



# IMPROVEMENT SCIENCE

RESEARCH NETWORK ...improving patient outcomes

## RESEARCH PRIORITIES

July 7, 2010

### PURPOSE

As part of strategic planning to build an infrastructure for the Improvement Science Research Network (ISRN), an early target was to establish consensus on high-priority research, development, and evaluation needs to guide the scientific field. Because the Improvement Science Research Network proposes to promote a national program of research to advance what is known about improvement strategies, it was deemed essential to circumscribe priority research studies and topic areas as a place to begin. Such priorities will serve as a common rallying point to focus resources and attract improvement scientists and scholars into a collaborative around these common research goals.

The great need for improvement science carries with it an opportunity for a myriad of priorities to be defined. These priorities are meant to highlight the most important and urgent gaps in improvement knowledge as identified by clinical and academic scholars, leaders, and change agents in acute healthcare settings.

These ISRN Research Priorities are intended to define the most urgent research studies needed to determine effective strategies in quality improvement and patient safety at this point in time. By networking to conduct improvement studies on these first targets, the ISRN will be able to intensify research efforts and quickly produce seminal research-based knowledge.

The priorities inform decisions about the scope of future work and the dissemination of ISRN-sponsored knowledge in each of the major dimensions shown below. At the same time, the ISRN maintains the flexibility to respond to emerging needs and to consider the merits of individual projects that may contribute to other worthwhile goals.

We believe that, by making substantial progress in these areas over the next 3 to 5 years, the ISRN will contribute significantly to improvement science for patient outcomes in our Nation.

### PROCESS OF DEVELOPMENT

The ISRN priority-setting process was informed by a number of sources. These include environmental scans of major concerns in healthcare, reviews of professional and scientific literature, research priorities for quality and patient safety established by other entities (e.g., World Health Organization), a targeted stakeholder survey, and a RAND Delphi process with the ISRN Steering Council, members of which represented a wide array of stakeholders. Multiple points of information and multiple iterations of consensus building were used to assure that the Research Priorities merit high attention.

Development was accomplished through four major phases: multiple iterations of survey development; administration of the online survey to stakeholders; RAND Delphi technique with Steering Council members; and refinement through Steering Council discussion.

Stakeholder opinions were sought through an online structured survey. The survey was developed, pilot tested with various groups of stakeholders, and revised over an 8-month period (June 2009-February 2010) and through three revisions. The final survey included 33 improvement topics organized into nine dimensions of quality and safety. The online survey was preceded by an advance email invitation, followed by the invitation and survey link, and a reminder, each sent at 1-week intervals. During a 5-week period (February-March 2010), the survey was distributed to 2,777 stakeholders identified through a variety of methods, including identifying interprofessional groups and organized associations of health scientists, healthcare clinical leaders, and thought leaders in improvement and patient safety. Data were gathered from 560 respondents, reflecting a 20 percent response rate.

Responses were analyzed using descriptive statistics and were presented to the ISRN Steering Council at their meeting on March 25, 2010 in Houston, Texas. A RAND Delphi approach was used during facilitated consensus formation discussion at this meeting.

Results of the Steering Council's multiple iterations were captured by the ISRN Coordinating Team and vetted again during the April 2010 Steering Council meeting. Through these processes, consensus on the ISRN Research Priorities was established and framed, as presented below.

## **RESEARCH PRIORITY STATEMENTS**

The following research priorities were adopted for the ISRN as the best thinking to date about the direction that should be taken in improvement science. (The order of topics does not reflect order of priority.)

Our Research Priorities are organized into four broad categories or domains. While it is acknowledged that, within each of these four areas, investigators could pose questions to investigate structure, process, outcome, and knowledge, the four clusters provide one way to emphasize various perspectives on quality and safety. To further circumscribe each research domain, priority topics and examples of improvement strategies were added:

- A. COORDINATION AND TRANSITIONS OF CARE**—this category emphasizes strategies for care improvement to care processes in specific clinical conditions. At this time, care coordination and transitions of care are the key clinical focus.

### **Priority Topics**

Evaluate strategies and methods to assure coordination and continuity of care across transitions in given clinical populations.

Test and refine methods of handoffs and other strategies to assure 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.

**B. HIGH-PERFORMING CLINICAL SYSTEMS AND MICROSISTEMS APPROACHES TO IMPROVEMENT**—this category emphasizes structure and process in clinical care and healthcare as complex adaptive systems.

**Priority Topics**

Determine effectiveness and efficiency of various 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 preventing targeted patient safety incidents.

Establish reliable quality indicators to measure impact of improvement and isolate nursing care impact on outcomes.

**Examples of Improvement Strategies and Research Issues**

Frontline provider engagement, unit-based quality teams, factors related to uptake, adoption, and implementation, sustaining improvements and improvement processes, academic-practice partnership, and informatics solutions.

**C. EVIDENCE-BASED QUALITY IMPROVEMENT AND BEST PRACTICE**—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 employing evidence-based practice in clinical care for process and outcomes improvement.

Determine gaps and bridge gaps between knowledge and practice.

Transform evidence for practice through conducting systematic reviews, developing practice guidelines, and integrating practice into clinical decision-making.

Develop new research methods in evidence-based quality improvement, including comparative effectiveness research and practice-based evidence.

**Examples of Improvement Strategies and Research Issues**

Develop and critically appraise clinical practice guidelines, adoption and spread of best practices, customization of best practices, institutional elements in adoption, defining best practice in absence of evidence, consumers in evidence-based practice, and technology-based integration.

**D. LEARNING ORGANIZATIONS AND CULTURE OF QUALITY AND SAFETY**—this category emphasizes human factors and other aspects of a system related to organizational culture and commitment to quality and safety.

**Priority Topics**

Investigate strategies for creating organizational environments, processes that support cultures fully linked to maintaining quality, and patient safety in order to maximize patient outcomes.

Determine effective approaches to developing organizational climates for change, innovation, and organizational learning.

**Examples of Improvement Strategies and Research Issues**

Professional practice environments, protecting strategy from culture, shared decision-making and governance, patient-centered models, leadership to instill values and beliefs for culture of patient safety, and organizational design (e.g., omit first-order failures).

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