



IMPROVEMENT SCIENCE

RESEARCH NETWORK . . . *improving patient outcomes*

The Way Forward

Jack Needleman, PhD, FAAN

Kathleen R. Stevens, EdD, RN, ANEF, FAAN

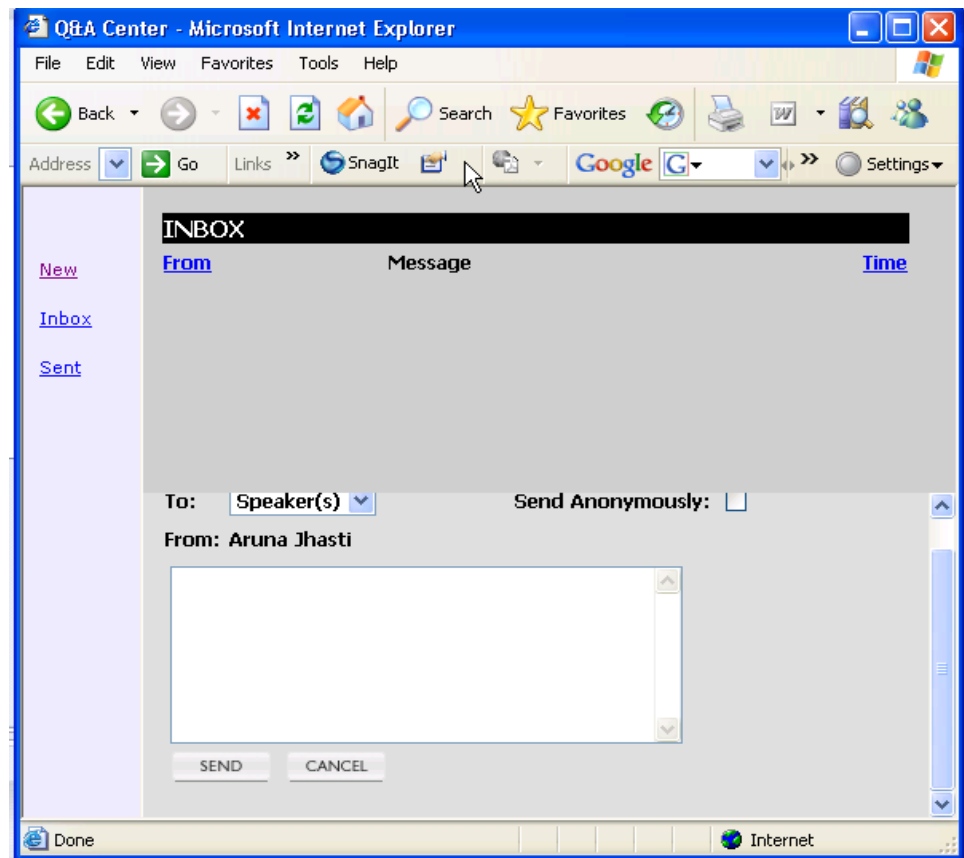


About our Web Event

- For help, notify the Vcall team through the Q&A window
- To refresh your screen, hit F5
- Visit www.isrn.net for a transcript and slides of this webinar .

Submitting Questions

- When: Anytime during the presentations
- How: Send a written question through the “Q&A Center.”





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The Need for Improvement

- We've seen the reports
 - To Err is Human
 - Crossing the Quality Chasm
 - McGlynn, et al., "The quality of health care delivered to adults in the United States," NEJM, 2003
- We've heard the campaigns
 - Institute for Healthcare Improvement (IHI) 100,000 Lives
 - IHI 5 Million Lives
 - CMS National Quality Improvement Organizations

So why is it...

- 150 years after Semmelweis, we still have trouble getting clinicians to wash their hands
- We still have central line infections when we know how to prevent them
- Patients bounce back to the hospital because they were not adequately prepared for discharge

What keeps our organizations from routinely performing at a high level

- Challenge of identifying the need for improvement
 - Three stages of quality denial
- Creating a learning & innovating organization
 - Implementing and sustaining change
 - Fractured rather than integrated vision
 - From assessing culture to changing culture and then to institutionalizing improvement processes
- Finding and tailoring best practices
 - Creating better practices

What do we need to make progress

Knowledge of:

- what works
- how to implement and sustain what works by tailoring and integrating into practice
- how to build organizational commitment to improvement
- how to build organizational capacity for improvement

Terminology

Translational Science

Research Utilization

EFFECTIVENESS

Implementation science

Evidence-based practice

Knowledge translation

Health care delivery science

Improvement Science

DEFINITION

- Research focused on healthcare improvement (QI, safety)
- Determines improvement strategies that work
- Research that evaluates improvement strategies in healthcare, systems, and safety

Implementation science

“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 organisational behaviour**.”

- Eccles and Mittman, *Implementation Science* 2006, 1:1

Need for Improvement Science

- Patient safety/quality improvement are clearly-stated national priorities
- Improvement science still nascent, particularly in multidisciplinary care processes within the hospital setting
- Small tests of improvement strategies are insufficient
- Discovering 'what works' in improvement strategies requires rigorous evaluation approaches = improvement science

Key components

- Moving from tacit knowledge to explicit knowledge
- Focus on both organizational context and processes of care
- Capacity to systematically access what is known about care delivery
 - Capacity to invent and test

Key components, cont.

- Capacity to implement, integrate and sustain change
- Build organizational commitment to improvement
 - Learning organization, reflective organization
 - From culture to institutionalized processes



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*and all I ask is a tall ship and
a star to steer her by*

--John Masefield

Kathleen R. Stevens, EdD, RN, ANEF, FAAN



New infrastructure models

CTSA's

Clinical Translational Science Awards

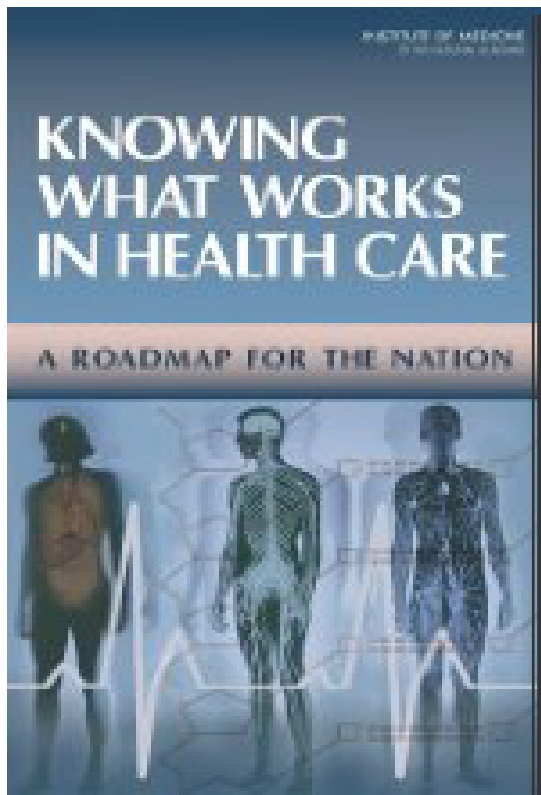
Practice Based Research Networks

Academic-Practice Partnerships

The Perfect Storm

Knowing What Works...Innovation...Innovations Exchange

Knowing What Works in Health Care: A Roadmap for the Nation (IOM, 2008)



- Central link between research and clinical decision: Systematic Reviews
- Best Practice: EB Clinical Practice Guidelines
- Both must be resource-wise and rigorous
- *Shouldn't we hold improvement strategies to the same standards?*



**Innovation is the
one competence
needed in the future**

--Peter Drucker

AKA...Innovation is requisite



**If we continue to do
what we've always done,
we will get the results we
have always gotten.**

--Plsek 2007



P Innovation Profile:

Real-Time, Resident-Specific Medication Information and Alerts, Supported by Medication Safety Teams, Enhance Efficiency and Reduce Medication Errors in Nursing Homes

Snapshot

Summary

As part of a research study, five nursing homes implemented an electronic medication administration record system that provides real-time, resident-specific medication management information and alerts for those administering medications. The nursing homes also established multidisciplinary medication safety teams to maximize the impact of the new system. The program enhanced the efficiency of medication administration and reduced medication errors significantly.

Evidence Rating (What is this?)

Moderate: The evidence consists of comparisons of key metrics at baseline and at 3, 6, and 9 months after implementation. Data are based on onsite observations of medication administration across multiple shifts and units at all five participating nursing homes.

BEST PRACTICE

Evidence Rating

How Do We Know An Improvement Works?

“Pockets of innovations for excellence exist”
...not well-tested or widely-tested

EXAMPLES

- What organizational characteristics promote adoption of effective programs that prevent medication errors?
- What impact does improved team performance have on patient safety?

Nature of the Grant - “GO”

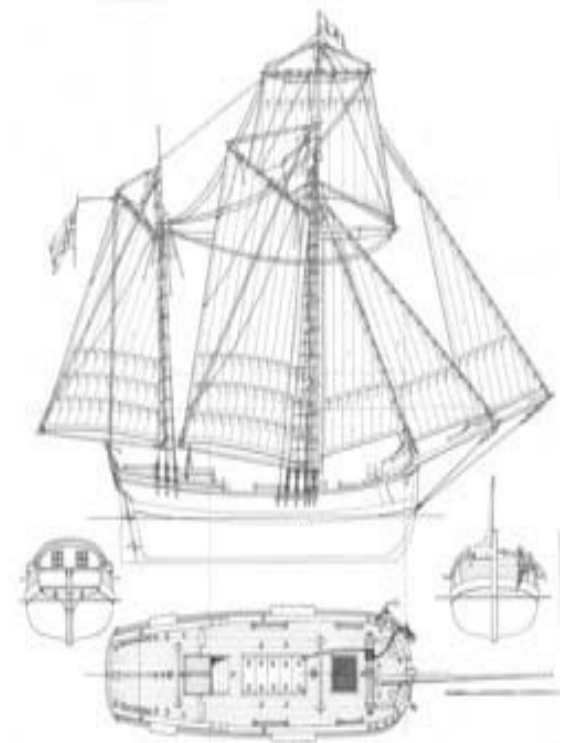
- American Recovery and Reinvestment Act (ARRA)
- NIH funded Research and Research Infrastructure “**Grand Opportunities**” (GO) grants
- “....to support new approaches to **improve the synergy and interactions among multi and interdisciplinary research teams.**”
- “...create a **unique infrastructure** designed to accelerate scientific progress in the future.”

Improvement Science Research Network

- Aim is to accelerate the development and dissemination of interprofessional improvement science in a systems and microsystems context across multiple hospital sites
- Create a large-scale coordinating center to support a service-based research network in improvement science

Disclaimer: “The project described was supported by Award Number RC2NR011946 from the National Institute Of Nursing Research. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Nursing Research or the National Institutes of Health.”

a tall ship...



Project Strategies

- Engage in multi-site improvement research projects
- Develop consensus on research priorities
- Support rigorous research methods
- Host cyber infrastructure
- Provide expert design and analysis



...and a star to steer her by

Benefits of the Network



Progress

- **Established the ISRN Steering Council**
 - 17 nationally acclaimed experts
 - Monthly meetings
- **Developed Research Priorities**, to be published July 7, 2010
- **Launched Communication Vehicles and Outreach**
- **Convened a Research Methods Conference July 7, 2010**

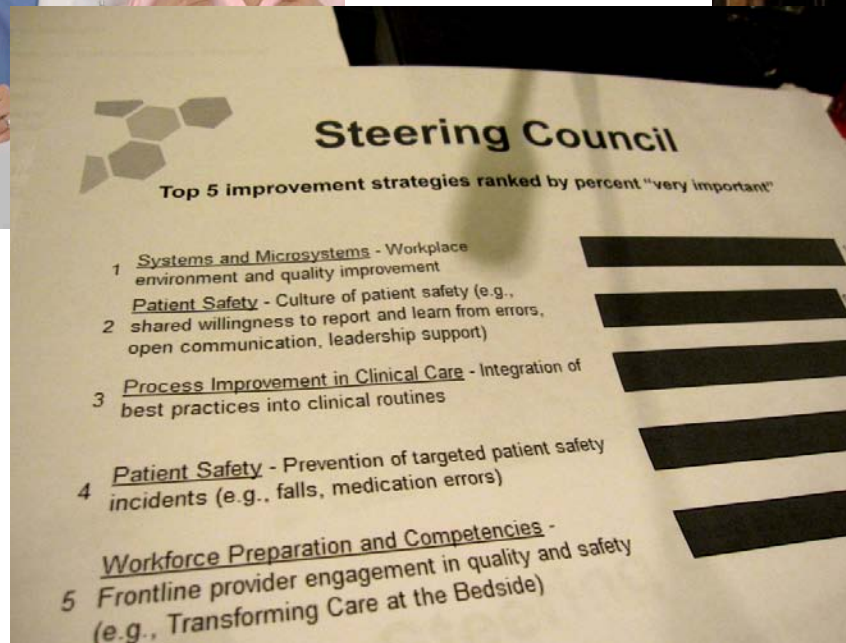
Research Priorities in Improvement Science: *Setting the National Agenda*



Stakeholders



RAND Delphi



Survey

Communication and Outreach

The ISRN will share information and promote engagement in improvement science through:

- The ISRN Public Web Site
- Research Methods Conference
- Quarterly Newsletters
- Web seminar series

Web Site

www.improvementscienceresearch.net

www.isrn.net



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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...](#)

What is Improvement Science

The term improvement science recently emerged to identify a field of research focused on healthcare improvement. The primary goal of this scientific field is to determine which improvement strategies work as we strive to assure effective and safe patient care. [More...](#)

Collaboration Opportunities and Benefits

The Improvement Science Research Network (ISRN) offers members a unique

Member Center

The Member Center is the hub of the collaborative activities for those participating in the network.

[Member Center...](#)

[Provide feedback](#)



ANNUAL Improvement Science Summit

Date: July 7, 2010

Location: The Hyatt Regency Riverwalk Hotel in San Antonio, TX

[Event Details...](#)

[REGISTER HERE](#)



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Research Methods Conference

Improvement Science Summit

July 7th, 2010

The Hyatt Regency Riverwalk Hotel- San Antonio

Join a research team to conduct a multisite improvement research study focused on one of three research initiatives

- Medication Error Prevention
- Team Performance
- Frontline Quality Improvement
- Learn about ISRN membership opportunities
- Register at www.isrn.net

ISRN Newsletter

June 2010



Expert Perspectives

Dismantling Silos

One goal of the ISRN is to forge partnerships between academic and medical researchers. Such partnerships can build the base of evidence for practices and ultimately improve care processes and patient care.

But partnerships have not always come easily. "People who work in healthcare tend to work in silos," says Suzanne Beyea, RN, PhD, FAAN, Dartmouth Medical School. "We



"Experientia est non-sequi officium aut sunt. Eligere voluptas doleantibus alii fugiunt et quam. Ique voluptas doleantibus alii fugiunt et quam. Ique voluptas doleantibus alii fugiunt et quam."

SUZANNE BEYEA, RN, PhD, FAAN, DARTMOUTH MEDICAL SCHOOL

tend to just stay within our organizations, within our fields, within our perspectives. This makes it challenging to offer the best quality of care to patients or even to know what constitutes the best quality of care. We

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Welcome to Network News!



by KATHLEEN R. STEVENS, EdD, MS, RN, ANCC, FAAN, ISRN Principal Investigator

It is my pleasure to welcome you to *Network News*, a quarterly newsletter designed to connect you to the emerging Improvement Science Research Network (ISRN)—the first nationwide research collaborative devoted to generating a robust science to guide quality improvement in hospital nursing care.

This issue offers ISRN background (see "Fast Facts," below) and the perspectives of early ISRN endorses (see column 1); inside, you'll find a preview of ISRN's first Summit and an exploration of research infrastructure benefits, together with a story about our first multi-site study. To learn about ISRN national research priorities and about joining the ISRN, see page 4.

In health care, we must not only do our work, but also improve our work. Consider joining us in this unprecedented NIH-funded effort to build the evidence base for achieving widespread gains in the quality and safety of patient care.

ISRN Basics

Why an ISRN? Although improving the quality and safety of patient care has been a national priority for more than a decade, too little progress has been made, particularly in hospitals.

How is the ISRN Funded? By a two-year, \$3.1 million grant from the National Institute of Nursing and the National Institutes of Health with

funds from the American Recovery and Reinvestment Act (ARRA).

What are ISRN's Main Purposes? To select national improvement science research priorities, support multidisciplinary collaboration on rigorous improvement science projects, and build a large body of scientific findings to guide better patient care.

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IMPROVEMENT SCIENCE
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Webinar Series

Future Web Presentations

- October 2010: Hitting Targets from Moving Platforms
- December 2010: Rigor and Rapid Testing
- March 2011: Science to Service



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Discussion

