

**IMPROVEMENT SCIENCE
RESEARCH NETWORK**
improving patient outcomes

Addressing the Improvement Research Priorities

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Academic Center for Evidence-Based Practice
Improvement Science Research Network (ISRN)

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ISRN STAR-2 Network Study Site PI

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About our Web Seminar

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- Log in to the member center to access the Archived Presentation (Will be available by the end of the week)

This seminar is supported in part by a grant from the Dean's Scholarly Project Award Program: Scholarship of Teaching Award from the University of Texas Health Science Center San Antonio School of Nursing.

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Submitting Questions

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- How: Sending a written question through the Chat window

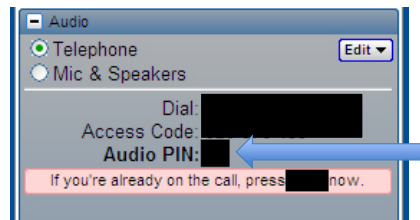
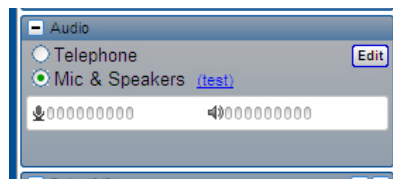


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Presenters



Kathleen R. Stevens, RN, EdD, ANEF, FAAN
Professor and Director
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May 23, 2012



How Do We Know if an Improvement Strategy Works?

What work factors prevent medication errors? **Orange vests**



What impact does improved team performance have on patient safety?

TeamSTEPPS training

Gaps in Improvement Science

- Capacity
- Teams
- Infrastructure
- Research Methods

Improving our work... *is our work.*

Cathy Rick
Chief Nursing Services Officer
Veterans Health Administration
ISRN Steering Council

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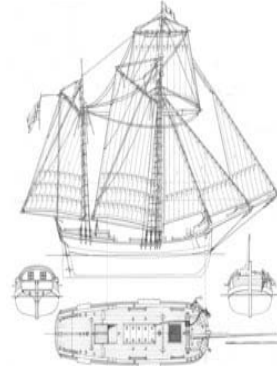


Improvement Science Research Network

Aim –

- Accelerate development and dissemination of improvement science in systems and microsystems contexts
- Provide a large-scale network as a test bed for improvement studies

a tall ship...



Mission

ISRN mission is to

- increase the scientific foundation of healthcare quality improvement, safety, and efficiency
- through transdisciplinary research focused on
- healthcare systems, patient-centeredness, and integration of evidence into practice.



Progress of the ISRN

- Developed Stakeholder-based Research Priorities
- Established the ISRN Steering Council
 - 14 nationally acclaimed experts
 - Monthly advisory meetings since December 2009
- Completed building our cyber-infrastructure
- Initiated vibrant communication & community engagement venues
- Engaged 200+ member affiliates- test bed
- Convened research methods conferences July 2010; June 2011 (AHRQ-R13 funded); July 2012
- Launched three multi-site Network Studies—“the test flight”



Research Strategies

...and a star to steer her by

- MATCH
 - Research priorities
- RIGOR
 - Rigorous research studies
- RELEVANCE
 - Partners engage in improvement studies
- LANDMARK
 - Multi-site *landmark* studies
- VIRTUAL
 - Collaboration through a cyber infrastructure
- SYNERGY
 - Shared capacity



Project Strategies

...and a star to steer her by

- Research Priorities



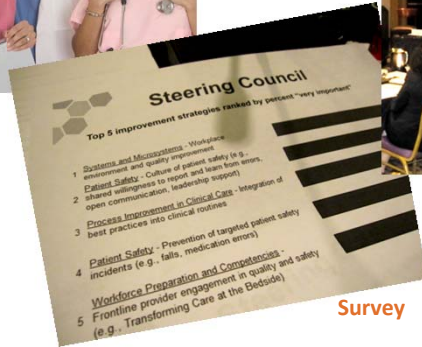
Research Priorities in Improvement Science: setting the national agenda



Stakeholders



RAND Delphi



Survey

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Research Priorities ISRN, July 2010

- First known globally
- Directs limited resources
- Meets crucial needs
- Guides selection of ISRN Network Studies

See www.ISRN.net

Research Priorities Unveiled

To help focus and spread the work of identifying and setting the most effective health-care strategies, the ISRN Steering Council selected a set of research priorities, which were unveiled at the Summit for priorities below. They were drawn from conventional science, literature reviews, major health care organizations' priorities, and a survey sent to 2,777 individuals. The research priorities are:

Care Coordination and Transitions of Care

This category emphasizes strategies for improving care processes in specific clinical conditions, to ensure good care coordination and transitions of care.

Priority Topics: Evaluate strategies and methods to ensure coordination and continuity of care across transitions in given clinical populations; use and refine methods of health and other strategies to ensure safe, effective, and efficient transitions in given clinical populations.

Examples of Improvement Strategies and Research Issues: Interprofessional team performance, medication reconciliation, discharge for prevention of early readmission, patient-centered care, and measurement of targeted outcomes.

High-Performing Clinical Systems and Microsystem Approaches to Improvement

This category emphasizes structure and process in clinical care and health care as complex adaptive systems.

Priority Topics: Determine effectiveness and efficiency of current methods and models for integrating and sustaining best practices in improving care processes and patient outcomes; investigate strategies to engage frontline providers in improving quality and patient safety; evaluate strategies for promoting targeted patient safety incidents; establish reliable quality indicators to measure the impact of improvement and testing during the impact on outcomes.

Examples of Improvement Strategies and Research Issues: Frontline provider engagement, workflow quality, factors related to uptake, adoption, and implementation; sustaining improvement and improvement processes; evidence-practice partnership; and information systems.

For more information, visit www.isrn.net and select "Research Priorities" from menu on the left.

RESEARCH PRIORITIES
October 2010 | www.isrn.net

areas to reflect consensus on the most important and urgent gaps in improvement knowledge, according to clinical and academic scholars, leaders, and change agents in health care settings. The priorities will inform decisions about the scope and dissemination of future work, but the ISRN will also respond to emerging needs and consider the merits of projects with other worthwhile goals.

Evidence-Based Quality Improvement and Best Practices

This category emphasizes closing the gap between knowledge and practice through transforming knowledge and designing and implementing best practices.

Priority Topics: Evaluate strategies and impact of implementing evidence-based practice in clinical care; all process and outcomes improvement; determine gaps and bridge gaps between knowledge and practice; produce evidence for practice through conducting systematic reviews, developing practice guidelines, and integrating process into clinical development; and develop new research methods in evidence-based quality improvement, including comparative effectiveness research and practice-based evidence.

Examples of Improvement Strategies and Research Issues: Development and appraisal of clinical practice guidelines; adoption and spread of best practices; customization of best practices; institutional climates in adoption; identifying best practice in absence of evidence; dissemination of evidence-based practice; and technology-based change agents.

Learning Organizations and Culture of Quality and Safety

This category emphasizes human factors and other aspects of systems related to organizational culture and commitment to quality and safety.

Priority Topics: Investigate strategies for creating organizational environments, processes that improve culture, fully linked to measuring quality and patient safety in line approaches to developing organizational climate for change, innovation, and organizational learning.

Examples of Improvement Strategies and Research Issues: Professional practice environments, promoting services, patient-centered models, leadership to build culture for culture of patient safety and organizational design (e.g., work flow, order fulfillment).

Improvement Research Priorities

- A. Coordination and Transitions of Care
- B. High Performing Clinical Systems and Microsystems Approaches to Improvement
- C. Evidence-Based Quality Improvement and Best Practice
- D. Learning Organizations and Culture of Quality and Safety



Definition

Collaboratory

Center without walls in which scientists—clinicians and academicians—can work together regardless of physical location.

Features:

- Spans distance
- Supports rich human interaction
- Oriented to a common research area
- Access to data sources and tools

Olson, Zimmerman, & Bos, 2008

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Why a Collaboratory for Improvement Science

- Complex scientific problems—beyond the realm of single discipline or single scientist
- Collaboration increases quality of research
- Information and Communication Technologies—now cost-effective and reliable

www.ISRN.net

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Home

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What is the Improvement Science Research Network?

The Improvement Science Research Network is the only National Institutes of Health-supported improvement research network. Our primary mission is to accelerate interprofessional improvement science in a systems context across multiple hospital sites. [More...](#)

Spotlight

Dr. Kathleen Stevens, ISRN Principal Investigator, was awarded a \$3 million grant from the National Institute for Nursing Research. The grant will support the creation of the first national research network to focus on the collaborative design, testing and dissemination of quality initiatives related to improving bedside care. [More...](#)

ISRN Newsletter

Upcoming Events

Web Event
Team Science: Creating Successful Collaborative Teams

Date: May 25, 2011
Time: 2:00 PM, EDT

2nd ANNUAL
Improvement Science Summit 2011

Date: June 28-29, 2011
Location: The Hyatt Regency Riverwalk Hotel in San Antonio, TX

[Call for abstracts](#)

10th ANNUAL
Summer Institute on Evidence Based

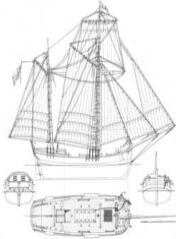
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Priorities

First mates



Associates

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Retreat June 2011

**Core Business=
Conducting Research**

2014 Strategic Vision

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NETWORK STUDIES
Addressing the ISRN Priorities

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Small Troubles, Adaptive Responses (STAR-2): Frontline Nurse Engagement in Quality Improvement



"Early on, the pocket card study put frontline nurses in the central position to identify problems and jump start—or even drive—needed change. We hope that if nurses make changes to address small problems rather than leaving them in place, we can improve the quality and safety of care."

ROBERT FERRER, MD, MPH, PROFESSOR,
FAMILY AND COMMUNITY MEDICINE, UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO

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Small Troubles, Adaptive Responses (STAR-2): Frontline Nurse Engagement in Quality Improvement

NETWORK INVESTIGATIVE TEAM
Kathleen R. Stevens, EdD, RN, ANEF, FAAN
Robert L. Ferrer, MD, MPH

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WEB SEMINARS-build capacity for studies

Featured Research: Addressing Systems Problems

Anita Tucker, DBA, Associate Professor, Harvard Business School, specializes in understanding the varied responses of frontline providers of frontline health-care. She has spent 7 months of their day doing work arounds, finding them to say that: "This response to a problem in general can do but didn't have time for," says Tucker.

Manager mistakes may help problems to plan, says Tucker. "When the manager says 'I've got to go,' managers need to hear about problems that employees can't solve themselves. For example, if nurses are not getting medications in the form they need, that's a problem that the pharmacy will know about if the nurse just work around the problem. On the other hand, Tucker says that in some ways,

"Go to the unit that wants to work on the problem and give them resources and time."

Anita L. Tucker, DBA, Associate Professor, Harvard Business School

Frontline providers can derive satisfaction and a sense of competence from their ability to work around problems that come up in a day's work, says Tucker. Frontline providers can derive satisfaction and a sense of competence from their ability to work around problems that come up in a day's work, says Tucker.

Tucker offers insights into system improvement. Currently, she is studying the effect of system performance. She says, there is a tendency for each department to be successful and successful in its own right. Although it is an easy system, it doesn't work as a whole system. It doesn't really work when you have system interdependencies.

Tucker argues that engaging frontline providers can be a critical "Go to the unit that wants to work on the problem and give them resources and time. How people practice improvement, create a culture and mind-set that says, 'We know how to make change in part of the daily work rather than something done on top of all the other work.'"

In an innovation context, Tucker says, because it can be done, it can be done. Tucker says, because it can be done, it can be done. Tucker says, because it can be done, it can be done.

Tucker says, because it can be done, it can be done. Tucker says, because it can be done, it can be done.



ANITA L. TUCKER, DBA, ASSOCIATE PROFESSOR, HARVARD BUSINESS SCHOOL

Research Resources: Systems Change

To learn more about Anita Tucker's research, contact the following references:

Tucker, Anita L., and Amy C. Edmonstone. 2004. Why hospitals don't learn from failures: Organizational and psychological dynamics that inhibit system change. *California Management Review* 47 (2): 1-12.

Tucker, Anita L. 2004. The impact of operational failures on hospital nurses and their patients. *Journal of Operations Management* 22 (2): 151-60.

Tucker, Anita L., Sara J. Singer, Jennifer C. Hayes, and Alison J. Walsh. 2008. From the staff perspectives on opportunities for improving the safety and efficiency of hospital work systems. *Health Services Research* 43 (2): 1027-29.

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Research Problem

In frontline nursing, **workarounds** are a response to **first order operational failures** exposing patients to errors and creating inefficiencies in care.

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Example: Missed Learning Opportunities

“We never told the pharmacy when we got a dose of medicine that was more than we requested. We just squirted out the extra because we figured they were busy, they had not intended to make the mistake, and they wouldn’t do anything about it anyway.”-
Nurse Hosp #8

Tucker, 2008

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Example: Missed Learning Opportunities

“...It was sad really because we weren’t letting them have the information so they could fix their own problems.”
– Nurse Hosp #8

Tucker, 2008

What We Know

- Failures occur about one per hour per nurse on hospital units and 95% of problems are managed through workarounds. (Observational, Tucker)
- Detection of first order operational failures provides opportunities to fix problems and contributes to organizational learning.

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Operational Failures

1. Detect



2. Intervene






POCKET CARD STUDY




See the back for examples/definitions

DETECTION

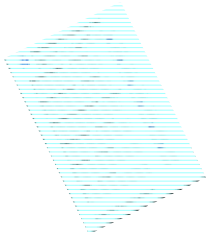




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POCKET CARD STUDY



Research Questions:

1. What first-order operational failures do nurses self-detect?
2. Do self-detected first-order operational failures correlate with observed failures?
3. What factors are correlated with self-detection?

NEXT: Design intervention



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SUMMIT STAR-2 Network Study Invitation



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**From the STAR-2 Research Collaborative
Partners Speak.....**

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**Addressing the Research
Priorities for Improvement
Science**

Eileen P. Engh, MSN, RN-BC, CPN
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Our STAR-2 Engagement Story



 **Children's National**
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Casting On:



- Meeting Dr. Stevens and Discovering the Improvement Science Research Network
- Becoming a Research Associate Member
- Making the Case to include Pediatrics
- Announcement of the STAR-2 Study
- Preparing a Letter of Intent



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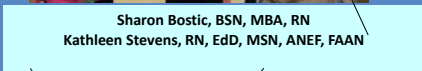
STAR-2 Study Team



Raven Wiggins, BSN, RN
Catherine Williams, MS, RN



Christine Harris, BSN, RN, CPN
Catherine Williams, MS, RN



Sharon Bostic, BSN, MBA, RN
Kathleen Stevens, RN, EdD, MSN, ANEF, FAAN

Also Co-Investigators

Pam Hinds, PhD, RN, FAAN
Debbie Freiburg, MS, RN



Amy Burke, BSN, RN-BC, CPN
DeDe Colevas, MSN, RN



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The Synergy of Collaboration:



- The Practicality of Generating New Knowledge
- How to Use New Knowledge
- The Outcomes of Using New Knowledge
- What it Takes to Conduct a Study



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Practical Benefits

- Rigorous Research Plan
- The Protocol Implementation Tool Kit
- Webinars
- Telephone Consultation
- Expert Guidance
- Collaboratory Progress Meetings
- Technical Protocol Implementation Guidance



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Local Knowledge



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What it Takes:



Javan Ngai, BSN, RN
Staff Nurse, Neuroscience Unit



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Taking Full Advantage To Host



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Questions and Comments



Kathleen R. Stevens, RN, EdD, ANEF, FAAN
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Improvement Science Research Network



Eileen P. Engh, MSN, RN-BC, CPN
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LAUNCHPAD FOR NEW NETWORK STUDIES
*Improvement Science Summit
Research Methods Conference
July 17-18, 2012
San Antonio, TX*

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Next ISRN Web Seminar



Transitions in Care

June 27, 2012
1:00 PM CST

Visit www.ISRN.net to register.

Mary D. Naylor, PhD, FAAN, RN
Marian S. Ware Professor in Gerontology
Director of the New Courtland Center for Transitions and Health
University of Pennsylvania School of Nursing

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 **IMPROVEMENT SCIENCE RESEARCH NETWORK**
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Closing Remarks

- ISRN Mission
 - To enhance the scientific foundation for quality improvement, safety, and efficiency through transdisciplinary research addressing healthcare delivery, patient-centeredness, and integration of evidence into practice.

- For information on the ISRN or to become a member please visit our website:
www.ImprovementScienceResearch.net

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 The logo for the Improvement Science Research Network, featuring a stylized star icon composed of blue and orange geometric shapes. To the right of the icon, the text reads "IMPROVEMENT SCIENCE RESEARCH NETWORK" in a bold, sans-serif font, with the tagline "improving patient outcomes" in a smaller, italicized font below it.

Addressing the Improvement Research Priorities

<p>KATHLEEN R. STEVENS, RN, EdD, FAAN Professor and Director Academic Center for Evidence-Based Practice Improvement Science Research Network (ISRN)</p>	<p>EILEEN P. ENGH, MSN, RN-BC, CPN Manager of Nursing Research and Development Programs, Department of Nursing Research & Quality Outcomes Children's National Medical Center Washington D.C. ISRN STAR-2 Network Study Site PI</p>
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 The logo for the University of Texas Health Science Center, featuring a stylized star icon composed of blue and orange geometric shapes. To the right of the icon, the text reads "UT HEALTH SCIENCE CENTER" in a bold, sans-serif font, with "SCHOOL OF NURSING" above it and "ACCE - ACADEMIC CENTER FOR EVIDENCE-BASED PRACTICE" below it.