

# Network News

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## Expert Perspectives

### Evaluating QI Interventions

International QI expert John Øvretveit will run a workshop on Evaluating Quality Improvement Interventions at the Improvement Science Summit.

Øvretveit will also present the evidence from recent reviews of research about the costs and savings of quality improvement at the Summer Institute on Evidence-Based Practice. Two of the reviews that Øvretveit will present found that many quality improvements cost more than they save, but that some were very cost effective.



*“Research can show when, where, and how care coordination can save money and suffering.”*

JOHN ØVRETVEIT, BSC (HONS), MPhil, PhD, CPSYCHOL, CSCI, MIHM, DIRECTOR OF RESEARCH, PROFESSOR OF HEALTH INNOVATION IMPLEMENTATION AND EVALUATION, MEDICAL MANAGEMENT CENTRE, THE KAROLINSKA INSTITUTET, STOCKHOLM

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## Summit Offers Immersion in Improvement Research

The science of team science will be the focus of the ISRN’s second annual Improvement Science Summit, scheduled for June 28 and 29 in San Antonio, Texas.

Team science is an area of inquiry that focuses on the processes of multisite and multidisciplinary collaborative research teams. “We’ve come to see the ISRN as a scientific team,” says ISRN principal investigator Kathleen Stevens. “An essential structural piece of our Network Studies is using multiple sites so that we have generalizable results and enough rigor in our design to make definitive statements about whether an improvement strategy works.”

Recent research reveals the benefits and challenges of working on large, multisite teams. Benefits include the ability to do large studies, to gain broad perspectives offered by principal investigators across disciplines, and to gather data from the full range of the academic-practice continuum as well as from organizations of different types and sizes. This is a good fit for the ISRN’s mission as a virtual research center that uses many information technologies to collaborate.

*Small operational failures such as broken equipment can affect care quality. The Pocket Card Network Study is designed to address such problems. Summit conferees will learn more about all three ISRN Network Studies.*



“A scientific team like the ISRN can achieve more generalizable and credible results for the research study,” says Stevens. “Findings can be spread faster and will represent the broad perspective of health care, not one siloed discipline. We believe that this will serve patient centeredness very well.”

The challenges of scientific teams emerge from precisely what makes them useful: they involve multiple agencies and committees for protection of human subjects, different traditions for conducting research, and competing interests in shared resources and the intellectual property that results from the research. “It’s crucial that the ISRN supports and promotes

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## Expert Perspectives

“Research can show when, where, and how care coordination can save money and suffering,” says Øvretveit. The reports can be accessed by visiting the ISRN website at [www.isrn.net](http://www.isrn.net).

Performance improvement expert Robert Lloyd will speak at the Summer Institute on Evidence-Based Practice immediately following the Summit. Lloyd will speak on Quality Improvement: Building Basic Competencies.

*“In the science of improvement, the questions you ask are often more important than the tools you use.”*



ROBERT C. LLOYD, PHD, EXECUTIVE DIRECTOR, PERFORMANCE IMPROVEMENT, THE INSTITUTE FOR HEALTHCARE IMPROVEMENT (IHI)

“Solving problems in life—which is what most health care professionals do—is more challenging than solving them in a lab, where you have more control over variables,” says Lloyd. “In the science of improvement, the questions you ask are often more important than the tools you use.”

Lloyd will introduce the IHI’s model of improvement, which is rooted in the scientific approach and provides a framework for testing and learning. 🌟

## How the ISRN Is Serving Graduate Education

Four graduate students and their faculty mentors will attend the Improvement Science Summit. “It’s exciting that students will be able to contribute to this emerging field,” says Eileen T. Breslin, PhD, RN, FAAN, dean and Dr. Patty L. Hawken Nursing Endowed Professor, School of Nursing, UT Health Science Center at San Antonio. As curricula in nursing and medicine realign to include quality and safety, research can open doors for students, she says.

“The next generation will be doing science differently than we did,” she says. “Teams of

individuals will be working together to lead, to learn the evidence and how to communicate that evidence, and to create systems that are theoretically grounded.”

According to Breslin, “Whether you are in a research trajectory or a doctor of nursing practice (DNP) program, the research network provides a way for you to interact across disciplines and systems. The ISRN also gives you access to larger sample sizes for research.”

Students from DNP programs, along with doctoral students from any other discipline,

can become collaborating investigators in the three current Network Studies. For more, contact the ISRN by using the “Contact Us” information on page 6. 🌟



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EILEEN T. BRESLIN, PHD, RN, FAAN, DEAN AND DR. PATTY L. HAWKEN NURSING ENDOWED PROFESSOR, SCHOOL OF NURSING, UT HEALTH SCIENCE CENTER AT SAN ANTONIO

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## Summit Offers Immersion in Improvement Research

application of the principles of the science of team science so that we can benefit from it and work through the potential challenges,” says Stevens.

Participants can look forward to hearing **Michelle Bennett**, PhD, an expert in this field, who will speak on Getting the Most from Research Collaboratives: Applying the Science of Team Science. Bennett is deputy scientific director for the National Heart Lung and Blood Institute (NHLBI), National Institutes of Health.

**John Øvretveit**, BSc (Hons), MPhil, PhD, CPsychol, CSci, MIHM, director of research, professor of health innovation implementation and evaluation, Medical Management Centre, the Karolinska Institutet, Stockholm, will present on Evaluating Quality Improvement Interventions.

**James B. Battles**, PhD, social science analyst for patient safety, Center for Quality Improvement and Patient Safety, Agency for Healthcare Research and Quality will present on Using National Measures to Study Quality and Patient Safety.

In addition, ISRN network investigators will work intensively to build research collaboration for the ISRN’s three new Network Studies: Frontline Staff Engagement in Quality Improvement (Pocket Card study), Impact of Distractions during Medication Administration, and Team Performance for Patient Safety.

The Summit is complemented by the Summer Institute on Evidence-Based Practice (June 30 to July 2 in San Antonio, Texas). The events offer a full immersion in both practice and research. For more details visit [www.isrn.net](http://www.isrn.net). 🌟

## Integrating Evidence-Based Practice into Care

“Evidence-based practice alone isn’t enough to effect the changes that are necessary for improvement,” says ISRN principal investigator Kathleen Stevens. “It isn’t a destination, but one stage of the journey toward improving the quality of health care. The field needs proven strategies to integrate evidence into actual care.”



That is why the ISRN has identified evidence-based quality improvement and best practice as one of four national research priorities.

Integrating evidence-based practice into care can be daunting, says Marilyn Hockenberry, PhD, RN, PNP-BC, FAAN, ISRN Steering Council member, professor of pediatrics in the Hematology/Oncology Division at Baylor College of Medicine, and director of the Pediatric Nurse Practitioner Program at Texas Children’s Cancer Center. Although there may be evidence to support changed practices, those changes may not make their way into patient care.

“Experts in care are busy professionals who believe that they already have a

handle on best practices,” says Hockenberry. “They are flooded with messages about quality from the Joint Commission, AHRQ, NQF, the American Academy of Pediatrics, the American Heart Association, and more. How do you help them focus on a change in practice, convince them it is needed and that they have time for it, adapt guidelines to fit their specialty and institution, implement the practice, and hold them accountable?”

Even when practices are adopted, further research is needed to evaluate the im-

*“The field needs proven strategies to integrate evidence into actual care,” says ISRN principal investigator Kathleen Stevens. Persuading busy health professionals to change their practices is just one challenge to improvement.*

plementation of the practices, according to both Stevens and Hockenberry. “To some extent, all health professions tend not to conduct rigorous systematic reviews. This means that we could get the evidence wrong, which is chilling,” says Stevens. “We need to get the evidence right with rigorous systematic reviews and then get the right evidence used by changing practice and understanding how and why practice changes.”

A 2008 Institute of Medicine panel, *Creating a Business Case for Quality Improvement Research*, found that evaluations of evidence-based practice fall short when studies are performed in a single organization and don’t yield generalizable information, when

measurement is imprecise and interventions are insufficiently described, when studies don’t produce information about the sustainability of changes, when they don’t consider contexts that affect implementation, when costs or value are not estimated, and when research is opportunistic rather than systematically planned.

Stevens says that improvement science can identify the most efficient and effective approaches to achieve change in practice by exploring whether a new evidence-based practice was as effec-

tive as expected, what was difficult about implementing the change, and whether the change caused any harm to patients or the system.

Stevens points out that several issues hinder health scientists in their research to identify, implement, and evaluate evidence-based practice: the terms used in the field are not well defined, researchers may lack infrastructure and capacity for conducting research, and the field of improvement science still needs to develop rigorous research approaches.

“The ISRN is designed to address these issues so that researchers can intensify their research and quickly produce knowledge about how to help health professionals use evidence-based practice,” says Stevens. 🌍

## Note

FROM THE DIRECTOR



KATHLEEN R. STEVENS, EdD, MS, RN, ANEP, FAAN, ISRN PRINCIPAL INVESTIGATOR

Fifteen years ago, researchers and clinicians realized that hard-won research findings were not making their way into practice. This realization was the catalyst for the attention to evidence-based practice that we know today.

Evidence-based practice is about repackaging research so that it becomes clinically useful at the point of care. Research-generated evidence is some of the most powerful to predict cause and effect so that providers can know with some certainty that an intervention will lead to a particular outcome.

The ISRN offers both the Improvement Science Summit to generate the evidence we need to make changes in practice and the Summer Institute on Evidence-Based Practice to build capacity for health care providers to shape future quality through translating research into practice.

Join us at our second annual Summit to learn how to improve care and patient outcomes from research to implementation to evaluation. 🌍

## Web Events Update

### Upcoming Web Event

May 25, 2011, at 2 p.m. EDT

### Team Science: Creating Successful Collaborative Teams

The ISRN is a network dedicated to rigorously testing health care improvement strategies through multi-site research studies and academic-practice partnerships. Though such large-scale research can produce ground-breaking results, it also presents challenges in forming highly functioning and effective teams across multiple disciplines and geographical barriers.

The Web Event presenter, Gary Olson, PhD, will introduce the concepts and principles of team science, an emerging field focusing on what is required to create successful teams. He will also discuss how these ideas apply to the ISRN, especially as they relate to the landmark Network Studies.

If you missed our earlier web events, you can access them online as audio files or transcripts. Visit the ISRN web site for links.

**For details, registration, and past events, visit the ISRN web site: [www.isrn.net](http://www.isrn.net).**

## Uniting Management and the Front Lines

Although frontline workers don't have the power and resources to change systems, they understand problems that keep patients from getting effective and efficient care, says Stephen R. Mayfield, DrHA, MBA, MBB, vice president, performance improvement, Hoag Memorial Hospital Presbyterian, and ISRN Steering Council member.

"In order to improve systems, executives and the front lines have to communicate," says Mayfield. "Executives need to understand the obstacles the frontline staff endure in providing effective and efficient care for patients." Without the input of frontline staff, executives can make ineffective decisions.

Mayfield suggests that frontline staff and management can work together to study and improve processes. For example, while protecting patient privacy, frontline staff can use a video camera to document the patient's flow through the system. They can then implement an intervention and film the improved flow. By turning their footage into a short video and watching it with management, they can show what keeps them from providing the best care for patients, allowing management to standardize processes based on evidence.

"We can study four flows to get the biggest bang for our buck," says Mayfield, "the flow

of patients, of care providers, of materials and supplies, and of information." In addition to video, frontline staff can use tools such as flow charts and value stream maps to understand the process. The Pocket Card, the subject of the ISRN's first Network Study, is another way for the front line to easily document barriers to effective and efficient care.

*"Frontline staff are in a system not of their design. If there is a problem in the system, they can't make a change. But they can make management aware of the problem."*

STEPHEN R. MAYFIELD, DRHA, MBA, MBB, VICE PRESIDENT PERFORMANCE IMPROVEMENT, HOAG MEMORIAL HOSPITAL PRESBYTERIAN, AND ISRN STEERING COUNCIL MEMBER



Mayfield emphasizes that tools such as flow charts may be new to care providers, but outside experts can help. "We have to make it possible for smart, caring providers to say that they don't know much about improvement science. Improvement science is not about telling practitioners how to provide care," he says. "It's about designing a system so that providers have what they need when they need it where they need it so that patients have better outcomes."

For more on the Pocket Card study, see *Network News 3*, page 1 (at [www.isrn.net](http://www.isrn.net)).

## Research Resources: Management & Front Lines

To learn more about the research that informs Stephen Mayfield's work, consult the following references:

Collins, Kevin F., and Senthil Kumar Muthusamy. 2007. Applying the Toyota production system to a healthcare organization. *Quality Management Journal* 14 (4): 41–52.

Mayfield, Stephen. 2007. SAFE tool improves flow and patient safety. *National Patient Safety Foundation* 10 (2): 3–6.

Shortell, Stephen M. 2007. Improving patient care by linking evidence-based medicine and evidence-based management. *JAMA* 298 (6): 673–676.

## The Sound of Thunder: ISRN and Magnet Recognition

Many nurses remember the Thunder Project of the 1990s, in which ICU nurses wanted to know about best practices for flushing central lines, so they developed a multisite study that had a large enough sample size to provide definitive answers.

According to ISRN principal investigator Kathleen Stevens, the spirit of that landmark project is shared by the ISRN and the Magnet Recognition Program administered by the American Nurses Credentialing Center (ANCC).

Citing a new study on how nursing practices affect readmission rates for patients with congestive heart failure launched by 42 Magnet hospitals, Stevens notes, "Nurses are again, 'sounding their own thunder' by conducting landmark studies. Initiatives of ANCC and the ISRN underscore how research collaboratives can help transform health care.

"Emerging separately but based on the same principles, both research efforts will rapidly develop highly relevant scientific information to improve care and patient safety."

*"Our practice needs to be evidence based. In a culture of excellence, an organization takes responsibility for creating new knowledge. Clinicians, practitioners, and academics working together can lead the way to important improvements in care."*

KAREN DRENKARD, PHD, RN, NEA-BC, FAAN, EXECUTIVE DIRECTOR, AMERICAN NURSES CREDENTIALING CENTER

Magnet hospitals may find the ISRN's Network Studies useful. The Magnet model requires that nurses evaluate, use, and conduct research. "Our practice needs to be evidence based," says Karen Drenkard, PhD, RN, NEA-BC, FAAN, executive director, ANCC. "In a culture of excellence, an organization

takes responsibility for creating new knowledge. Clinicians, practitioners, and academics working together can lead the way to important improvements in care."



According to Drenkard, smaller hospitals in particular can benefit from the infrastructure offered by the ISRN, such as help with IRBs, access to experts in data analysis, and access to larger sample sizes. 🌟

## Member Highlights the ISRN through Speakers Bureau

Linda Cowan joined the ISRN as a charter member at last year's Summit. "It's exciting to imagine the future possibilities of the network of researchers

Speakers Bureau. As a speaker, she attends relevant professional conferences, sets up poster presentations, and has conversations with anyone who wants

improvement science, and highlighted the benefits of ISRN membership. She also participated in a panel discussion of the poster.



*"A national multidisciplinary group of individuals working together can make all aspects of improvement science more robust and meaningful."*

LINDA COWAN, PHD, ARNP, PROGRAM COORDINATOR, EVIDENCE-BASED PRACTICE, ASSOCIATE INVESTIGATOR, REHABILITATION OUTCOMES RESEARCH CENTER, NORTH FLORIDA/SOUTH GEORGIA VETERANS HEALTH SYSTEM

and interprofessional improvement science specialists, and I want to be part of it," she says. Cowan has been inspired by ISRN principal investigator Kathleen Stevens's vision and passion for research, improvement science, and evidence-based practice.

Cowan's interest in the ISRN has led her to serve on the ISRN

to learn more about the ISRN and how research advances what is known about improvement strategies.

Cowan attended a conference of the Southern Nursing Research Society in Jacksonville in February as a member of the Speakers Bureau. She presented a poster on the original NIH funding for developing the national research network, explained the terminology of

"I see the web of connectivity within the ISRN as a valuable resource and hope I can contribute something as well," says Cowan. "There is a saying that three cords are not easily broken. A national multidisciplinary group of individuals working together can make all aspects of improvement science more robust and meaningful. One of the ultimate benefits of such a program is to the patient, decreasing the time it takes to get meaningful research knowledge from bench to bedside."

ISRN members who would like to serve on the Speakers Bureau can contact Darpan I. Patel, PhD, clinical research project manager for the ISRN at [ImprovementScienceResearch@isrn.net](mailto:ImprovementScienceResearch@isrn.net). 🌟

## Defining Terms for an Emerging Science

“Because improvement science is new, it doesn’t use a single set of terms with agreed-upon meanings,” says Grace A. Willard, PhD, RN, senior research scientist, University of Texas Health Science Center at San Antonio. Willard leads the ISRN’s Taxonomy Affinity Group (TAG), which is studying how a controlled vocabulary will be used in research and how software keeps the terminology dynamic. ISRN Steering Council members Patricia Benner, Rosemary Kennedy, Gail Mallory, and Cathy Rick also serve on the TAG team (for their affiliations see “Steering Council,” to right).

The group’s “alpha taxonomy” will be pilot tested in one of the Network Studies. “I have a mantra: ‘Name it, find it, use it,’” says Willard. “If we can’t name something the same way every time, we can’t find it or use it.”

“Multiple groups of researchers in various disciplines are working in improvement science,” says Brian Mittman, PhD, director of the VA Center for Implementation Practice and Research Support at VA Greater Los Angeles Healthcare System. “They have their own traditions and nomenclatures. They can produce four versions of the same kind of study using different terms. The different terms aren’t synonyms, so you can’t just swap them: each version has its own meanings. This makes it hard to find research that could be related, and it makes it difficult to compare findings.”

Work on improvement science taxonomy is still very new. “The taxonomy has to grow with the science and in a sense, push the science forward,” says Willard. 🌟

## Joining the Network

Become a member of the ISRN, the first national collaboration of clinical and academic leaders devoted to accelerating improvement science in a systems context across multiple hospital sites. Membership in the ISRN is open to individuals who are health care researchers, academicians, clinicians, or administrators with a specific interest in patient safety and improvement research in the acute care setting. Benefits of membership include the following:

- Opportunities to participate in multisite collaborations on patient safety and quality improvement research initiatives;
- Access to members-only ISRN online resources;
- Leverage of a national test bed for evaluating improvement strategies;
- Training resources such as IRB training;
- Expert guidance in conducting research;
- Technology infrastructure for participating in multisite studies;
- Access to the ISRN web portal, which provides secure communication, storage, and sharing of documents and data;
- A technical support system that provides access to expert guidance in conducting research and using statistics; and
- Recognition as an ISRN member and use of the ISRN logo on presentations and publications.

To become a member of the ISRN, visit [www.isrn.net/members](http://www.isrn.net/members) and select the “Join Now” button. For additional information about ISRN membership, contact [ImprovementScienceResearch@isrn.net](mailto:ImprovementScienceResearch@isrn.net). 🌟

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