner Stevenson, Robert O. Bonow, Susan J. Bennett, Gregory Burke, Kim A. Eagle, Harlan M. Krumholz, Costas T. Lambrew, Jane Linderbaum, Frederick A. Masoudi, Sharon-Lise T. Normand, James L. Ritchie, John S. Rumsfeld and John A. Spertus

*Circulation* 2005;112:1853-1887; originally published online Sep 13, 2005;

# Assessment of adoption rates (US 2002-03; UK 2005)

## Adherence to Heart Failure Quality-of-Care Indicators in US Hospitals

*Analysis of the ADHERE Registry Arch Intern Med. 2005;165:1469-1477*

*Gregg C. Fonarow, MD; Clyde W. Yancy, MD; J. Thomas Heywood, MD;  
for the ADHERE Scientific Advisory Committee, Study Group, and Investigators*

## **Trends and inequities in beta-blocker prescribing for heart failure**

*Sunil M Shah, Iain M Carey, Stephen DeWilde, Nicky Richards and Derek G Cook*

*British Journal of General Practice, December 2008*

# Trials of implementation programs

**Circulation**  
JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart  
Association®   
*Learn and Live...*

**Improving Guideline Adherence: A Randomized Trial Evaluating Strategies to  
Increase  $\beta$ -Blocker Use in Heart Failure**

Maria Ansari, Michael G. Shlipak, Paul A. Heidenreich, Denise Van Ostaeyen,  
Elizabeth C. Pohl, Warren S. Browner and Barry M. Massie

*Circulation* 2003;107;2799-2804; originally published online May 19, 2003;

# Trials of implementation programs

## Health Services and Outcomes Research

### **Clinical Reminders Attached to Echocardiography Reports of Patients With Reduced Left Ventricular Ejection Fraction Increase Use of $\beta$ -Blockers A Randomized Trial**

Paul A. Heidenreich, MD, MS; Parisa Gholami, MPH; Anju Sahay, PhD;  
Barry Massie, MD; Mary K. Goldstein, MD, MS

*Conclusions*—A reminder attached to the echocardiography report increased the use of  $\beta$ -blockers in patients with depressed left ventricular systolic function. (*Circulation*. 2007;115:2829-2834.)

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Part 1: Introduction: overview of implementation science

➤ Part 2: Policy/practice foundations of implementation, implementation science

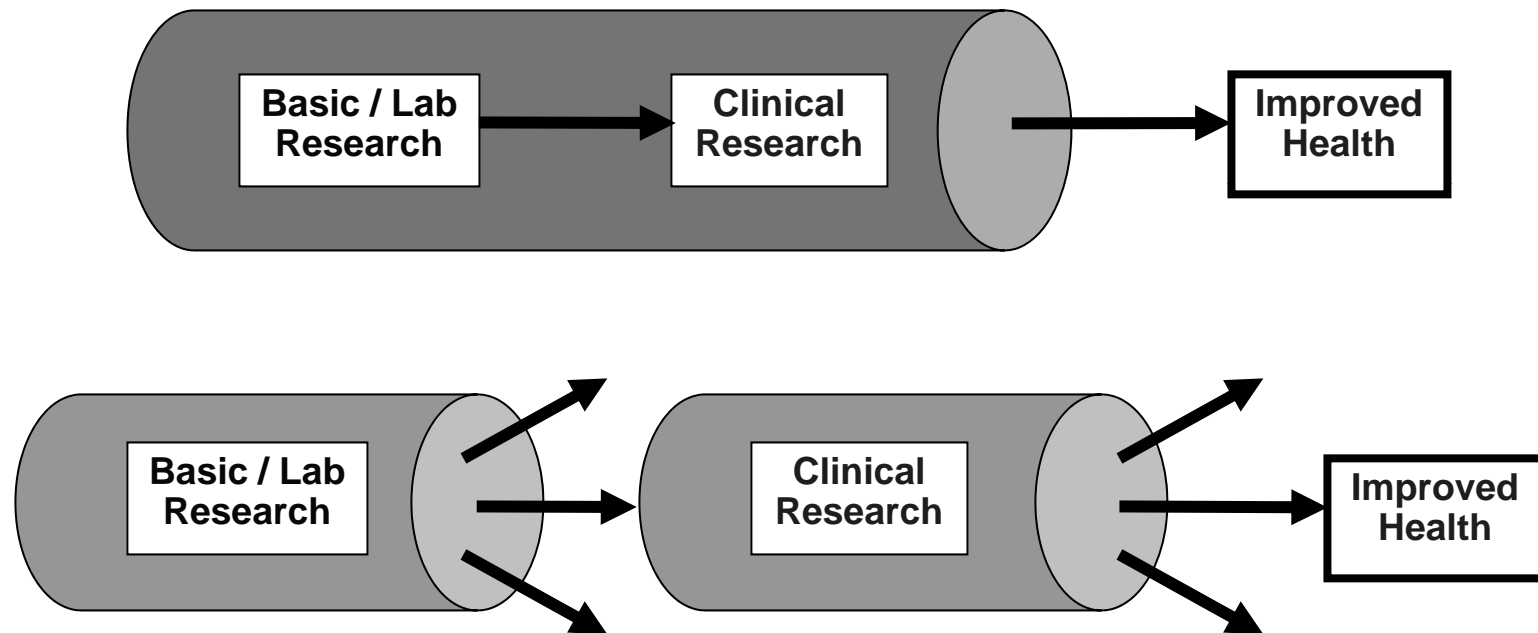
Part 3: Implementation science frameworks

Part 4: Implementation research resources and future directions

# Policy/practice foundations of implementation, implementation research

1. The implementation gap
2. The quality chasm

# The implementation gap *(second translational roadblock)*





# The Implementation Gap:

## A component of the *Clinical Research Crisis*

- AAMC Clinical Research Summit: *Clinical Research: A National Call to Action* (Nov 1999)
- IoM Clinical Research Roundtable (2000-2004)

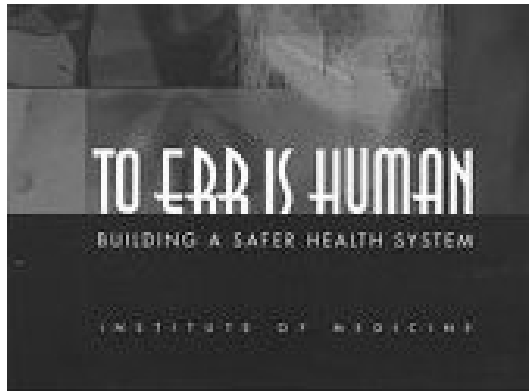
**Central Challenges Facing the National  
Clinical Research Enterprise** *JAMA. 2003;289:1278-1287*

**Clinical Research in the United States  
at a Crossroads**

Proposal for a Novel Public-Private Partnership to Establish  
a National Clinical Research Enterprise *JAMA. 2004;291:1120-1126*

# The “Quality Chasm” in US healthcare delivery

- Institute of Medicine (1999, 2001)



- US and international quality measurement studies

## The Quality of Health Care Delivered to Adults in the United States

Elizabeth A. McGlynn, Ph.D., Steven M. Asch, M.D., M.P.H., John Adams, Ph.D.,  
Joan Keeseey, B.A., Jennifer Hicks, M.P.H., Ph.D., Alison DeCristofaro, M.P.H.,  
and Eve A. Kerr, M.D., M.P.H. *N Engl J Med* 2003;348:2635-45.

# Quality comparisons: VA vs. other US

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*Ann Intern Med.* 2004;141:938-945.

IMPROVING PATIENT CARE

## **Comparison of Quality of Care for Patients in the Veterans Health Administration and Patients in a National Sample**

Steven M. Asch, MD, MPH; Elizabeth A. McGlynn, PhD; Mary M. Hogan, PhD; Rodney A. Hayward, MD; Paul Shekelle, MD, MPH; Lisa Rubenstein, MD; Joan Keesey, BA; John Adams, PhD; and Eve A. Kerr, MD, MPH

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*Ann Intern Med.* 2004;141:272-281.

IMPROVING PATIENT CARE

## **Diabetes Care Quality in the Veterans Affairs Health Care System and Commercial Managed Care: The TRIAD Study**

Eve A. Kerr, MD, MPH; Robert B. Gerzoff, MS; Sarah L. Krein, PhD, RN; Joseph V. Selby, MD, MPH; John D. Piette, PhD; J. David Curb, MD, MPH; William H. Herman, MD, MPH; David G. Marrero, PhD; K.M. Venkat Narayan, MD, MSc, MBA; Monika M. Safford, MD; Theodore Thompson, MS; and Carol M. Mangione, MD, MSPH

# Gaps and shortcomings in the *typical sequence* *Enhancing implementation and the value and effectiveness of implementation research*

Changes are needed in each phase of activity:

1. Development of new evidence, innovation
2. Efforts to promote adoption
3. Measurement of adherence, adoption
4. Studies evaluating strategies to increase adoption

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# Implementation research definition

Implementation research is the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services.

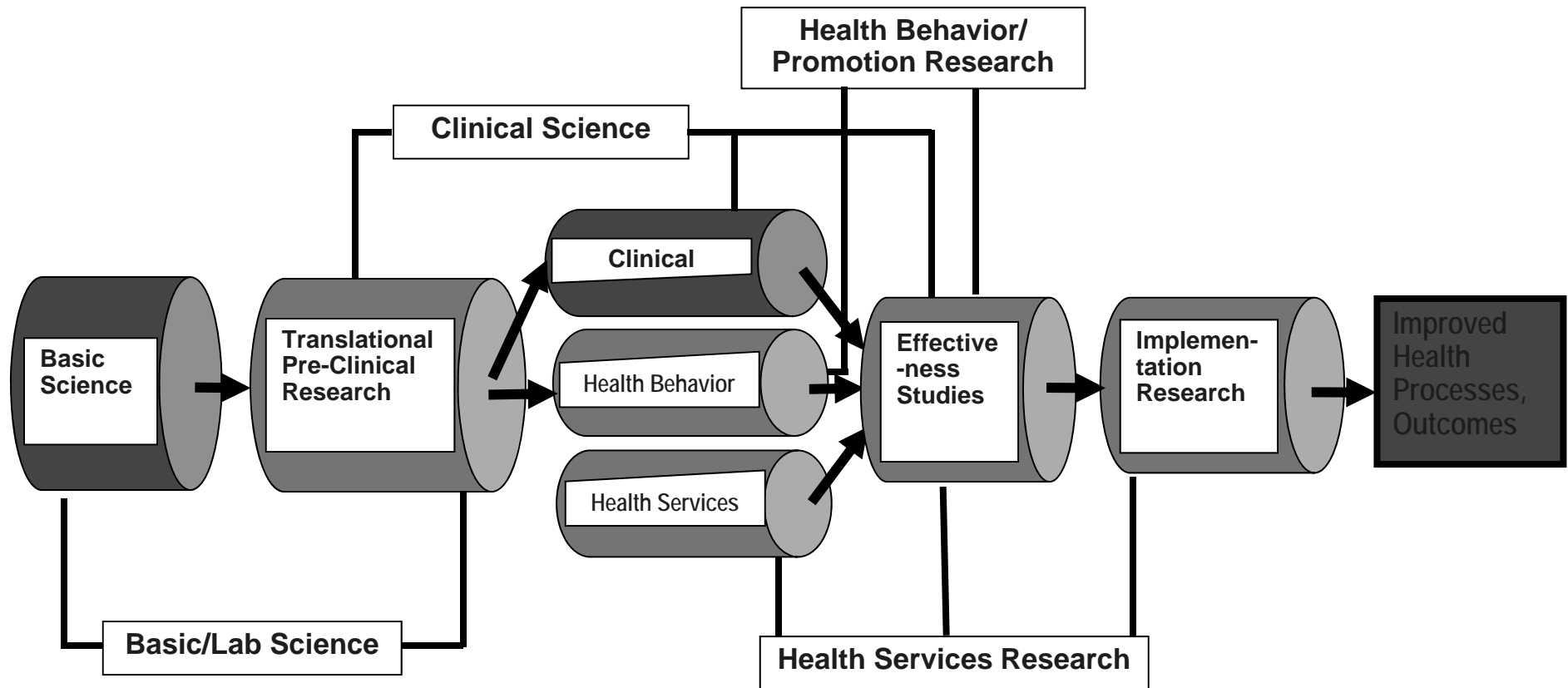
It includes the study of influences on healthcare professional and organizational behavior.

Eccles and Mittman, 2006

# Implementation research goals

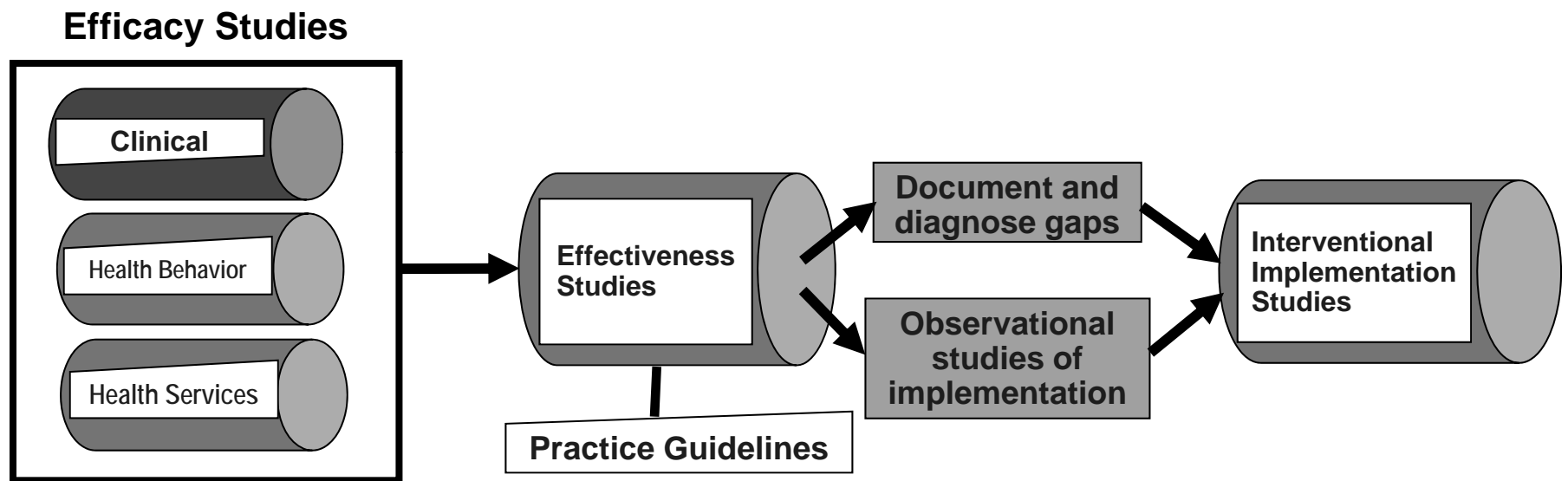
1. Develop reliable strategies for improving health-related processes and outcomes; facilitate widespread adoption of these strategies
2. Produce insights and generalizable knowledge regarding implementation *processes, barriers, facilitators, strategies*
3. Develop, test and refine implementation theories and hypotheses; methods and measures

# Refined research-implementation pipeline: *Implementation research and clinical research*

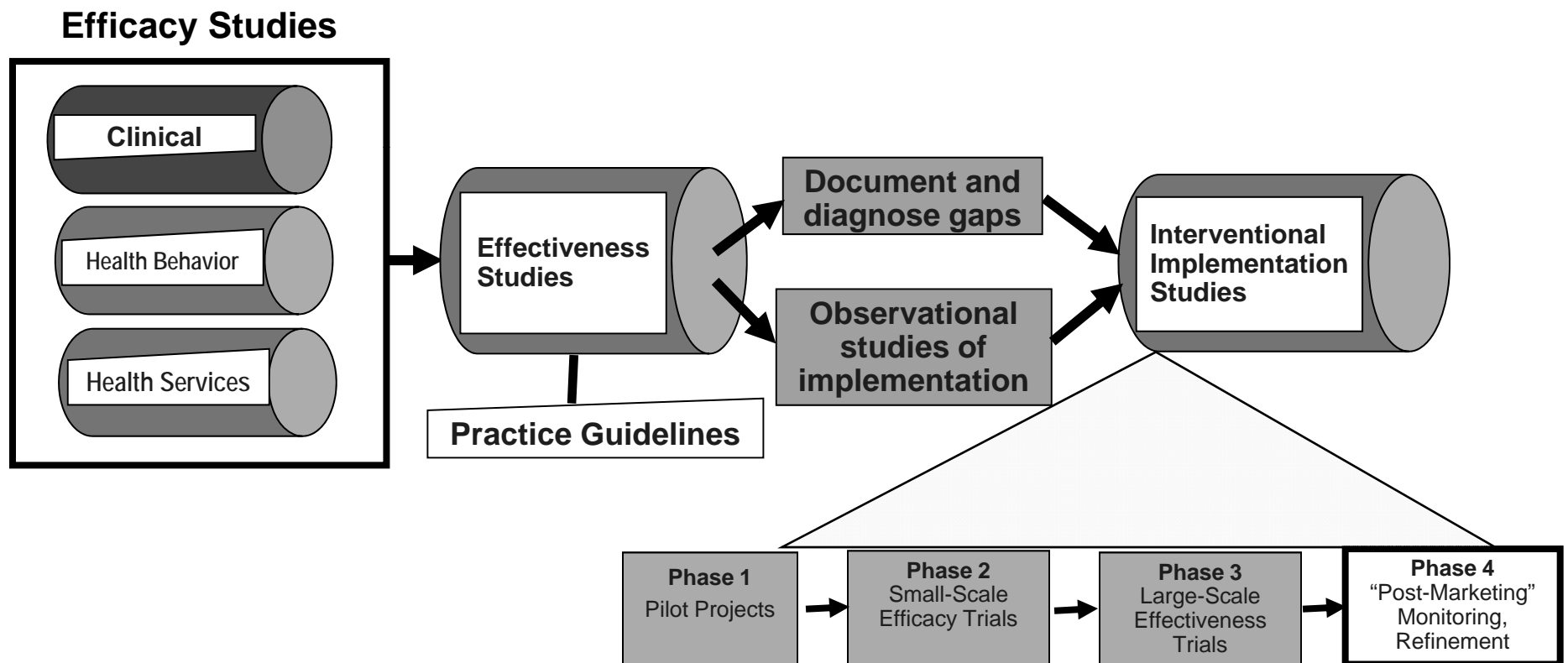




# Gaps in the research-implementation pipeline: Pre-implementation studies



# Gaps in the research-implementation pipeline: Phased implementation trials



# Features of implementation phenomena, trials

- Heterogeneity of settings, interventions, effects
- Context dependence, weak main effects
- Process and mechanism (vs. outcome/impact) focus
- Protocol-driven intervention adaptation
- External validity vs. internal validity
- Representative sampling paradox
- Sustainability, scale-up/spread potential, economic evaluation

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# National, international resources

- NIH Conference on the Science of Dissemination and Implementation (2007, 2009, 2010, 2011)
- NIH PARs
- NIH- and AHRQ-funded training programs
- Journals: *Implementation Science*, *Translational Behavioral Medicine*, special issues of general and specialty journals
- CTSA (selected)
- PBRNs
- VA QUERI
- Knowledge Translation Canada, other CIHR programs

# Local resources

## Health Sciences:

- Community Health, Health Behavior
- Health Services, Management
- GIM, Family/Prev Medicine , Subspec
- Nursing, Dentistry, Allied

## Main Campus:

- Psychology, Sociology, Anthropology, Political Science, Economics
- Management, Education, Public Policy

# Critical resources

- Practice-based research network or alternative lab
- Social/behavioral science expertise
- Management, leadership skills, training, aptitude
- Local, regional and national policy/practice engagement
- Academic recognition

# New opportunities

- AAMC implementation science initiative
- Standing study section at NIH; ongoing and new PARs
- Evolution of CSTAs and “type 2 translation” focus
- Comparative Effectiveness Research, Patient-Centered Outcomes Research Institute (PCORI):  
CER studies of prevention, “delivery system interventions”



# New directions

- Social/behavioral science theory: identify, refine, guide use of existing theory (*and develop new theory?*)
- Increased study of natural experiments, processes
- Challenges of evaluating “complex social interventions”: implications for expt’l, obsv’l research approaches
- Methods for synthesizing diverse, complex evidence
- Partnership research: bridging science and practice goals, balancing internal vs. external validity