



AHRQ Health Care Innovations Exchange

Report on

SCALE UP & SPREAD

Activities 2011

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EXECUTIVE SUMMARY

FINDINGS AND RECOMMENDATIONS

SCALE UP AND SPREAD ACTIVITIES OF THE AHRQ HEALTH CARE INNOVATIONS EXCHANGE

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In 2011, the AHRQ Health Care Innovations Exchange undertook several activities on the scale up and spread of health care innovations. These activities generated valuable findings and action recommendations for the emerging field of scale up and spread in general, as well as for the Health Care Innovations Exchange in particular. Findings and recommendations are summarized here.

General Findings

1. For successful spread of innovations, the gap between the innovator role and the role of the spreader must be addressed.
2. The inherent value of the innovation is not enough to ensure spread. Innovators have to make the business case for spread, and consider issues such as cost effectiveness, return on investment, and market competitiveness.
3. For spread efforts to succeed, innovators must engage multiple stakeholders including funders, payers, hospital and health system leaders, health care providers, patients and families.
4. It is important to assess the Innovation's readiness for spread and ensure that it is "spread-ready."
5. Adopter organizations must be ready to adopt and implement the innovation. Readiness requirements may vary for different innovations.
6. The innovator's organization can support or obstruct efforts to spread.
7. We need to better understand the adoption-related needs of providers for underserved and vulnerable populations.
8. Implementation and spread is an emerging science and deserves strong support.

General Recommendations

1. Develop Tools to Support Scale Up and Spread
 - Readiness assessment tools (innovation's readiness for spread, and adopter organizations' readiness to implement)
 - Market and environment assessment tools
 - Return on investment (ROI) calculators for specific innovations
 - Innovation Selection Tools for Potential Adopters

- Tools to assess implementation success
2. Support Training and skill development
 - Mentoring and training in spread skills for innovators.
 - Skill training for change champions in adopter organizations.
 - Learning collaboratives on adoption and uptake.
 - Curricula on innovation and implementation science for medical and nursing schools.
 - Create awareness and demand for innovation among providers for underserved populations.
 - Develop funding and programmatic partnerships with government and private funders interested in supporting SUS.
 3. Support research on scale up and spread
 - Conduct research on topics related to scale up and spread, e.g.
 - What tools and processes are needed to make innovations successful? What incentives do innovators have to innovate, and then to spread their innovations?
 - What types of leadership support are essential for successful implementation of innovation? What are effective ways of obtaining leadership support?
 - How can the costs of innovation be identified, across the variety of organizational units affected, and over time, as innovations mature?
 - Enhance the legitimacy of scholarly work on scale up and spread by addressing publication barriers and establishing a National Center for Research on Scale Up and Spread.

Recommendations for the AHRQ Health Care Innovations Exchange

1. Enhance the innovation profiles and Web site by adding information related to spread, adoption, implementation and sustainability of innovations.
2. Serve as a “connector” and matchmaker between innovations and potential adopters, and between innovators and spread organizations.
3. Facilitate adoption by creating innovation bundles based on clusters of related innovations.
4. Conduct scale up and spread conferences and create on-line forums for community building and sharing of learnings among those engaged in scale up and spread.
5. Hold in-person and virtual innovator fishbowls.
6. Conduct periodic surveys of health care organizations to identify new directions and emerging innovations.

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I. Introduction

This report provides an overview of lessons learned from 2011 scale up and spread activities undertaken by the AHRQ Health Care Innovations Exchange (Innovations Exchange), including a panel on the topic at the 4th Annual National Institutes of Health Conference on the Science of Dissemination and Implementation in March 2011 and the AHRQ Health Care Innovations Exchange Round Table on Scale Up & Spread in May 2011.¹

Topics of lessons learned include:

- Differences between the roles of innovator and spreader;
- Essential elements of the business case for spread;
- The importance of engaging multiple stakeholders in spread;
- Ways to assess readiness of innovations for spread;
- The role of the innovator's organization in spread;
- Ways to assess readiness for adoption;
- Adoption-related needs of providers for vulnerable populations; and
- The development of the science of implementation and spread.

In addition, our activities identified the need for tools, training, and other support to speed implementation. Lastly, they also resulted in a range of suggestions for the Innovations Exchange itself, including enhancements to profile content and efforts that the Exchange could undertake to support spread.

¹ These Innovations Exchange initiatives built on conversations started at an AHRQ-supported conference in July 2010: *Conference to Advance the State of the Science and Practice on Scale-up and Spread of Effective Health Programs*.

Background

“The U.S. Agency for Healthcare Research and Quality created the Health Care Innovations Exchange to speed the implementation of new and better ways of delivering health care.” – AHRQ Health Care Innovations Exchange

In its initial years, the Innovations Exchange focused on content development by building a collection of over 600 innovation profiles and 1600 QualityTools across a variety of settings, populations, disease and clinical categories, care stages, organizational processes, and other dimensions. The Innovations Exchange has since become the nation’s largest publicly accessible, Web-based collection of evidence-rated health care delivery innovations. To explore how these innovations and tools could be actively used by the masses for greater improvements in health care quality and reductions in racial and ethnic disparities, the Innovations Exchange began to turn its attention to speeding uptake. Over the past year, AHRQ/Westat has explored promising ways of assisting innovators with scale up and spread (SUS) efforts and making it easier for adopters to share, learn about, and implement these new approaches to health care service delivery.

Recent AHRQ/Westat activities on scale up and spread have included the following:

- **Panel at 4th Annual NIH Conference on the Science of Dissemination and Implementation: Policy and Practice** (March 2011): “Spread Models and Lessons: Learning from the AHRQ Health Care Innovations Exchange.” Mary Nix, Project Officer, chaired the panel and provided an overview of the Innovations Exchange. Veronica Nieva, Project Director, described major models of spread based on both the literature and the profiles represented in the Innovations Exchange collection. Innovators Bruce

Leff, MD, of Johns Hopkins University School of Medicine and Tracy Novak, MHS, of Johns Hopkins Bloomberg School of Public Health outlined their efforts to spread their innovations, which are profiled in the Innovations Exchange.²

- **AHRQ Health Care Innovations Exchange Round Table on Scale Up & Spread (May 2011):** AHRQ and Westat worked together to design and produce the Round Table, consisting of an on-line discussion on scaling issues, and an in-person, daylong event. Invited participants, included a diverse group of health care innovators and potential stakeholders for health care innovations (e.g., payers, government and private funders, foundation officials, and researchers). We used a set of innovative activities to surface ways in which the Innovations Exchange could support scale up and spread efforts. These activities included:
 - The Scale Up & Spread Round Table and On-Line Discussions: For several weeks prior to the Round Table, Westat hosted a knowledge sharing platform that provided participants with the opportunity to join Web-based discussions led by provocateurs (recruited from the Innovations Exchange Expert Panel and others) on major questions related to the role of the Innovations Exchange in promoting SUS, which would help inform the Round Table discussions. The questions were:
 1. What resources can the innovations exchange provide innovators to help them to scale up and spread?
 2. How can the Innovations Exchange support potential adopters, especially those focusing on the underserved?
 3. How can the Innovations Exchange act as matchmaker between

² See Appendix C for presentation titles and links to PowerPoint slides.

innovators and solution seekers/potential adopters?

4. How can the Innovations Exchange help develop and disseminate new knowledge about SUS, and integrate this knowledge into its Web site content?

We also provided an array of background resources on the topic of SUS and invited participants to share their general thoughts and interests on spread.

- The Scale Up and Spread In-person Event. The daylong event was divided into three major sections. The morning was devoted to a Fishbowl session, in which three innovators presented their innovations and spread plans to a reactor panel, in front of the entire group of participants. In the afternoon, smaller groups discussed the four major questions that had been the focus of the on-line discussions. The day ended with a “3X5” exercise to identify the most striking ideas generated during the day.
 - Fishbowl: Three Innovations Exchange innovators made 10 minute presentations to a 5 member Fishbowl Panel, consisting of different kinds of health care experts who infrequently exchange perspectives: a health care payer, foundation executive, hospital executive (C-suite administrator), community health care organization leader, venture capitalist, and an entrepreneur. The panel posed questions and offered guidance to the three Innovations Exchange innovators.³ This dynamic session identified a range of important and generalizable challenges to SUS and provided “case studies” for further discussion in the Four Corners exercise.

³ See Appendix A for brief descriptions of the panel and innovators.

- Four Corners break-out sessions: Provocateurs and Westat staff led sessions on the four major questions first addressed in the pre-event Web site.
- 3 X 5 Exercise: Participants were asked to identify and rate the “best ideas of the day”, in an interactive exercise using 3 X 5 cards.

II. Highlights of learning about scale up and spread

“Ultimately, we’re all focused on a single specific challenge. How do we shorten the time between development of innovations and their implementation?” – Carolyn Clancy, Director, AHRQ

In the NIH panel and Round Table on Scale Up & Spread, innovators, researchers, and other participants drew on their work to offer observations, guidance, and lessons learned on topics including the role of the innovator, the process of scale up and spread, and the role of adopter organizations. The following summarizes the highlights of what we have learned about scale up and spread with illustrative quotes from participants.

A. The role of the innovator is different from the role of the spreader

“Interestingly, each of the innovators shied away from anything that was suggestive of a marketing plan, each stating in their own way that the idea of actively promoting their innovation made them uncomfortable.” – Lisa Suennen, Psilos Group Managers, LLC⁴

Innovators are often dedicated clinicians, academics, or health care professionals with an altruistic interest in improving health care service delivery. Joseph Skelton, developer of an innovation to reduce childhood obesity, described his motivation to address the issue of “how

⁴ Lisa Suennen, “Healthcare: When Innovation Is Not Enough,” from *Venture Valkyrie: What Would Lisa Suennen Say?* (Available at <http://www.venturevalkyrie.com/2011/05/17/healthcare-when-innovation-is-not-enough/2182>. Accessed 072611).

can we treat kids and their families who are struggling with weight problems and do a better job at it every year.” Linda Wick, manager of an innovation to treat chronic heart failure, described her goal as helping patients and their families manage the demands of a serious illness. David Dorr, who developed an innovation on primary care, said that he wants “to improve the care for the most at-risk people in the practice, people with multiple chronic diseases, especially older adults.”

Several Fishbowl Panelists noted that spread, in contrast, is an entrepreneurial task that involves engagement with actors who are often focused on economic issues. Business consultant Steve Shields noted that “doing something because it’s the right thing to do and having a passion about it is what creates the success. But it’s not enough for the people that need to help you.” Lisa Suennen explained that “if you want to propagate it in other parts of the community, then you need to find and engage and co-opt a payer into figuring out why this is good for their business.”

The work of scale up and spread takes the innovator into the unfamiliar—and possibly uncomfortable—world of challenges such as analyzing and outperforming the competition, developing a business case and marketing plan, courting partners and investors, and forming a national advisory board. Innovations consultant Paul Plsek observed that “typical innovators in health care don't even know the world that they've stepped into. There's a whole new language.” As health care innovator Linda Wick explained, “I need people to give me feedback that are out there in the business world and not the provider world.”

To make the transition to the more entrepreneurial role of spread agent, innovators will need to develop spread-related knowledge and skills. Although it may be neither practical nor

possible for innovators to acquire proficiency in the many areas required to comprehensively promote an innovation (e.g. finance, marketing), they may be interested in gaining a working knowledge of critical elements such as estimating a return on investment (ROI), developing a business case, understanding marketing techniques, and assembling a team to plan and implement an SUS strategy.

Fishbowl panelists also observed that successful entrepreneurship requires more than just mastery of business issues. It also requires strong leadership qualities. As Lisa Suennen commented, “A good idea with a great leader always beats a great idea with a good leader. Always. Every time.” Steve Shield also noted the large role that “the force and the charisma and the mental clarity” of the leader played. He observed that innovators may decide to lead the spread process or to turn that role over to someone else.

B. Make the business case for spread

“How are you going to get the innovation out? How are you going to get the acceptance from your fellow colleagues around the country that this provides savings in some sort of way? Doing the right thing isn't enough. It has to work in their business model.” – Steve Shields, Action Pact Development, LLC

Health care service and delivery innovations occur within the context of budget restraints and scarce human and fiscal resources. Making the argument that the innovation is “the right thing to do” is not sufficient. As noted by many panel members, innovations are stronger candidates for scaling if they can rigorously and demonstrably prove their cost effectiveness in ways that satisfy key supporters of spread efforts. As Lisa Suennen explained, “The return on investment is all that matters to payers....They’re not going to spend money for programs they’re going to lose money on.” It is also important for providers.

However, some innovations may save money and even produce other desirable outcomes such as higher quality of care, but Fishbowl Panel experts and innovators agreed that the current parameters of the health care system may mean that they will still be challenging to spread. For example, Linda Wick can substantiate the cost effectiveness and higher quality of her intervention on CHF. However, broader SUS efforts would have to clear two major hurdles: 1) possible objections from payers to purchasing disease management services for only one condition; and 2) current diagnostic practices that make conventional disease management services look more effective than they are, undermining the market for alternatives. As Ms. Wick explained, CHF is over diagnosed, creating the misleading impression that conventional disease management services are adequately treating it when, in fact, their apparent success in avoiding rehospitalization lies in the fact that many of their “CHF patients” do not actually have the disease.

Another cost factor central to the business case is reimbursement. In the case of David Dorr’s innovation, health plan expert Adam Zavadil observed that primary care practices are often funded by six or more different payers, making it difficult for an individual payer to justify funding the full cost of an innovation. He recommended a community engagement approach to payment in which multiple payers would jointly decide to fund different components of the innovation. In this example, the shared financial burden could increase the appeal and value to payers, but this model will likely not translate to all settings or clinical scenarios. Regardless of the mechanism, reimbursement remains a crucial factor in determining the feasibility of adoption and should be addressed in the business case for the innovation.

The business case for an innovation must also consider the issue of competition and

market differentiation: why potential adopters should adopt one innovation over other innovations or current practices. The innovation must be well positioned within the context of their adopting organization by, for example, bundling it with related services. For example, Joseph Skelton's innovation focused on reducing obesity among children might be bundled with related service lines such as bariatric surgery services. Hospital executive Janell Moerer stated that integrating the innovation's benefits into the institution's other goals and values could make it more attractive to health care executives. She recommended that Joseph Skelton investigate options for framing his innovation in altruistic terms attractive to her hospital and others, and align it with the system's mission of creating closer linkages with local communities.

Lastly, the business case should take into account the innovation's ability to be sustained over time. Tom Graf from Geisinger Health System described a formal tool that his organization developed to gauge the likelihood of continued support for an innovation. This four-pronged tool uses indicators of 1) professional satisfaction and professional impact, 2) patient impact, 3) financial impact, and 4) quality. Dr. Graf stated that good performance in three out of these four areas typically indicates a sustainable innovation.

C. Engage multiple stakeholders in spread

"We're not in Kansas anymore, Toto, are we?" – Paul Plsek, Paul E. Plsek & Associates, Inc.

As Fishbowl Panelists emphasized, it takes a village of multiple stakeholders to spread an innovation. Engaging multiple stakeholders will require innovators to venture beyond their familiar clinical worlds to first recognize and then actively leverage the complementary roles

multiple stakeholders can play. These roles may differ depending on factors such as the nature and setting of the innovation, the stage of SUS, and the scope of SUS plans.

Multiple stakeholders and their roles include:

- *Public and Private Sector Funders:* Federal, state, and local governments as well as private sector entities such as foundations, venture capitalists, and others play key roles in developing innovations for spread and enabling more ambitious spread plans. Both the public and private sectors may identify areas in need of innovation and supply seed money for their development. Foundations, for example, can be both a source of capital and expertise at different stages of development and dissemination. The public sector, in particular, can play a powerful role in fostering spread by changing payment methods, providing incentives, or passing laws and establishing regulations that, in effect, create or expand a market for innovations and incentives for their spread.
- *Payers:* Payers such as insurance plans can also play important roles in spreading innovations by, for example, reimbursing innovative activities, such as disease management interventions, that reduce health care costs. However, payers will often require strong evidence of cost savings and quality improvement. For example, Adam Zavadil observed that “some of the savings may be illusory” from discrete innovations since savings gained in one area of care (e.g., disease management) might be offset by increased prices in another (e.g., increased cost of testing).
- *Hospital/Health System C-Suite:* The development of hospital/health system – based innovations by its nature requires executive-level commitment to provide the organizational resources and flexibility needed to investigate alternate interventions,

reassign or recruit staff, provide equipment and other supplies, measure achievements, and refine the intervention. Spread, in turn, requires additional C-suite support in the form of endorsements and resources. For example, as Innovations Exchange Expert Panel member Ted Eytan noted, C-suite administrators of organizations considering adoption will examine the degree of C-suite support for the original innovation. As innovator Bruce Leff observed, the C-suite may also supply seed money for initial spread activities that can attract the attention of potential backers. His home institution, Johns Hopkins University School of Medicine and its affiliated hospital system, supported spread activities that attracted media coverage in publications such as the *Wall Street Journal*.

- *Professional colleagues, especially physicians:* Professional colleagues can be invaluable sources of support, according to Joseph Skelton, particularly if they believe the innovation addresses an important clinical need they confront in their practices. Enlisting the support of physicians may be particularly important if their role is central to an innovation's successful implementation or if they are gatekeepers to spread. Dr. Skelton noted the importance of physicians who refer patients to treatment by innovative programs. In addition, as Tom Graff observed, an innovation is likelier to have "long-term staying power" if the professional experience of delivering care is improved and disruptions to preconceptions of professional roles and relationships (e.g. by introducing a care coordinator, or by demanding new ways of working in multi-professional teams) are anticipated and managed.
- *Patients and families:* Susan Edgman-Levitan, an Innovations Exchange Expert panel member, observed that "I've never seen anything we do in health care that hasn't

been vastly improved by engaging patients and families.” Patient and family input can be critical to improving the quality and effectiveness of innovations that directly affect patients and improve their performance on a range of metrics, which in turn can help to build the business case for spread. A patient steering committee may be helpful in this regard. Community organization expert Sharon Schindler Rising noted that patients and families can also help market innovations by informing their networks. Their role may be particularly important in helping an innovation gain acceptance as it spreads into a new community.

- *Communities*: Development of successful innovations can require deep knowledge of the community context, including demographics, culture and values, health-related challenges, and wrap-around services. As Joseph Skelton explained, his innovation developed a family navigator component to link patients and their families with essential community resources, allowing them to better prepare themselves for treatment.
- *Connectors*. Innovators benefit from “connectors” such as advisory boards that have networks that bridge different stakeholder communities. Connectors can make it easier for innovators to make the contact needed to assess initial multi-stakeholder opinion on their interventions and the ways in which they need to be refined to speed adoption. Innovators can also tap connectors for help with forming spread teams and eliciting support from funders, payers, and other key stakeholders. As foundation executive Amy Berman advised Linda Wick, a national advisory board could “help you think through the market, the industry, pay for performance, quality indicators.”
- *Consultants*. Consultants are also connectors with particular skill sets such as business

plan development that are essential to spread. As Lisa Suennen advised Linda Wick, this kind of assistance can be more accessible and economic feasible than innovators might realize: “Go to the University of Minnesota's business school or whatever the closest equivalent is and find somebody in the MBA program that focuses on health care or the master's of public health program and ask ... there are students who will write these plans for you. They need the credit. You need the plan.”

D. Innovation readiness for spread

“Which pieces of this innovation are really going to be critical? This knowledge can generate the spiral of spread.” --Michael Harrison, AHRQ

Any conversation about scale up and spread must explore the specific features of the innovation. Discussions from the events identified the characteristics and structure of the innovation that optimize successful proliferation, which involved clarifying spread goals, preparing an innovation for spread, reducing costs, ensuring fidelity to the model, and clearly articulating the benefits of the innovation. Though these themes partially reflect the innovation characteristics that Everett Rogers⁵ defined as influencing the decision to adopt or reject an innovation (i.e., triability and complexity/simplicity), many of the suggestions captured during these events provide a different perspective about what constitutes an innovation's readiness to spread.

Prepare the innovation for spread

⁵ Rogers, E.M, & Rogers, E. (2003). *Diffusion of innovations, 5th edition*. New York, NY: Free Press.

There was general agreement that innovations should undergo some purposeful preparation for spread. Event participants thought that innovations should be tailored for spread by refining and simplifying the elements of the innovation, since scaling a simple, well-defined innovation is intuitively easier. Recommendations included identifying the “core elements” of an innovation – those that make it not only unique and specific, but also functional for replication – and focusing on how to make the innovation most efficient. Additional suggestions included considering the patient and family perspective when preparing an innovation for spread, perhaps even seeking their input when determining which innovation attributes are crucial to preserve, and integrating scale up and spread activities into the initial planning phases of an innovation.

Clarify spread goals

Innovators interested in spread need to clarify their goals for spread in order to guide their strategies for spread. As Lisa Suennen explained, “Whether it’s selling five widgets or world domination, whatever it is, it needs to be something that defines what are you trying to be when you grow up? And how are you going to know when you got there measurably?” For example, innovators with a goal of national spread of a treatment protocol or formation of a for-profit health information technology (HIT) firm would be likely to opt for more complex spread strategies than those hoping to spread a program throughout their local communities.

Reduce costs

Cost issues were consistently mentioned throughout the scale up and spread events. To this end, innovations should aim to reduce the costs associated with implementing and

sustaining the program. The costs of adopting the innovation should not be prohibitive and, to the extent possible, should be minimized to a reasonable and manageable level.

Adam Zavadil advised also looking for the “hidden costs” of an innovation such as departmental costs and warned that without accounting for such expenses, the cost savings associated with the innovation may be misleading to health plans and other payers. He also cautioned innovators to consider costs borne by patients and their families, such as time away from work and transportation costs. Hidden costs can also include services such as the remote weight measurement devices in Linda Wick’s innovation or exercise activities in Joseph’s Skelton’s innovation that are vital to its success, but that are not covered by major payers. The result is that they must be absorbed by the innovator’s organization, reducing the innovation’s overall cost effectiveness.

For innovations that are primarily provider-based, another cost-reduction strategy is to limit the role of expensive providers and use alternative staffing and technology as much as possible. For example, Janelle Moerer encouraged innovators to think about “the new workforce or what new technician could begin to emerge to take some of the cost out.” When appropriate or feasible, Sharon Schindler Rising recommended use of group sessions since this approach offers a valuable network and support for patients and families, while also achieving efficiencies for the provider organization.

Ensure fidelity to the model

Tom Graf explained that the Geisinger Health System found after experimentation that innovations are best spread when they are “95% baked.” This prescription leaves little room for

local variation, and may have to be adjusted somewhat for spread across different health system models. Geisinger takes further steps to ensure that a site can successfully adopt a highly developed innovation, including careful selection of early adopter sites and supply of technical assistance and other resources. David Dorr said that the Care Management Plus evaluates adopters over time to track their fidelity to the model.

Strongly state the benefits of the innovation

For an innovation to spread, its benefits must be strong, compelling, and communicated in a comprehensible way to target audiences. Sometimes translating outcomes from scientific to lay audiences can be challenging. In the case of Joseph Skelton’s obesity program, for example, the key indicator of weight loss in growing children needs a more accessible measure than the BMI z score, the scientific measure of weight loss. In the words of Steve Shields, “[A]ny deep change is really hard to explain to people. And so a key thing is you have to find a way to show a measurable way of improvement or you won’t get anywhere.” Additionally, articulating the advantages of certain innovations, such as those aiming for long-term benefits, may be more difficult since the current health care climate and reimbursement structure tend to recognize the value of programs that produce near term results.

E. The role of the innovator’s organization

“The question is ‘are you willing and do you have the internal support to even go outside your environment?’ This is a tough question.” –Amy Berman, Hartford Foundation

The role and characteristics of the *adopting* organization frequently dominate discussions and research about scale up and spread; however, less attention is paid to the role

of the *innovator's* organization. Whether the innovator's organization supports spread or considers it "out of scope" or a threat to its competitive advantage has important implications for spread efforts. Joseph Skelton alluded to this point as he spoke about aligning his goal of reaching and helping sick children with the financial goals of his home institution. He has also secured alternate funding sources to limit the financial burden on his home organization. Janell Moerer also recommended aligning innovations with important altruistic missions of home organizations, thereby reducing some of the pressure to be cost effective.

F. Readiness of adopter organizations

"It can be very frustrating. I have given them (potential adopters and organizations) the tools and the protocols. I am even available to answer questions, but inevitably they go back and don't make any changes." – Linda Wick, Essential Health Heart Failure Program

Alignment of critical features of adopting organizations such as capacity, culture, resources, and leadership consistently determine the success or failure of an innovation's implementation. In addition, adopting organizations need to understand and anticipate the disruptions that will result from the innovation. This includes thoughtful consideration of the impact of the innovation and the burden of implementation on staff. The adopter is infrequently one person. More often, adoption involves multiple layers of adopters within an organization – from the C-suite to the frontline provider – all of which will be uniquely affected by the innovation within their own professional spheres.

Echoing themes from previous sections, the resources needed to adopt innovations must be in place, including physical space, equipment, and funding, as well as human resources. Staff must invest not only their time, but also their energy and passion into adopting these

innovations. Depending on other ongoing activities at the adopting organization, “innovation fatigue” may be a genuine issue, as staff members struggle to balance multiple, concurrent initiatives into their daily work. This fatigue and perceived burden can influence the initial adoption of the innovation as well as its sustainability.

The readiness of the adopting organization is partially dictated by the nature of the innovation. Different innovations may have different and very specific readiness requirements, which further underscore the need to outline the details of such requirements for adopting organizations, perhaps through an innovation-specific readiness assessment or checklist. This is especially true in the case of innovations that rely heavily on HIT capabilities. David Dorr provided the example of primary care practices that have a robust HIT infrastructure already in existence because of efforts to reach “meaningful use” requirements. These practices are better positioned to undertake HIT-related innovations, compared to practices that are just beginning to develop their HIT systems.

G. Limited knowledge about the adoption-related needs of providers for underserved and vulnerable populations

“...[T]oo many studies in our annual report on disparities consistently demonstrate we have to change the way health care is delivered if we’re going to get to high quality affordable care for everyone.” – Carolyn Clancy, Director, AHRQ

One of the major themes of the Scale Up & Spread Round Table was the dearth of resources for the scale and spread of innovations that are badly needed to improve health care quality. AHRQ has long recognized that the needs are even greater and the resources even scarcer for providers of underserved and vulnerable populations, such as federally qualified

health centers, community clinics, substance abuse treatment centers, and mobile health vans. Their patients often present with complex health issues, which are exacerbated by economic and social resources that are limited at best. As Joseph Skelton noted, they may require basic social services such as emergency housing before they can even attend to their health needs.

Safety net providers have long been in serious need of quicker, better, and cheaper ways to deliver health care. Some of these innovations might be the same as those suitable for general populations. For example, David Dorr noted that his Care Management Plus innovation has been adopted by a range of primary care practices, including a number of federally qualified health centers. However, other innovations might be poorly suited for vulnerable populations. As Adam Zavadil pointed out, innovations involving time-consuming treatment might not well serve the working poor who often do not receive sick leave.

The serious health problems of vulnerable populations and the persistence of large disparities documented by AHRQ's National Healthcare Disparities Report supports the need for a more in-depth examination of how innovations can be scaled and spread to strengthen and sustain safety net health care.

H. Develop the science of implementation and spread

"It's a whole new field of study to understand the research methods and to understand quality improvement. Implementation science needs support as an emerging field." – Susan Edgman-Levitan, Massachusetts General Hospital

The Scale Up & Spread Round Table brought together a range of participants who drew on their diverse experience and professional backgrounds in medicine, health care services,

business development, law, and other fields to thoughtfully consider the topics of the day such as essential elements of the business case for spread and ways to assess readiness of innovations for spread.

However, participants acknowledged the challenge and complexity of scale up and spread and the need to better understand how to accomplish it more efficiently and effectively. They welcomed the continued development of the science of implementation and spread so that the implementation of promising health care innovations can be greatly accelerated. As Steve Shields commented, “[I]mplementation science is very new for a lot of people and understanding how you do it in a systematic way is really helpful to a lot of people.”

III. Tools and other processes needed to support scale up and spread

The Scale Up and Spread events identified needs for tools, training, and other activities that are important to facilitating the spread of innovations. Many of these needs are wide ranging, and could serve as the basis for a development agenda involving different stakeholders interested in promoting the spread of innovations in health care. In addition, the SUS events also identified areas recommended for specific consideration by the Innovations Exchange. This section discusses both sets of needs.

A. Tools for scale up and spread

Readiness assessment tools

The need for readiness assessment tools focused on the *innovation’s readiness for*

spread and on *the adopter organization's readiness for adopting and implementing an innovation* was a persistent theme throughout the different discussions on SUS.

- *Innovation readiness for spread*: Section II above summarizes a variety of issues related to how the innovations should be structured to facilitate spread. Much of the discussion identified attributes of “spread ready innovations” (e.g. Is the evidence robust? Are the essential core elements of the innovation clear? Has the innovation been optimized for efficiency and cost? Can the benefits for all relevant stakeholders be stated clearly? What is its competitive advantage?), which would be incorporated into a tool that would help innovators prepare their innovations for scale up and spread. In addition, the event pointed to the importance of understanding and minimizing direct and indirect cost factors related to the innovation, and the different returns (ROI) that various stakeholders might expect from implementing the innovation. Such tools would also incorporate innovation attributes such as relative advantage and trial ability identified in prior work such as Rogers (op. cit.).
- *Adopter organization readiness*: The SUS events underscored the importance of getting the adopter organization ready for implementation of innovations. Tools to assess adopter readiness might be developed for use by innovators and their spread partners, or by the adopting organizations. Many of the issues that are important from the adopter organization's vantage point are well covered, but not in tool form, by *Will It Work Here? A Decisionmaker's Guide to Adopting Innovations* (<http://www.innovations.ahrq.gov/guide/guideTOC.aspx>). The tools would include consideration of readiness attributes that are generally important, regardless of the

specific nature of the innovation (e.g., presence of a strong and skilled internal champion, the support of organizational leadership, internal organizational culture, capacity, and available resources). In addition, because there is enormous variability in what the innovations would require of adopter organizations (e.g., space, staff, technology, compatibility with organizational culture, disruptions that can be anticipated), innovation-specific readiness tools would also be helpful. An example of the latter is a readiness tool from Centering Healthcare (<http://centeringhealthcare.org/pages/centering-model/site-readiness.php>), which the spread organization can use to assess the potential adopters readiness to implement the innovation.

Market and environment assessment tools

Market and environment assessment tools would be useful for examining the external environment of the innovation, including the size and readiness of the “market” of potential adopters, advantages over competing innovations, the range of stakeholder interests, the regulatory context of the innovation, and potential barriers (particularly reimbursement). The intent of these tools would be to assist innovators and their spread partners with identifying the external factors that may affect the success of scale up and spread efforts, and to address these factors in their scale up plans. These tools are likely to be used by innovators and spreaders iteratively in the process of preparing the innovation for scale up initiatives. These tools may also be of use in sensitizing potential funders of demonstration projects to these factors, to aid in their decision making.

Return on investment (ROI) calculators

Return on investment tools would help innovators understand and explain the practical financial implications of implementing their innovation. This type of understanding, not typically part of the innovators' skill repertoire, is essential to obtaining the support of institutional leadership and payers such as insurance companies. ROI tools would also provide potential adopter organizations with realistic expectations. An example of a ROI Calculator developed for Medicaid projects can be found at http://www.chcs.org/publications3960/publications_show.htm?doc_id=702936. This calculator was designed to be used retrospectively to determine the ROI of quality improvement initiatives. An example of a disease-specific ROI calculator is the AHRQ Asthma ROI Calculator, which estimates the potential health care savings and productivity gains of a quality improvement program focused on asthma (<http://statesnapshots.ahrq.gov/asthma/UserGuide.jsp>).

Innovation Selection Tools for Potential Adopters

The Innovations Exchange includes many related innovations that use different methods to address similar issues. For example, over 35 innovations in the collection provide different solutions to the important problem of preventing hospital readmissions. Tools that offer selection criteria (e.g., simplicity, high impact, low cost) or decision trees would help potential adopter organizations sift through the many potential offerings. Such selection tools would supplement the AHRQ resource *Will It Work Here? A Decisionmaker's Guide to Adopting Innovations* (<http://www.innovations.ahrq.gov/guide/guideTOC.aspx>).

Tools to assess implementation success

Some innovators interested or engaged in spread efforts lack the training and tools to assess the success of their spread efforts. This is particularly the case for innovators who are not connected to university or research settings. For these innovators, providing tools to help them evaluate the adoption and implementation of their innovations would be useful. Such tools might include evaluation guides such as those located at http://www.innonet.org/client_docs/File/evaluation_plan_workbook.pdf. Standard measures to assess the nature and extent of adoption and implementation within organizations would also be helpful for innovators and their spread partners.

B. Training and skill development

Mentoring and training in spread skills for innovators

One of the strongest themes emerging from the SUS events was the enormous gap between the skill sets needed to create the innovation and the skill sets needed to spread the innovation. For innovators interested in spread, exposure to unfamiliar concepts such as marketing and entrepreneurship is important. Training and mentoring might include topics such as: how to simplify innovations to their core elements; how to calculate ROI; how to construct and present a business case; how to do a competitive analysis; how to create succinct message “elevator pitches” for a range of stakeholders, and how to identify most likely adopters. A variety of formats could be involved towards this goal, including intensive one-on-one mentoring, learning collaboratives for innovator-spreaders, and conferences.

Skill training for change champions in adopter organizations

Change champions have consistently been identified as essential elements of successful efforts to adopt and implement innovations in health care organizations. As is the case with health care innovators, change champions are often clinical professionals who have no background or training in change management issues that are essential to implementing new practices in any institution. The Practice Change Fellows program (<http://www.practicechangefellows.org/>) is an example of an intensive two-year program designed to develop the leadership skills needed to adopt and implement new programs for older adults. While intensive programs such as this have been found to be highly effective, experimentation in alternative formats to develop change champion skills would also be useful.

Learning collaboratives on adoption and uptake

Even when practitioners are highly skilled in SUS, they still have much to learn from one another. Peer learning collaboratives among potential and actual adopters of innovation would facilitate the sharing of lessons learned regarding the many alternations in structure, workflow, and general care process that are experienced during the adoption process. Given the broad variety of innovations, learning collaboratives focused on similar types of innovations would be needed.

Curricula on innovation and implementation science for medical and nursing schools

The spread of Innovations in health care delivery organizations will depend, at least in part, on the openness of medical and nursing leaders to adopting new ideas and practices. Currently, medical and nursing education does not universally include a focus on innovation

and implementation science. To prepare the next generation of leaders for their roles as innovation developers and adopters, it would be useful to begin a dialogue on the need for curricula in innovation and implementation science focused on health care.

Facilitating adoption of innovation by providers for underserved populations

AHRQ 's mission includes a special focus on ensuring that health care is provided equitably for all populations, and that disparities in health and health care are reduced between mainstream and underserved and vulnerable populations. Safety net providers who work with these populations are often short of resources, and may not be in strong positions to advocate for improvements in their health care delivery systems. Targeted opportunities to create awareness and demand for innovation among providers for underserved populations may be useful first steps.

Develop funding and programmatic partnerships among government and private funders interested in supporting SUS

Recent conferences and events focused on SUS of health care innovations have surfaced the need for developing collaborative partnerships among the various funders who have interest in supporting implementation of SUS efforts. It is clear that accelerating the uptake of health care innovations will require external funding, and there is much to be gained by developing synergies among funders in the government and private sectors. Traditionally, private sources of funding have consisted of philanthropic foundations, but there is potential for collaborating with other sources of private funding, such as venture capitalists. AHRQ might work with other federal agencies, such as the Center for Medicare and Medicaid Services (CMS) or the Center for Disease Control (CDC) to stimulate these new funder collaborations.

IV. Suggestions for the AHRQ Health Care Innovations Exchange

The SUS events produced various suggestions specific to the Innovations Exchange, in terms of enhancements to the Innovation Profile content describing adoption and implementation issues, and other enhancements or new functions that the Innovations Exchange might undertake.

A. Enhancements to the innovation profiles and Web site

Discussions produced specific suggestions on enhancing the Innovation Profiles by adding information related to scale up and spread, and the adoption, implementation, and sustainability of innovations. These suggestions included:

- Expand section in sustainability – Although there is a current section on sustainability, more information on this topic would be useful to potential adopters.
- Enhance cost and ROI information – these data are very important to adoption decisions, but have proven difficult to obtain for many innovations.
- Enhance the section on Adoption Considerations, especially by providing more specific detail on how to obtain leadership support.
- Expand the profiles to include follow-up information from adopters, especially in later stages of spread.
- Add ratings of innovations, similar to ratings of consumer products and services,
- Add social media information on innovators contact information, e.g., Twitter handles.

In addition to modifying the innovation profiles, the Innovations Exchange Web site

might consider adding a section on Scale Up and Spread. Such a section would include a variety of resources related to Implementation Science, tools for innovators, potential adopters and spread agents, and information on researchers, research funders, and payers interested in these issues. This section could also showcase case studies of successful spread.

B. Suggestions for other activities for the Innovations Exchange

A variety of ideas was offered regarding activities that the Innovations Exchange could undertake to strengthen its support of promoting the adoption of health care innovations in various settings. These are summarized below.

Innovations Exchange as “connector” and matchmaker

A strong theme in the SUS event discussions was the suggestion that the Innovations Exchange take on a variety of connector roles to help bridge the gaps that exist in the innovation-adoption-implementation process. Bridging is needed between *Innovators and potential adopters*. While there are many institutions in search of the solutions that the innovators can offer, the gap between the innovators and solutions seekers is vast. Offering the information through the Web site and Web events, while valuable, is not enough. Discussions explored the idea of constructing a “Match.com” for innovators and potential adopters.

Another role for the Innovations Exchange is to function as a connector *between innovators and spread organizations* with which they can partner. As was made abundantly clear in the SUS events, innovators do not typically have the background and training for the challenge of spreading their innovations. Partnerships with organizations that have these

interests and capabilities could be facilitated by the Innovations Exchange.

Bundle innovations on related topics

The Innovations Exchange contains clusters of related innovations that address similar problems from different angles. For example, there are clusters that focus on preventing readmissions to hospitals, increasing efficiencies in patient throughput in Emergency Departments, or reducing infections. The Innovations Exchange could facilitate adoption by creating innovation bundles, working in conjunction with the relevant innovator communities.

Scale up and spread conferences and community building

A nationally focused conference would help build momentum for research and implementation work on Scale Up and Spread by providing a forum for gathering and sharing ongoing work in this field. In addition, and perhaps complementary to a national conference, the Innovations Exchange might support an online community to share ongoing lessons learned among those involved in scale up efforts.

In person and virtual innovator fishbowls

The learning generated by the Scale Up and Spread Fishbowl was considered exciting and unique by most participants, who suggested future activities that would juxtapose innovators with multiple stakeholders who can provide a variety of perspectives on moving the innovations to scale. Recognizing that these events involve considerable planning and resources, the idea of virtual Innovator Fishbowls was suggested as a worthwhile experiment.

Survey health care organizations to Identify innovations

To supplement the scanning function that is currently conducted by the Innovations Exchange, a periodic survey of health care organizations was suggested as a way to identify new directions in innovation. Such a survey may take different forms, from a broad based traditional survey of a sample of health care organizations, to more focused contacts with organizations already recognized to be innovation leaders.

V. Research recommendations

A. Research topics

One goal of the SUS events was to elicit recommendations on research that would advance the knowledge base on Scale Up and Spread. There was much interest in further investigation of the innovation–adoption–implementation process using a variety of methods, including case studies and surveys. The Innovations Exchange collection could serve as a database from which case studies exploring various topics could be explored. Examples of research questions on these topics include:

- What tools and processes are needed to make innovations successful?
- What incentives do innovators have to innovate, and then to spread their innovations? What are their constraints?
- What types of leadership support are essential for successful implementation of innovation? What are effective ways of obtaining leadership support?
- How can the costs of innovation be identified, across the variety of organizational units affected, and over time, as innovations mature?
- What are the unique considerations in spreading innovations to resource-constrained providers for vulnerable populations? For example, how do cultural competency issues affect scale up and spread for specific vulnerable populations?

- How can innovative cultures be stimulated in health care organizations?
- What are alternative ways of bridging the gap between innovators and adopters? How effective are peer to peer spread initiatives, e.g. learning networks?

B. Support for scholarly work on scale up and spread

Research on topics related to Scale Up and Spread faces challenges because of the small number of legitimate publication outlets for this work, and there is still a dearth of recognition of the value of this work within traditional medical scholarship. Discussions in the SUS events emphasized the importance of creating publications specifically aimed at this emerging body of work. Creating special issues in publications such as *Health Affairs* or the *Journal of Quality and Safety* is one approach to addressing this need. Another suggestion was to recommend special sections on health care innovations in traditional medical journals such as the *New England Journal of Medicine*.

Another approach to enhancing the legitimacy of this emerging field of research is to establish a National Research Center for Innovation, Scale up and Spread, which can be structured in many ways, ranging from traditional academic centers located in universities, foundation-based centers, or a multi-institutional consortium that may include different types of stakeholder organizations.

Appendix A

Scale Up & Spread Round Table Fishbowl Participants

I. Moderator:

- **Paul Plsek, MS**, is an Innovations Exchange Editorial Board member and private consultant who is internationally recognized for his expertise in innovation in complex organizations.

II. Fishbowl Panel:

- **Amy Berman, BS, RN**, heads the Hartford Foundation’s Integrating and Improving Services portfolio, focusing on the development and dissemination of innovative, cost-effective models of care that improve health outcomes for older adults.
- **Janell Moerer, MBA**, is Vice President of Business Development for Via Christi Health, where she assesses and develops ongoing growth strategies and opportunities in innovation and care delivery transformation across the health system.
- **Sharon Schindler Rising, MSN, CNM, FACNM**, is the founder and Executive Director of the Centering Healthcare Institute, Inc. (CHI), a non-profit organization headquartered that is dedicated to changing the paradigm of health services in order to improve the overall health outcomes of mothers, babies, new families and all individuals across the life cycle.
- **Steve Shields, BS**, is the CEO and President of Action Pact Development, which helps organizations transform their institutional nursing homes into the Household Model of nursing care. He developed the Healthcare “Household Model,” a resident-directed service for the aging.
- **Lisa Suennen, MA**, is a co-founder and Managing Member of Psilos Group, a healthcare-focused venture capital firm with over \$577 million under management.
- **Adam Zavadil, MPH**, is the Director of Market Strategy and Analysis at the Alliance of Community Health Plans.

III. Innovators:

- **Joseph Skelton, MD**, is Assistant Professor of Pediatrics, Epidemiology, and Prevention at Wake Forest University and is co-Director of the Kohl's Family Collaborative (<http://www.brennerchildrens.org/kohls/>), a partnership between the YWCA of Winston-Salem and Brenner Children's Hospital.
<http://www.innovations.ahrq.gov/content.aspx?id=2353>
- **Linda Wick, RN, NP**, is Manager of the Heart Failure Program at Essentia Health System, formerly known as St. Mary's Duluth Clinic Heart Failure Program.
<http://www.innovations.ahrq.gov/content.aspx?id=275>
- **David Dorr, MD, MS**, is Assistant Professor, Medical Informatics and Clinical Epidemiology / General Internal Medicine and Geriatrics at Ohio State University and is the principal investigator of Care Management Plus.
<http://www.innovations.ahrq.gov/content.aspx?id=264>

Appendix B

AHRQ Health Care Innovations Exchange Scale Up & Spread Round Table List of Participants

Sarah Ailey
Rush University

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Center for Medicare and
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John A. Hartford
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AHRQ

Deborah Carpenter
Westat

Carolyn Clancy
AHRQ

Judi Consalvo
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Elaine Swift
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David Tanner*
David Tanner &
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Linda Wick
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Adam Zavadil
Alliance of Community
Health Plans

*Expert Panel Member

** Editorial Board Member

†Innovations Exchange Project Officer

‡Innovations Exchange Editor-in-Chief

Appendix C

Overview of Spread Models and Lessons: Learning from the AHRQ Health Care Innovations Exchange

This panel was held on March 21, 2011 at the 4th Annual NIH Conference on the Science of Dissemination and Implementation: Policy and Practice. It featured presentations by Agency for Healthcare Research and Quality (AHRQ) Innovations Exchange staff and innovators on models used to scale and spread innovations in health care delivery and lessons learned based on those experiences. The presentations are available on the Innovations Exchange Web site at the following link: <http://www.innovations.ahrq.gov/webevents/index.aspx?id=33>

I. Chair:

- **Mary P. Nix, MS**, AHRQ, Health Care Innovations Exchange Project Officer

II. Presenters:

- **Veronica F. Nieva, PhD**, Westat, AHRQ Innovations Exchange Editor-in-Chief
 - **Presentation Title:** *Innovation Scaling: Models from the AHRQ Health Care Innovations Exchange*
- **Bruce Leff, MD**, Professor of Medicine Johns Hopkins University Schools of Medicine and Public Health
 - **Presentation Title:** *Learnings from the AHRQ Health Care Innovations Exchange: Hospital at Home*
- **Tracy Novak, MHS**, Director of Communications, Roger C. Lipitz Center for Integrated Health Care, Department of Health Policy and Management at Johns Hopkins Bloomberg School of Public Health
 - **Presentation Title:** *The Guided Care Model*