Transcript of
Westat Education
ISRN Webinar #1: The Way Forward, an Introduction to Improvement Science
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Speakers

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Moderator

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Presentation

Operator
Good afternoon, and welcome to the Improvement Science Research Network Webinar. All participants will be in listen-only mode for the event. Please note this event is being recorded. I would now like to turn the conference over to Deborah Carpenter at Westat. Please go ahead.

Deborah Carpenter – Westat ISRN Coordinating Center – Project Director
Amy, thank you, and good afternoon to all. On behalf of the Improvement Science Research Network, welcome to today's Webinar entitled Improvement Science: The Way Forward. Again, I'm Deborah Carpenter, and I am the Westat Project Director for the Improvement Science Research Network Coordinating Center.

We are excited about today's topic and glad to see that you share our enthusiasm by your attendance. In fact, we're going to poll the audience in a few minutes to get a better sense of who has joined us today. We also welcome your thoughts on other topics we could address of interest to you. At the end of today's session, you will be asked to complete a brief evaluation form. Please be sure to give us your feedback since your comments will help us plan future events.

While we don't anticipate any technical problems, I'd like to give you a few tips in case you experience any difficulty. Please notify the VCall attendant through the question and answer window. If you have trouble with the slides or your connection to the Web event, trying pressing F5 to refresh your screen.

As noted earlier, we are recording this event and a downloadable recording, the slides, and a transcript will be on the ISRN's, the Improvement Science Research Network's, Web site very soon. In fact, if you'd like to download the slides for today's presentation, you can find the PDF file at the bottom of the presentation window. Note that you can submit questions at any time through the question and answer

center, as pictured in this screenshot. Just click the questions button at the upper right hand of the presentation window and we'll answer your questions following our speaker's presentation.

Before I turn it over to them, I'd like to get a sense of who we have in the audience today. Please answer the polling question you now see on your screen describing your role among the categories listed: frontline clinical, nursing management, clinical educator, academic faculty, research scientist, or other healthcare professional. While we've designed this event to be useful actually to a broad array of participants, it's helpful to know who has joined us. And I'd like to see those results. Thank you. It looks like our top 3% groups include the other healthcare professionals, the research scientist, and nurse managers and faculty academic are running head-to-head, so we welcome all of you. It's a pleasure to have you, and thank you for participating.

I'm delighted to introduce our two speakers for today's session, Dr. Jack Needleman and Dr. Kathleen Stevens. Dr. Needleman is a professor in the Department of Health Services at the University of California Los Angeles, UCLA, School of Public Health, where he directs the department's doctoral and research masters program. He is an honorary fellow in the American Academy of Nursing, and serves as a steering council member for the Improvement Science Research Network.

Our second speaker, Dr. Kathleen Stevens, is a professor of nursing at the University of Texas Health Science Center at San Antonio. She is the founding director of the Academic Center for Evidence-Based Practice and is a fellow in both the American Academy of Nursing and the Academy of Nurse Educators. Kathleen is the principal investigator for the Improvement Science Research Network, which she will describe in her remarks. But first, Jack, I'd like to turn this session over to you.

Dr. Jack Needleman – UCLA, School of Public Health – Professor

Thank you. It is a pleasure to be meeting with you today. I look forward to the questions. I'm going to be speaking. Kathleen and I have roughly divided the presentation up in the following way. I'm going to speak about the need for improvement science and the need for improvement and the goals for this effort, and Kathleen is going to talk very concretely about how we are going to move the science forward in particular roles of the Improvement Science Research Network in doing this.

But let me start with the needs for improvement. I think we've all seen the reports. To err is human is, at this point, a classic in crossing quality chasms to try to answer the question, so how do we make the system better. How do we improve the system? But set up some very clear guideposts, even acknowledging we have a long way to go. How far we have to go was perhaps best illustrated in the McGlynn, et al, piece in the *New England Journal of Medicine* in 2003, The Quality of Health Care Delivered to Adults in the United States, which found that for diseases that we know how to treat where we have reasonably strong guidelines for what treatment should be expected, those treatments are only delivered about 55% of the time, a little over half. That's a shocking number and, unfortunately, I don't think it has improved very much in the seven years since the article has been published.

We've also heard, if we've seen the reports, we've also heard the campaigns, the Institute for Healthcare Improvement, 100,000 Lives Campaign, save 100,000 lives, reduce in-hospital deaths by 10% in one year. IHI followed that up with a five million lives campaign directed at reducing medical error more broadly than simply reducing mortality. For those of you who live in hospitals or other major healthcare institutions, you've had a fair amount of exposure to the TMS quality improvement organizations and their annual program of improvement that all hospitals are expected to participate in.

Next slide: So if we've seen the reports, and we've heard the campaigns, the obvious question is why don't we deliver care better. Why is it 150 years after … we still have trouble getting clinicians to wash their hands? It surely wasn't a problem. It was just about childbirth and newborn mothers. We still have central line infections when we absolutely know right now how to basically drive them to zero. And we keep seeing our patients bounce back to the hospital because they were not adequately prepared for discharge. Common, common problems, this list can be expanded substantially.

Next slide: And we should be asking ourselves, what keeps our organizations from routinely performing at a high level? I think there are several elements to this that we have to acknowledge, even as we think about where we're going. One is the challenge of identifying the need for improvement.

The former director of the Veterans Administration National Surgical Improvement Program said whenever she was presenting information that she was able to get from her data in order to set a state for making improvement, she always saw people go through the same three stages of quality denial. The first one was your data is wrong. We are not performing that poorly. And the second one was our patients are sicker, and you haven't taken that into account. Both of those are red herrings, but organizations need to move ourselves through that in order to do that.

The third issue she got to was a slightly more complex one, which was, "but we're practicing as well as we know how to already. I can't; I just don't know how to make improvements. We can't do any better than we're doing", and that is a denial of the ability to learn. And those three stages are present in almost all organizations that we live in and work in and moving ourselves quickly through them becomes one of the critical challenges to performing at a high level. That's related to actually moving past that third stage of denial and to creating a learning and innovating organization, and there are many, many challenges to doing that. We've got to not only identify the changes we want to make and implement them, but we've got to sustain them, and sustaining change turns out to be a very hard thing to do.

I was the lead evaluator for the Robert Wood Johnson Transforming Care. It's a bedside initiative. And of the initiatives that were implemented that people thought they saw evidence that they actually improved care, a substantial number, a quarter, a third, a year later simply were not being – were no longer in common practice, even though people acknowledged that they seemed to work rather well. Part of that is because the way in which we've tended to do quality improvement, try to improve our organization is by incrementally adding to things, so we have a fractured rather than integrated vision of what quality is, and we've got equality on one side and efficiency improvement on the other, and revenue enhancement on the third, and we've not created an integrated vision of what that looks like. And very often we wind up focusing on one aspect to the detriment of focusing on the others.

A third issue, I think, that represents a challenge to creating learning and innovating organizations as we review the field is we talk about having cultures, cultures of safety, cultures of improvement. Pronovost, when he did his work on central line infection, had a scale for ability to implement change that he did to try to anticipate who would be more effective or less effective at actually being able to implement the checklist protocol. But we've got to move beyond assessing our culture to changing our cultures, and that's only half the job because culture, the commitment, the ability of people to talk about this and view it as important is not enough. Our organizations need to figure out how to institutionalize improvement processes, make them an integral part of their work, not something the staff is doing as hobbies after their real work is done, and that has turned out to be very difficult to do.

And the third issue that we see keeping organizations from routinely performing at high levels is actually finding, not just finding best practices. Best practices are often out there, but figuring out how to tailor

them. I'm not sure there are best practices, things that can be universally adopted the way they've been performing successfully in any given environment. Each of our organizational environments, cultures, patient needs, clinical sets are slightly different, so it's a matter of finding what are better practices for our organizations. And when we see things that work in other places, figuring out how to tailor them, and that has proved to be difficult. So those are some of the key issues, I think, that keep our organizations from routinely performing at high levels.

I want to take a moment at this point to get some of your input through another one of these polling efforts. And we'd like to know. We've identified a number of barriers that we've identified and that others have identified to meeting, to testing improvement strategies in organizations and even figuring out what works. We're wondering, for those of you who have engaged in those kinds of activities, which of these, and they're not mutually exclusive, check all that apply. Which of these you have encountered, as you've tried to test and implement improvement, and we'll give you a few moments to do that.

I see people literally responded to my check all that apply, and I think that is in fact quite common. Time is the most common of the issues that are identified here, and frontline support the second most. I'll come back to that at some point because you'll notice, as we look at who is attending, the frontline staff are the least in terms of sheer numbers, the group that is least participating in the Webinar, but we see other issues here. What's interesting, I think, is that the actual knowledge of what should work is clearly a significant issue, has been a significant issue for many of you, but is the least of the issues that are identified here. And I think that this list and what you're seeing here reflects some of the things that are real challenges in what we need to do to make progress.

If I can go to my next slide, and since we're talking about research, I'm going to talk about knowledge. And in order to make progress, we really need knowledge of several things. We need to know what works, and that's the best practice kind of concept. As you indicated on your slide, many of you feel that that certainly is an issue, but it's not the most significant one. But these other three clearly emerge from that list, and they're consistent with what we've seen, as we've looked at organizations that have tried to make change.

We need knowledge of how to implement and sustain what works by tailoring and integrating it into practice. It's not sufficient to find something that we can start doing. We have to find something that we can keep doing. We need knowledge of how to build organizational commitment to improvement, and we saw that in your answers, both in terms of leadership commitment, but also in terms of frontline staff commitment, and we have to move, as I said, from commitment to capacity, and that has a strong knowledge base as well. We need to learn how to build organizational capacity to make and implement change. The uneven performance of quality collaboratives is a good example of the challenge in getting organizations to take what is known and effectively implement it in the organizations and build the capacity to do that. That is truly one of the major areas in which we need to improve.

Now these issues are well known, and we've seen lots of – an increasing base of research to try to do this, and it goes by various names—next slide—so what we see, as you see in any kind of new field, many different terms being used to cover related, if not identical things. So we've got translation science and the research utilization and effectiveness and implementation science, evidence-based practice, knowledge translation, healthcare delivery science, lots of terms out there, some of them competing, as the name of the field, others reflecting specific nuances or focuses of some of the work.

So if we look specifically at the issue of improvement science as one of these terms of art, and the one that I like in part because it's a pretty inclusive one—next slide, please—we see that it is research that is

focused on healthcare improvement, quality improvement, safety. I would add efficiency to this because efficiency and quality are complementary activities that we need to move forward on in both fields rather than competing ones, and it's a science that tries to identify improvement strategies that work and that evaluates improvement strategies in healthcare and systems and safety. So it's a pretty inclusive field, and it's deliberately an inclusive field.

Another term of art that has been widely used and increasingly used in some areas is the concept of implementation science. And I want to just briefly touch on that one—next slide, please—in part because I think it emphasizes one aspect of this field that is important. So Eccles and Mittman have a free, online journal called Implementation Science. It started in 2006, and that first issue they tried to define what the field was that the journal was. They talked about implementation research as a scientific study of methods to promote the systematic update of research findings and other evidence-based practices into routine practice. And it includes the study of influences on healthcare professional and organizational behavior.

I think there are three concepts here that are worth highlighting. One is the issue of systematic uptake, that there is system here, that there is science here. The second is that it's an effort to identify and implement evidence-based practices that we have some confidence can make an improvement, but the focus cannot simply be on the processes themselves. They've got to be on the organizational professional behavior that enables us to actually make the change.

Next slide, please. With that, just to recap where we are in the field, the needs are fairly clear at this point. We've got quality, safety, efficiency all identified as national priorities. We've got an improvement science that's still relatively young, and we're still learning both how to do the science and what it has to teach us about making improvements. A lot of that science has been built around the concept of small tests of change, and simply because our organizations can only do so many tests because we've got a limited number, small ends, using small tests can be a very time consuming and in some ways inefficient process, so we need to find ways to kind of – while we tapped the knowledge, energy, and….

Operator
Dr. Needleman, you may proceed.

Dr. Jack Needleman – UCLA, School of Public Health – Professor
I'm sorry, everybody. As I said, I think there are three needs that are there. One is that we need to move to the next slide. No, sorry, we're – yes, we need to move to the next slide.

There are, I think, as we look at where we are in this field, I think there are several elements that are going to be part of any improvement science that we are effectively able to implement. One is, we've got to move from passive knowledge to explicit knowledge. We all know people in our organizations that seem to know how to make things work, seem to know how to make things work better. And we often treat them as having some unique gift. Those are skills, and we have to understand, through research, what those skills are and how we can use them. That's the key component of moving from this passive knowledge, what people know on their fingers, to a common understanding that we can express.

The second thing that we need to do is we need to focus on both the organizational context and the processes of care. As you yourselves noted at the beginning, finding the best practices is less hard than getting the organization to effectively make and sustain change. And in that regard, we do need to focus on finding the things that work, but we also need to figure out how to invent where things are not known and to adapt to our organizations where things are known. And that again brings us both to the need to

understand the processes of care and how to improve them and what improved processes look like, but also understanding our own organizational context, so those are some of the key components. That is where we need to move our organizations, as well as the science, and in that regard, that is what the Implementation Science Research Network is intended to do. I'm going to turn it over to Kathleen, who is going to speak about how it is going to move us there.

Dr. Kathleen Stevens – UTHSCSA – Professor of Nursing

Hello to you all. Jack, thank you so much for giving us the background of this exciting new field of improvement science and for mapping the sea of opportunity and challenges that we face in this emerging field. I noticed in the poll there wasn't one thing that wasn't a minor challenge, so we have large challenges, so now the way forward. In this opportunity, I'm reminded of the poem that states, "And all I ask is a tall ship and a star to steer her by." With our sea of opportunity, we have an urgent need to build that vessel, a tall ship, and to set a direction, a star to steer her by.

The events in the recent past have opened a door for developing our unique infrastructure to support healthcare improvement in a significant way across the nation. The Improvement Science Research Network provides the vessel and maps the course for improvement science. Let me tell you about the exciting opportunity to work together to further improvement.

There are two urgent needs for improvement science. One is to develop the science that matters to patient care, that is, to address important healthcare quality, redesign, and safety issues. And the other one is to develop a science that counts, that is, rigorous studies that produce valid results to inform change.

To address these needs, new entities began forming. This has been on our radar for a while. For example, the NIH roadmap prompted restructuring of research at the federal NIH levels, and two key entities are of particular interest here. The NIH clinical translational science awards were created to move research to clinical care. And the second one, practice-based research networks that engage the community of clinicians in conducting research in enrolling research subjects from their patient field in broad studies. Both of these rely on academic practice partnerships. They emphasize that health research ventures have the greatest impact when closely guided by clinical concerns. The need, the demand in our early responses created a perfect storm.

In this context, our perfect storm emerged with the confluence of several healthcare quality circumstances, creating the opportunity for the Improvement Science Research Science project. The three circumstances were: in 2008, IOM put teeth into knowledge translation and transformation, UTRIC declared innovation as the competency of the future, and AHRQ developed the AHRQ Health Care Innovations Exchange. Each of these merits just a few more words.

The perfect storm circumstance number one was the 2008 IOM report *Knowing What Works in Healthcare*. The authors pointed to two things: systematic reviews and clinical guidelines as crucial forms of knowledge for evidence-based care and best clinical practices. The foundations for guidelines include systematic reviews of course which require strong research designs. Both must be resource wise and rigorous. Their recommendations point to the rigor necessary to produce knowledge about whether or not an improvement strategy works, in this case evidence-based clinical practice guidelines. Now we're haunted by the question, shouldn't we hold improvement strategies to the same standards?

Perfect storm circumstance number two was that innovation was declared and recognized as requisite to success and survival. Indeed, one of the primary drivers in healthcare excellence, the magnet recognition

program, adopted innovation as a key to excellent, so stated another way, if we continue to do what we've always done, we will get the results we've always gotten. In the public's interest, our federal entities launched the development of a major new resource to stimulate innovation and adoption, that is the AHRQ Health Care Innovations Exchange. The new Innovations Exchange provides an avenue for sharing what works at our place along with evidence of how the innovation was tested.

Every day, clinicians try out ways of better care processes and clinical decisions to improve outcomes. But often these discoveries stay local, and often the test of effectiveness of the innovation is underpowered or perhaps insufficiently designed. This screenshot shows an innovation profile aimed at reducing medical errors in nursing homes. The local best practice medication safety team is described along with the rating of the strength of evidence similar to evidence-based practice.

Note that the rating system is not as granular as those used in evidence-based practice systems. It consists only of suggestive moderate and strong ratings. In this case, the moderate rating tells the potential adopter that the certainty that this will work is not that strong. The Innovations Exchange is a wonderful project. It does highlight hundreds of improvements across the nation. It stimulates ideas and encourages local tailoring and adopting, yet it became apparent that assessment was often weak, that conclusions were tentative due to the lesser rigor of evaluation designs utilized in testing the strategy.

Echoing the IOM's 2008 position, our thoughts were galvanized. We should expect strong evidence about improvement strategies, as we consider adoption. This became the fundamental premise of the Improvement Science Research Network. A research network would enable us to rigorously and efficiently test the impact of improvements and programs for priority problems such as preventing wrong site surgery or medication safety teams and preventing bedsores.

Throughout the country, healthcare experts and administrators, researchers, and clinicians are devising and testing such new strategies to improve. These pockets of excellence give us hope that improvements are achievable in critical patient outcomes such as elimination of hospital-acquired infections and preventable patient falls. While the best practice exists for many care processes, just as many are untested, so more questions emerge, such as what promotes adoption of effective strategies such as medication error prevention? How do we know if an improvement strategy such as team training enhances patient safety?

While there's progress on strategies that work in one hospital or clinic, these can't be considered best practices until they've been evaluated scientifically to make certain they really work in most settings or at least describe where they do work. One example of an innovation that works is the orange vest that nurses where while preparing medication in a busy hospital unit. The vest acts as a do not disturb sign to coworkers.

Testing has shown that nurses had fewer interruptions and avoided medication errors while wearing the vest. Based on aviation safety principles, that is sterile cockpit, a concept to wave off interruptions, the vest and sash have been well tested, for example in Kaiser Permanente in Australia. The scientific knowledge mounted slowly from 2003 at its first testing to present and we now know with a high level of certainty that preventing disruptions during critical care processes prevents errors and patient harm. Adoption has been slow. In some cases, implementation has been resisted.

Think what could have happened if we could have rapidly and systematically evaluated the strategy across a test bed of 50 hospitals simultaneously and adopted expeditiously. How many other

improvement strategies could use speedy testing to increase certainty and quick infusion for adoption? Best practices are established by taking good ideas and testing them using the scientific method.

This is where we were when, in spring of 2009, the American Recovery and Reinvestment Act funded a new NIH program entitled Research and Research Infrastructure Grand Opportunities or the GO Grants Program. One of the RFP's objectives was to create a unique infrastructure designed to accelerate scientific progress in the future. This was our opportunity to do something that would extend the edge of quality improvement and safety. We sketched plans for our tall ship. We proposed a unique infrastructure and named it the Improvement Science Research Network and, in October 2009, the National Institute of Nursing Research and the National Institutes of Health, provided 3.1 million to build the infrastructure for this large scale, interprofessional, improvement research project bed.

We are creating the first national research network that focuses on testing improvement strategies and are starting in the hospital setting because of the rich opportunities. We're building our ship. We're borrowing from CTSAs, PBRNs, and even the 1990's critical care initiative that some of you may remember was called the Thunder Project. Each of these leveraged academic practice partnerships for rapid knowledge development.

The Improvement Science Research Network is largely focused on the largest healthcare workforce nurses, but importantly, it's an interprofessional effort. This network of clinical and academic scholars will collaborate in studies across multiple hospitals to quickly determine what works in improving bedside care, improving systems operations, and moving answers rapidly into practice. The network aim is to accelerate the development and dissemination of improvement science in a systems and microsystems context across multiple hospital sites.

Network research will initially be focused on a systems-based improvement in acute care. We're setting our strategies next. We need the star to steer us by, so we will steer toward a platform for multidisciplinary acute care … and clinicians to collaborate, research priorities for improvement projects to help us focus our resources, theory and methods development specifically suited to achieve rigorous improvement research, a cyber infrastructure with central data management capabilities, and other resources, including a compendium of research instruments, a registry of improvement projects, and stated as science bibliographies. This will be our hub, as well as access to expert analysis for improvement science research studies.

In our final poll today, it's time for you to speak to these new ideas. We invite you to respond to the poll that appears on your screen. Are you engaged in any effort that could benefit from multisite network? In your responses to this poll, this is an easy one to comment on is that you're saying yes, there are many efforts that could benefit, probably in multiple ways, probably due to the multiple challenges that you expressed in the previous poll.

Those of you who are intrigued by the idea of banding together to test improvement strategies might have already begun to think about benefits of the network, especially if these questions resonate with you. Do you have an idea of how to make things work better or easier or safer? Have you tried out a new way of working as a team or making unit based improvements or standardizing a procedure using evidence-based practice? Would you like to test it in a big way and share it? We think the network can help.

A successful network will engage a variety of member investigators in conducting a study in their own setting as part of a larger collaborative. As part of the network, you can grow your own local capacity, feeling fully supported by colleagues and experts. You can lead and partner in multisite research

collaboratives on patient safety and quality and contribute to knowing what works in improving care. You can access valuable and pertinent resources including research materials, instruments, and professional expertise. You can use training opportunities through Webinars, newsletters, conferences, and online modules. Have your agency endorse the national research priorities as your own. Be part of a collegial network, and leverage your network for winning grant funding.

As fast as we are building our ship, we want to see how far we've come. Our progress to date includes forming our network steering council, acting as our advisory capacity, comprised of 17 nationally acclaimed experts and stakeholders. You can see who these folks are on our network Web site. We've held monthly meetings among the council and the coordinating team. In addition, I'll highlight three specific additional accomplishments. We've developed consensus on research priorities, launched communication vehicles, and created a research methods conference.

For the first one of these, as part of a strategic planning to build infrastructure for improvement science to guide and focus our resources, we established consensus on high priority improvement research topics. These priorities are meant to highlight the most important and urgent gaps, and we use a number of sources to inform our work. Environment scans of major concerns in healthcare, reviews of professional and scientific literature, research priorities for quality and patient safety, organizations established by others and, importantly, some of you in the audience may have received a stakeholders' survey, which we conducted in the month of February.

560 respondents gave us their responses around 33 topics and nine categories. These responses formed the basis for a Rand Delphi process with the steering council conducted in March of this year. After multiple iterations, we have consensus on priorities. The results will be presented at the Improvement Science Summit in July and, shortly thereafter, be posted on the ISRN.net Web site.

Another important accomplishment reflects our commitment to communication and outreach and engagement. The venues for network communication and outreach are rapidly forming. Let me highlight just four of them. First is our Web site. The national hub of the ISRN or the Improvement Science Research Network is the Web site launched this March. This broad and deep cyber environment supports the network and its collaborative research activities. Developed in collaboration between UT Health Science Center and Westat, the site offers technological environment for network activities, including the conduct of our research, multisite research studies, collaboration across our research community, rigorous designs and analysis accomplished with expert consultation, and research in IRB training. To help us further shape this research, this resource, by contacting us, and you can find our contact information again at ISRN.net.

The first improvement science summit will set the course for the NIH funded nationwide research network. This one day pioneering event is a premier forum for improvement science and will focus on theory, research methodology, and evaluation approaches applicable in this field. Participants will learn about research methods in this emerging field and have an opportunity to join a team that will conduct multisite improvement research studies on one of three topics: frontline engagement and quality improvement, team performance for patient safety, and preventing medication errors.

Each session is led by a steering council member and a network lead investigator. The lead investigator will present state of the science on the topic, outline the next steps in improvement research, identify a particular research question, and elicit suggestions for expansion and revision. Your site can become part of the research team by identifying a local research coordinator and engaging in this activity.

Here at the Improvement Science Summit, we will also open network membership. It opens July 6th at the Hyatt Regency River Walk. You'll be able to select from a number of levels of membership: general enrollment, which is complementary access to training resources, including streaming videos of summit presentations, Webinars such as this, newsletters, and training resources; partnership enrollment, multiple levels of collaboration in participating member status will provide access to conducting improvement research studies and additional services to support the conduct will be available. Following July 7th, membership enrollment will be available at our Web site.

I'm very excited about our newsletter. Our communication outreach venue number three is the *Network News*. It will be published quarterly and will feature stories about our members' work and their improvement projects, and will introduce new resources and announce new network studies. Read the *Network News* online during the first week of July.

Another communication and outreach venue is our Webinar series, which you found your way to today, and we certainly welcome you. Today's Webinar is the first in our series. Additional events are planned for October, December, and March of next year. Today's seminar is being recorded and will be available for you and your colleagues at the Web site.

Thank you for joining us on this particular Webinar series, and thank you for your interest in this exciting initiative. We invite you to become a part, we need you to become a part, so we can shape this particular vessel in a way that suits you. I appreciate your joining us, and Deborah Carpenter will now pick up the questions and interactions that you have from your audience.

Deborah Carpenter – Westat ISRN Coordinating Center – Project Director
Kathleen, thank you, and thanks to Jack for your insights and information. We certainly appreciate the many questions and comments actually that we've received from our audience thus far, and we have about 12 minutes, so let's get to a few of those. Jack, let me begin by asking a question actually that several listeners have posed, and you touched on this in your definitional issue slide, but I think it merits restatement. The question is, what's the difference between improvement science and implementation science?

Dr. Jack Needleman – UCLA, School of Public Health – Professor
It's an interesting question. There are people who are splitters and people who are lumpers in the world. I'm a lumper, so I tend to look for commonalities, and see a great deal of overlap in all these different terms. But if I were looking to create a distinction between the two, I would say the two tasks that I see in moving progress forward is being able to make our institutional healthcare delivery setting safer, more efficient, more patient centered are the problem of finding and being confident that we've got practices that will in fact help us achieve those things. And the other side of it is the challenge of getting the organization to effectively implement and sustain what works.

The implementation science people, I think, tend to focus a little bit more heavily on the organizational, institutional, and individual challenges in finding what works. Sorry, in implementing what works, and the challenge is to getting things that work up and going, and I think, to some extent, the improvement science folks may place a little bit heavier emphasis on creating the evidence base, being confident that we can say if we can effectively implement this kind of change in practice, it will have this kind of impact. Kathleen, you've been living with the whole problem of definition issues to set up the network. Do you have any thoughts about this beyond mine?

Dr. Kathleen Stevens – UTHSCA – Professor of Nursing
I agree with your lumping, Jack, and I would certainly add a couple of other things. One is, what's the difference between quality improvement and research? And so I tend to think of myself not as a splitter or a lumper, but a synergizer trying to find ways to get double duty from the efforts that we already have up and running because those are priority efforts for us. To distinguish between quality improvement and research, we've had incidents occur in the nation where a quality improvement project was called out because the IRB checkboxes hadn't been all checked. And so I think that it raised the issue across the nation about the difference between these two, and JAMA has been trying to vet of this discussion since 1996. My position on the Improvement Science Research Network is if we can get all of these things aligned, there's a tremendous activity and momentum already moving in quality improvement. If we ratchet it up one more step, we'll have science on improvement this is more sharable.

Deborah Carpenter – Westat ISRN Coordinating Center – Project Director
Thank you so much, and Jack as well. Kathleen, can you field this question? How do you view the new professional role of the clinical nurse leader fitting into the initiative of improvement science?

Dr. Kathleen Stevens – UTHSCA – Professor of Nursing
The new clinical nurse leader role is part of a larger transformation throughout nursing education well connected to the Institute of Medicine blueprint that was laid out in terms of what should health professionals know and how should our healthcare system be redesigned across the principles of safety, timeliness, effectiveness, efficiency, equity, and patient centeredness. With the design of these new research, I mean, these new degrees, educational degrees, the focus becomes front and center in terms of how do we improve on a systems focused base. And the implementation of both the CNL and the Doctorate of Nursing Practice, and I also see as well other Doctorates in Nursing picking up the focus on improvement and how to implement improvement and how to evaluate improvement.

To the point, I see the CNL as being that micro system worker that can identify best practice, engage frontline people in thinking about the innovation that can occur, and then making certain that a reasonable effort surrounds their testing so that they'll know whether to continue or to stop. If it's a positive answer, then the next part is sharing. So the clinical nurse leader is a demonstrated role that has evidence with it that it actually improves care and patient safety. It's a great fit with the Improvement Science Research Network.

Deborah Carpenter – Westat ISRN Coordinating Center – Project Director
Thanks, Kathleen. I want to combine actually three questions that we got, and this is mostly about from the bedside to the boardroom kind of mentality. We had a couple questions to how to support the first line managers to encourage clinical studies and how to support those masters prepared nurses at the bedside, and then, in contrast, there were questions about how do we overcome barriers at the top level of an institution, and that's from hospital board, from the executive suite. Jack, do you want to start there and, Kathleen, maybe comment on that as well?

Dr. Jack Needleman – UCLA, School of Public Health – Professor
Boy, we've got a whole seminar topic in that one. Here are a couple quick thoughts. One is that an awful lot of what we see in hospitals, particularly the core nursing service activities, are often viewed by the folks in the C suite as cost centers. They are not service lines. And there really needs to be an effort to recast what the nursing service does, what the housekeeping staff does, as core service of the organization, not simply cost centers that get us onto doing the real stuff in the operating room or the radiology department or the pathology department, so I think that's part of the challenge.

One of the ways in which we're going to see that happen is to see more folks with direct experience in patient care on the boards. As somebody said, it's got to be in the boardroom. We need more nurses on the boards. We need more patient care advocates and more patients and frankly, folks who have had patient experience in their families on the board so that their experience can be brought into the judgments about what the leadership of the organization needs to do.

Some of the issues that we see in magnet organization about elevating the role of the chief nursing officer as a service line leader and as a core member of the C suite also needs to take place. So we've got some real issues with the revenue structure of hospitals where the revenues are brought in by patients, but they're not brought in by patients. They're brought in by the physicians who admit patients. So we see the hospital paying a great deal of deference and attention to the physicians who are bringing things in, but who may not be employees of the hospital. As we move to see more pay for performance and pay for quality, perhaps we'll be increasingly seeing a realization that the folks who actually influence the performance of the organization internally, the frontline staff, and the folks who supervise and manage them will play a larger role in determining the profitability of the organization and the revenue stream of the organization and will in turn be elevated in the attention that's given to their roles.

Deborah Carpenter – Westat ISRN Coordinating Center – Project Director
Thank you, Jack. Kathleen, let me ask you a process question that came in. How, if at all, will Etienne Wenger's idea of community of practice learning network be used as a resource for improvement?

Dr. Kathleen Stevens – UTHSCSA – Professor of Nursing
A lot of the concepts within the Improvement Science Research Network and other networks that exist in practice-based research networks really focus around a community and practice in engaging on a single mental model to get a very focused objective so that it can be accomplished. To expand on that, the mental model extending from the boardroom to the frontline is also a very big issue with looking at, you know, I think the poll exemplified the frontline engagement. I wanted to say just a quick thing about frontline in addition to top down.

The rapid testing that can occur among community of practice that perhaps are frontline and clinical nurse leaders engaged in an initiative to test it, if the testing can be accomplished, and it's done locally, there emanates a high interest in rapid adoption if it worked. It's like, gosh. We tried this out for three months, and it worked, and why don't we spread it throughout the hospitals. One of the things that works in a community is proven to be champions. Champions across a hospital or across the hospital-wide system of hospitals can become a big part of the adoption of this particular improvement.

Deborah Carpenter – Westat ISRN Coordinating Center – Project Director
Thank you, Kathleen.

Dr. Kathleen Stevens – UTHSCSA – Professor of Nursing
That would be a way to lift up and have these collaboratives, both with the cyber infrastructure that provides a collaborative environment, as well as ongoing, face-to-face, synchronous types of interactions. Thanks, Deborah.

Deborah Carpenter – Westat ISRN Coordinating Center – Project Director
Thank you. For those of you, if we didn't get to your question, know that we will take all the questions and synthesize them in collaboration with our speakers and have them posted on the site. I'm afraid we're at the top of the hour, and we are going to bring the Webinar event to a close. Again, I'd like to thank both of our presenters and the audience actually for the many questions and lively engagement. Again, we

value your feedback and hope that you can spend a few minutes completing the evaluation form that's about to appear on your screen. Also, please visit the Improvement Science Research Network, Kathleen mentioned earlier, Web site at www.isrn.net, to learn about upcoming events and other networking opportunities. Thank you sincerely and have a great day.