# Mastering the Art of Innovating:
# A Funny, Wonderful Thing Happened on the Way to My Deliverable!

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Linda DeWolf is President of the VHA Health Foundation and Keith McCandless is co-founder of the Social Invention Group. Together, they are supporting the development and spread of nine diverse innovation projects with project leaders. This article describes a surprising pattern of behaviors employed by grantees in spreading good ideas.

*The most exciting phrase to hear in science, the one that heralds the most discoveries,*
*is not 'Eureka!' (I found it!), but 'That's funny . . .'* Isaac Asimov

As nine grantees mused on how they would spread their innovation, we noticed something very strange. Their sense of their own creation was in flux – not easily explained or described as a "deliverable." While each innovator had a very firm sense of direction, there was no fixed destination – a destiny without destination. We dug deeper. After many months (years in some cases), the innovation continued to shift shape.

Hmmmm, we started to wonder:

- Are all innovators "uncompromising artists," unwilling to lie flat or explain something that comes alive through passionate engagement?
- Had we failed to support tight project management of the messy innovation process … toward a neat and tidy conclusion?
- Did we have a batch of ill-defined, unlikely-to-spread innovation projects on our hands?
- Are we learning something new about innovating and innovators?

As time has passed and initial worries subsided, we are forming a novel hunch about innovation and how good ideas spread. Novel for us, the authors, we should say.

## Our Hunch and Discoveries

*I rarely end up where I was intending to go,*
*but often I end up somewhere that I needed to be.* Douglas Adams

These nine grantee innovators are both narrowly goal-oriented and wildly open to exploring. Wickedly paradoxical and yet clearly woven into their pattern of success. In developing and spreading their innovations, "making it happen" and "letting it happen" behaviors are co-mingling, natural as can be. Like breathing in and out, managerial and improvisational behaviors are part of the same complementary package.

**We have discovered that successful innovators master the interplay of tight and loose strategies. "Making it happen" goal-directed management and "letting it happen" open-ended exploration simultaneously and mutually shape the spread of innovations. Unlikely as it may seem, practicing these paradoxical attributes—vigorously—accelerates the spread and deepens the quality of innovations.**

## Continuum of Innovation-Diffusion Theories [1]

| INNOVATION IS: Unpredictable, emergent, socially constructed adaptation to challenges | INNOVATION IS: Socially-enabled progress, facilitated through negotiation & influence | INNOVATION IS: Managerial, a planned process of design, validation & dissemination |
|---|---|---|
| SPREAD STRATEGY Support local or unit-based sense-making and reinvention as goals emerge and co-evolve | SPREAD STRATEGY Engage change agents, early adopters & social networks in "vetting" as evidence unfolds | SPREAD STRATEGY Drive awareness of evidence, agreement, & "buy-in" with individuals |
| Facilitate learning, self-discovery & alertness that informs ongoing innovation **WHAT IS POSSIBLE NOW?** | Provide ongoing feedback regarding strengths & weaknesses **IS IT PROGRESSING?** | Render evidence and definitive judgments of success or failure **DOES IT WORK?** |

*Great truths are those truths the opposite of which are equally true.* Carl Deutch

The innovators' successful practices seem to cut across this continuum at every step. Their theory~practice [2] is extremely adaptive, exploring a broad landscape of possibilities. Experience with grantees' successful spread strategies – within and across units, organizations and regions – led us to the following set of corollary hunches. The seven hunches below are a composite of lessons learned from all nine grantees.

Innovation Defined: Our simple definition of innovation – the spread of a valuable new idea, technology or practice – includes elements of *design* and *diffusion* activities. In practice, we have found it impractical to separate what might seem discrete. These activities mix more freely as we lean toward "let-it-happen" theory~practice of innovation.

**The Art of Innovating**

Mastering the Interplay of Loose~Tight Strategies

Simultaneous Mutual Shaping

Re-Invention Fidelity – Always & Never the Same

Structured-Yet-Improvisational Spread

Mountains Beyond Mountains Resilience

Social Proof Is The Pudding

When Hard Work, Hope and History Rhyme

Small Things Grow & Combine to Make Big Things

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The surprising behaviors of the innovators are described below. They represent the tacit or implicit know-how that emerged or was learned as their innovation projects unfolded.

1. **Re-Invention Fidelity – Always and Never the Same:** Innovators carefully manage fidelity (maintaining the always-the-same integrity of the core innovation), WHILE actively encouraging openness to local re-invention, never-the-same. If people learn best when they discover things for themselves, people adopt and sustain innovations best when they reinvent them to fit local conditions. (Always~Never)

2. **Small Things Grow and Combine to Make Big Things:** Innovators pay close attention to advancing very small, detailed or technical project elements or attributes – this may seem like a tendency toward aesthetics over practicality – WHILE staying attuned with "tangential" links to big regional or national movements. (Small~Big)

3. **Simultaneous Mutual Shaping:** Innovators are extremely deliberate in their project management actions, WHILE intensively noticing, reacting and being changed by what is actually unfolding. To and fro, they are shaping the world just as the world is shaping them. (Shaping~Shaped)

4. **When Hard Work, Hope and History Rhyme** [2]**:** Innovators stick to a tight schedule for deliverables in the present, WHILE building toward an indefinite future tipping point. Innovators often believe they are playing one small part in something much bigger that is "trying" to happen. (Present~Future)

5. **Structured-Yet-Improvisational Spread**: Innovators make liberal use of formal communication channels – broadcasting the message to many people – while staying alert to unplanned, serendipitous connections to individuals and "happy accidents." (Structured~Improvised)

6. **Mountains Beyond Mountains Resilience:** Innovators endure many reversals and disappointments, WHILE staying true to their purpose through wave-after-wave, mountain-beyond-mountain of challenge. At one time or another, each of the projects seemed fragile, under attack from the powers that be. Our innovators fought hard, picked themselves up after falls, and moved on to the next mountain or the next range. (Fragile~Resilient)

7. **Social Proof Is the Pudding**: Innovators rigorously generate quantitative evidence that their approach is an advance over common practice, WHILE amplifying social proof via word of mouth. Often, participation in prototyping or vetting generates social or qualitative proof that outstrips formal outcomes measurement. The innovation shines in its own light. (Quantitative~Qualitative)

Grantees expressed surprise with the difference between their innovation project and conventional management challenges. At every turn, more of their own and their teams' creativity and adaptability were required. (In this article, we focus more attention on the subtle, often ignored "let it happen" behaviors.)

## Let It Happen – Loose, Informal Strategies

*I suspect that by not merely accepting an unforeseeable future, but by building it into my life,*
*I may come closer to living a true life than those who struggle against it.* E.B. White

Throughout the grant cycles, we have focused our conversations with grantees on surprises – happy and hard. The following vignettes illuminate a narrow slice of their experience. The whole story is much richer and deeper. [See pages 17-25 for detailed information on each project.] We feel privileged to have been a small part of their story as it has unfolded. Each vignette illuminates one or more of our seven hunches.

**Spectrum Health – NOW: Nutritional Options for Wellness**
**Cori Anderson and Cheryl Mulder, (Shawn Fleet pictured)**

**Innovation Profile:** Nutritional Options for Wellness is a collaborative approach to addressing the health needs of the chronically ill and food insecure population of Kent County, Michigan. The NOW program increases the availability of nutritionally appropriate food items available through the current food pantry system. Referred patients will access specific food orders at a pantry near them through the use of a "food prescription" that will be filled out by their provider. In addition, clients will have the opportunity to attend disease self management classes and cooking classes that will increase their knowledge about appropriate diet, activity and lifestyle choices on a very low budget.

*Simultaneous Mutual Shaping*

We are starting to look to the western and metro portions of the state because we have grown access to NOW throughout eastern Michigan. Referrals are pouring in from all our partners – food pantries, ER docs, even individuals (without formal referrals from an M.D.) who have heard of our program through word of mouth.

We have started to focus attention on bolstering the capacity of pantries in other counties. While this has only an indirect link to our program, we cannot expand without a strong local pantry as a partner.

Farmers markets and even filmmakers are joining in the momentum. People want to know how they can help. A documentary filmmaker and food advocate told us, "There is nothing like your program anywhere in New York!"

Our network is expanding in wonderfully unexpected ways and our diffusion strategies are trying to keep up. Most surprising, our clients are starting to organize their own diabetes self-help groups, taking control of their own health. Their newfound confidence is heart warming.

**Kaiser Permanente – Innovation Learning Network (ILN)**
**Chris McCarthy**

**Innovation Profile**: Kaiser Permanente is creating a national learning network of up to eight healthcare institutions engaged in innovation work who are interested in advancing their own technology and workflow innovation work to ultimately determine ways to disseminate these innovations internally and externally. It is the dissemination of these innovations that will lead to widespread transformation of health care. To achieve this goal, a formalized "learning network" among other interested innovators will be formed with regularly scheduled conference calls and two in-person meetings over a 15-month grant period. A "toolkit" will be developed and shared among the network members and other health care organizations.

*Small Things Grow and Combine to Make Big Things*

I have been interviewing the ILN members to find out what they value about the innovation network and what is spreading. It is just dawning on me that our innovation is a series of "little" collaborative learning activities that add up to something much bigger. Virtual Friday presentations, the Open Space Technology meeting format in Boston, and creating a comfortable atmosphere for sharing (e.g., the Leopard robes photo) stand out for members. THESE little things are being adapted by members to fit local challenges.

I thought our innovation was all about joint projects with external partners and THE deliverables. Interestingly, not only ILN members, but also Kaiser Permanente is creating a more formal "internal-ILNs networks" to boost innovation.

Innovation and spread is all about relationships, how you share knowledge and who you know. We are connecting to more of ourselves. AND, it is also about joint project deliverables! Network members are just starting to collaborate on four bold initiatives. Stay tuned!

**Riverside Methodist Hospital, OhioHealth**
**Outcomes Measurement Initiative at Center for Medical Education & Innovation**
**Pam Boyers, Ph.D.**

**Innovation Profile:** The Center for Medical Education + Innovation (CME+I™) is a new perspective on graduate and continuing medical education that supplements patient-bedside training with training in a fully simulated hospital environment. The Outcomes Measurement Initiative at CME+I will investigate how the training of physicians in a simulated hospital environment affects medical education outcomes and, potentially, patient outcomes. CME+I lets physicians test themselves on treatment procedures and protocols without putting patients at risk. The immediate availability of simulation feedback from the simulated hospital environment allows learning to be self-directed or physician-faculty directed. Though not part of the Outcomes project, CME+I also trains physicians, nurses, and healthcare professionals side-by-side as patient care teams. The purpose of the Outcomes Measurement Initiative is to use educational and potentially clinical outcomes to demonstrate that simulation can change the way physicians learn and practice.

*Social Proof Is the Pudding*

Even before we were able to generate formal measures of CME+I effectiveness, we found that multiple site visits to our Center were also opening many doors. In the 16 months since opening the Center, we have had over 17,000 individuals receive training, of which, more than 3,000 were visiting the site to see what we were doing. This involved approximately 80 institutions from across the United States as well as internationally. The most common question that we are asked is "Why Columbus, Ohio?" These organizations are widely diverse and include public health institutions interested in disaster planning, the Columbus Technology Council, a college of veterinary medicine, Japanese physician leaders, international insurance companies, as well as other health care institutions. Many have expressed interest

in partnerships or collaboration. Some of these visits have included individuals such as David Leach, M.D., executive director of ACGME, and Paul Batalden, M.D., founding chair of the board of the Institute for Health Improvement. They have both become extremely interested in the potential contributions of CME+I.

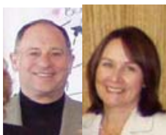
Giving others a chance to experience a new model for learning and teaching - directly or vicariously - has helped catapult the initiative forward. Social proof and word-of-mouth among learners, teachers and visitors seem to be outstripping conventional assessment methods.

*Small Things Grow and Combine to Make Big Things*

Similar dynamics are unfolding internally and propelling us forward. With the tools to simulate, practice and capture their performance in realistic scenarios, learners and teachers discover many lessons for themselves. Even initially skeptical GI faculty have developed a simulation scenario of a GI bleed, bringing to life an otherwise traditional lecture. The early changes that we see taking place are an increasing confidence in patient care skills in both students and faculty as well as confidence in the use of simulation.

The intensive care faculty are reporting positive changes in resident proficiency in the Intensive Care Unit. One resident, for example, immediately following a simulation experience, had the confidence to "stop the line" in response to a patient code situation. A team of providers were trying to intubate the patient too quickly. He immediately took charge, instructing them to carefully prepare the equipment, while supporting low-tech breathing … until they were ready to safely proceed. His confidence was gained without years of experience. Rather, practice with simulations made the difference. No small feat.

While inspired by these powerful stories, we continue efforts to formally measure outcomes.



**Scripps Mercy Hospital – Improving Medication Compliance: A Multifaceted Approach**
**David Shaw, M.D. and Monica Lague-Wyman**

**Innovation Profile:** Innovations in this project will include transforming a human network and adopting a newly developed electronic translator for culturally sensitive patient instructions across the entire continuum of care. We will transform the network of patients, physicians, pharmacists and other caregivers by completing the development of a process for assuring measurable compliance with medications across the continuum of care, and implement a cultural change whereby patients and clinicians adopt the process. We will create an integrated medication recording and instruction process across the continuum of care. The process will provide any caregiver in any location with an accurate, up-to-date list of all medications a patient is taking and the ability to further update that list based on new prescriptions issued and recommendations to modify or discontinue medications already on the list. It will also provide any caregiver the means to give a patient an updated, accurate and

easily understood set of instructions and medication schedule in the language of their choice using an already developed electronic language translator.

At the heart of our innovation are the exciting *concepts* of patient safety, empowerment and patient centeredness arising from research work done on patients' compliance with taking discharge medications. However, the hard work continues because people are committed to and passionate about patient care.

*Small Things Grow and Combine to Make Big Things*

Spread of our innovation progresses one person at a time. Cathy, a charge nurse in the busy emergency department shared the following story. "I was doing the green sheets and thinking how much work this was, and then I had a patient who had a med list four pages long. I was asking him the purpose of the meds and he didn't know a single one! He had been taking some of these pills for 15 years and didn't know what they were for. He came in for bleeding in his stomach and when I looked at the list I saw three blood thinners: aspirin, Plavix and coumadin. The coumadin was a pretty high dose too. So I thought at that point, this **IS** about patient safety! We're going to help this guy. Medication reconciliation should really help him to understand his medications and prevent some serious problems."

On any given day, it seems crazy to have a goal of spreading medication reconciliation to every nook and cranny of a 700 bed hospital with two campuses. We want to embed it in the culture of how we do business … not just something we say we do, but something we do to the best of our ability.

*Mountains Beyond Mountains Resilience*

With the loss of our medication reconciliation technician, we are at another critical fork in the road. She was the person on the frontlines scaling the mountain and finding new trails. At the same time, we are trying to galvanize our administrative leaders to help set direction for moving to the next level. A big convocation is scheduled in a few weeks.

What keeps us going, climbing up the hill, seeing another mountain in the distance, finding shortcuts, learning new climbing techniques? We started the adventure in hiking tennis shoes. Now we recognize the need for a harness and rock climbing gear! I think I see another mountain over the horizon.

### Midland Memorial Hospital – Creating Better Health Through Innovation
**David Whiles**

**Innovation Profile:** Midland Memorial Hospital will be implementing the Freedom of Information Act (FOIA) release of the Veterans Administration's VistA information system, known as "OpenVistA," on an open source platform. To our knowledge, this implementation will be the first of its kind in the United States for a full-service, private sector, acute care hospital setting. This project will evaluate the effects on patient safety, quality of care, organizational efficiency and return on investment as the result of the OpenVistA implementation. The planned implementation will

encompass three geographically diverse campuses and dissimilar healthcare settings. The deployment will encompass all clinical features of OpenVistA including Pharmacy, Laboratory, Computerized Patient Record System (CPRS), Bar Code Medication Administration (BCMA), Computerized Physician Order Entry (CPOE), Document Scanning, Dietary and other clinical applications. CPRS is a comprehensive EMR that includes clinical alerts and reminders, physician order entry, results, vital signs, nursing and physician documentation, consults, allergies, problem lists, clinical reports and more. It is expected that all care providers will substantially benefit from the immediate, secure access to all aspects of the patient's medical record. Patients will benefit from the enhanced quality of care.

*Re-Invention Fidelity – Always and Never the Same*

While our implementation of OpenVistA involves detailed specs or guidelines for each unit, we have experienced many surprising re-inventions and adaptations. Frontline staff found a way to modify the guideline and successfully use it with other departments.

I actively encouraged people to make modifications, going beyond permitting adaptations. This caused some friction because not all people shared my view.

Delayed orders – what physicians put in the record to be done when a patient is transferred to another unit -- often need to change before the transfer location is ready (e.g., the ICU). In one situation, a unit did not talk to us, but worked it out with the other line folks. Their solution worked very well. It would have been nice to know earlier, but this re-invention was exactly the kind of joint development or vetting we need to spread the innovation.

*Structured-Yet-Improvisational Spread*

Just as we were starting this work, I went to an IT conference. I happened to sit next to a woman who turned out to be a VistA leader in the Veterans' Health Administration. I casually mentioned our innovation. Now, in part through this chance meeting, we get referrals of other non-veterans' hospitals interested in VistA. (Federal employees are not permitted to provide assistance.) Engaging others, even if they are loosely connected, in spreading your innovation really helps.

**Frances Mahon Deaconess Hospital (FMDH) – Montana Mobile Educational Delivery and Learning**
**Janet Bastian and Elaine Schuchard (pictured)**

**Innovation Profile:** A mobile clinical education delivery system will allow the delivery of on-site opportunities for physicians, nursing staff and emergency response personnel to maintain clinical proficiency and speed the dissemination of new treatment skills in Montana's smallest rural and frontier communities. The mobile delivery system will feature a state-of-the-art human patient simulator, providing a participative and interactive learning environment where physical and behavioral science and technical and clinical education are integrated. This will give learners the opportunity to perform various interventions and review outcomes in a collaborative environment without jeopardizing the care of an actual patient. A full-

time clinical educator will coordinate the project, supported by supplemental faculty and administrative services provided by the Montana Health Network.

*Simultaneous Mutual Shaping*

We started with the idea that the simulator was the innovation. Now that requests for many different kinds of training are emerging, we see the real focus is quality of care. MedLearn is the innovation; the simulator is one tool we use.

MedLearn has been so well accepted that is has sold itself. We are surprised at the calls from outside the region. At a recent trauma symposium, we had people on the waiting list. The equipment gives our program pizzazz. However, our success was never really about the simulator. The real focus was the quality of the care… and yet, now we are hearing about the need for a pediatric simulator!

Also, we are talking to North Dakota. Our network is linking to their network. North Dakota has collaborative relationships within their network like the relationship among our 17 member hospitals. In the past, we have shared mobile MRI, grant writing and debt collections.

We are starting to think we can do much more. This educational resource should be widely distributed, a broader approach that connects to everyone across the state.

**American Board of Pediatrics – Quality In Pediatric Sub-Specialty Care (QPSC)**
**Mimi Saffer, M.A.**

**Innovation Profile:** The QPSC model aims for improved health care outcomes, The three-part model includes: a) shared data across sites of care; b) multi-center quality improvement collaboratives and collaborative research; and c) education in quality improvement methods. The model has been implemented within the pediatric gastroenterology subspecialty society to improve care for children with inflammatory bowel disease (IBD). A national data registry has been developed to support quality measurement as well as research. A group of 10-15 hospitals and practices will work collaboratively as an "innovation community" to develop and test methods to improve specific aspects of IBD care. Innovations will then be deployed to all gastroenterologists through the specialty society and AAP's Web-based educational modules.

*When Hard Work, Hope and History Rhyme*

Two pediatric sub-specialties as well as programs in adult medicine had been sharing data and creating quality standards of care for a many years, but there was little to no spread. Their outcomes were great, yet these innovations did not catch on. Then, the American Board of Pediatrics along with the American Academy of Pediatrics decides to promote these models systematically. The QPSC model was formed and we promoted it for two to three years, but adoption was slow. There came a single moment when all this seemed to change.

In 2005, a physician leader of the gastroenterology project, stood up in a room with

all the other 13 sub-specialties. He told them the story of what he had been doing over the last year. His passion and leadership came through to his peers. The whole tenor of the meeting changed. He made a personal connection and they saw the point of adopting the model for themselves.

What made them ready to hear it? The same group had been convened in 2003. At that time, we had the same sound innovative idea. The first discussion featured national experts and APB staff explaining why our initiative was important and "the right thing to do," but there was little enthusiasm among the sub-specialists. The APB Foundation put up the money to start a project with the gastroenterology professional society. A physician leader, Dick Colletti, submitted an RFP that was accepted.

In 2005 the sub-specialists were convened again. A few important factors had changed: certification data requirements were increasing; the ABP was clear about what was required; and, most importantly, Dick was able to demonstrate the innovation was helping him take better care of patients! Voila, the leader and the context had co-evolved to reach this tipping point, the point of no return.

**University of Chicago – Medical Accident Data Collection and Analysis Service**
**Richard Cook, M.D. (pictured) and Stephanie McNee**

**Innovation Profile:** We propose the creation of a 15-month national pilot program to demonstrate and validate the methods and procedures to investigate, analyze and report healthcare adverse events. A board and small team of qualified investigators will provide expert support to 10 hospitals to investigate and analyze selected actual adverse events. The team will assist each facility with its event response and perform on-call, on-site accident investigation. The participating facilities will share their individual experiences, and team event analyses, throughout the project.

We are endeavoring to look deeply into the nature of medical incidents and accidents. We have created a system that can provide rapid, on-site, sophisticated investigation and analysis by a team of experts and made that service available to a group of hospitals. The goal of this experiment is to demonstrate that such investigations are possible and that the results they provide are valuable.

*Mountains Beyond Mountains Resilience*

Virtually everyone agrees that having independent, technical investigations of medical accidents would be a good thing. The benefits of having a clear, detailed and unbiased account of major medical events are obvious. But, there are significant obstacles to carrying out such investigations and no one has been able to create a system to provide this function. There are legal, financial, technical, political and social hurdles that need to be overcome. Teams have to be gathered, equipment assembled, agreements reached, and a myriad of other details

addressed before the investigation can begin. In practice, these hurdles prevent such investigations from happening. By the time all these obstacles have been addressed the accident is weeks old, the data is stale and the opportunity for a detailed investigation is lost.

*Simultaneous Mutual Shaping*

Our first innovation was to address all these obstacles *before* an accident has occurred. Our funding from the VHA and FDA allowed us to remove the financial obstacles and we worked hard to overcome all the other obstacles we had identified during prior research. Our second innovation was to build relationships with the participating hospital staff throughout the course of the project. We set up regular teleconferences, using the discussions to allow us to get to know them and vice versa.

The results of this experiment are only now beginning to become clear. It is clear that our approach can reveal features of accidents that are not discovered by internal inquiries or external, stakeholder investigations. We are able to understand both how accidents happen and how the organization responds to these events. The work also makes it clear rapid, on-site, independent, technically competent accident investigation for healthcare is possible and valuable.

It is easy to put the cart before the horse by pursuing the spread of innovation before the innovation itself has been thoroughly tested and understood. There is much work to be done before our innovation can spread widely and we look forward to continuing this effort.

**Mayo Clinic – Leading Innovation in Health Care Delivery: the SPARC Innovation Program**
**Alan Duncan, M.D.**

**Innovation Profile:** SPARC is an innovative practice management research program dedicated to identifying, developing and measuring the impact of innovation in the ambulatory setting. To our knowledge, SPARC is the first systematic "live clinical laboratory" in the healthcare industry to explore and test innovations in outpatient health care delivery. The highly modular and flexible physical space, dedicated team of experts, unique methodology combining innovation, hypothesis driven experimentation, as well as ethnographic and design methodology make this program very unique in the healthcare setting.

*Small Things Grow and Combine to Make Big Things*

Of all SPARC's unique and elegant designs, one stands out for its simplicity and pattern of spread. We invited five physicians to help us prototype a multiple monitor set-up for physician office work stations, to help them work effectively and synthesize volumes of information. At first we played ideas that ranged from 24" to a wall-size screen.

We observed one physician who was able to arrange an entire medical record

across the screen set-up. It was fabulous and a wonderful surprise. This prototype design was so popular that we could not get it back. The first group of physicians finagled a way to hold on to the equipment.

Then we let 100 prototypes "into the wild." The response and informal spread could not be controlled. You could feel and see the monitors were helping people be more effective.

*Social Proof Is The Pudding*

We thought we would be able to learn and measure efficiency through a randomized trial. In the end, it was very difficult to set up a trial AND the decision to go forward was not made on rigorous quantitative data. We did observations and surveys, but we did not measure how it influences the bottom line. The 100-station pilot has now grown into a submission for an internal grant for department-wide installation.

At SPARC, we have taken the position that we offer design assistance not proof. Nonetheless, powerful social proof can be generated through participation in the design and prototyping process itself.

## Make It Happen – Tight, Formal Spread Strategies

*We are what we repeatedly do. Excellence, then,*
*is not an act but a habit.* **Aristotle**

In equal measure to the "loose, let it happen" strategies described above, grantees have generated evidence and spread the news through formal diffusion activities and communication channels. Journals, conferences, PR campaigns, broadcast media, wikis, blogs and Web sites. We are not sure about podcasts, but nearly every other formal diffusion strategy has been employed.

Target audiences have been both narrow and broad depending on the twisting pattern of early interest and adoption. David Whiles, spreading the VistA information system at Midland Hospital, goes to HIMMS and other IT conferences to tell his story. However, the essence of Midland's innovation is a cultural transformation that has been enabled by the VistA core IT process. He is starting to wonder if he and others from Midland should go to organizational development, nursing and executive leadership conferences to talk with different interest groups. David muses, "My colleagues in IT are not uniformly interested in the transformational or cultural aspects of our innovation. We have progressed well beyond mere technical advances."

The VHA Health Foundation has published and promotes innovation in a variety of ways including monthly conference calls, publications, site visits and face-to-face meetings. The board is extraordinarily supportive and nurturing of innovation and is willing to take risks in order for the big picture to emerge. What has been most surprising is how a group of seemingly disparate grantees could come together and share their experiences in ways that help each and everyone. It has been most gratifying to see the project directors, individually and collectively, find their way through tough challenges. We feel fortunate to be a small part of their learning and success.

On a monthly basis, we talk with grantees about spread strategies. Updating the "Grantee Diffusion Work Plan" includes specifying:

- individual opinion leaders within key groups
- useful channels for diffusing information and evidence (e.g., journals, conferences)
- informal social networks to tap into influence patterns
- opportunities for potential adopters to try out and vet the innovation, and
- obstacles to be removed

On grantee calls, successes and frustrations are shared among project leaders. [See "Oil, Water, Apples, Oranges: Bootstrapping Innovation with Social Networks, VHA, 2005) for more information on learning methods that advanced the practice of innovating].

All this said, the least understood and most dramatic advances seemed to come from unexpected, oblique or serendipitous sources. However, tight strategies were never neglected. While the "make-it-happen tight strategies" are fully detailed and celebrated in conventional management literature, the "let-it-happen strategies" were subtle-yet-powerful. "Let-it-happen" strategies and events were easy to overlook or undervalue, perhaps because attributing cause-and-effect is murky compared to "make-it-happen" efforts.

## Boosting the Loose~Tight Paradox for More Success

*The test of first-rate intelligence is the ability to hold two opposed ideas in the mind at the same time, and still maintain the ability to function.* **F. Scott Fitzgerald**

When we get the mix of loose and tight "right," more creative adaptability and spread is unleashed. The surprising, unpredictable path of an innovation seems to shape itself. As we have suggested, "funny, wonderful things happen on the way to the deliverable!"

This framing can help innovators see through the fallacy of their own comfortable abstractions. The abstractions or "maps" take the form of strategic plans, good intentions, static deliverables and idealized designs that attempt to fix or hold still ever-shifting reality. This phenomenon is also called the "fallacy of misplaced concreteness" or *reification.*

In contrast, when innovators meet together they focus more purposefully on messy, socially constructed sense-making [4] and creative "ensemble improvisation." With few certainties along the path, this exploratory approach includes:

- attending to wickedly paradoxical reality as-it-is-unfolding and learning-as-we-are-acting;
- accepting that the landscape is shifting the shape of our innovation with every step of exploration, and
- recognizing that serendipity may be a source of "surprise deliverables" much better than what was planned.

Paradox draws out the limits of what can be known in advance by any leader or group of leaders. It legitimizes uncertainty and underscores the need for joint exploration of a rugged landscape. The established map or tight plan is simply not adequate AND it is must be created. This seems to be a nearly universal experience among innovators – plans are nearly useless but planning is indispensable.

As philosopher James P. Carse notes, "The very liveliness of a culture is determined not by how frequently explorers discover new continents of knowledge, but by how frequently they depart to seek them."

This bold stance calls out for working with the materials at hand and responding in the moment to surprise, while creating the best, most rigorous plans possible. These nine innovators – masters of the interplay of loose and tight strategies – are explorers who frequently leave sight of land to explore new territory. With a deep bow, this article is dedicated to and inspired by them.

~ end ~

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[4] Kenneth Gergen, Social Construction, Sage, 2003.



Acknowledgements: Many thanks to Brenda Zimmerman, Arvind Singhal, Henri Lipmanowicz, Monica Lague-Wyman and Stephanie McNee.


*Additional articles in a complexity-science-inspired series by Keith McCandless:*

"Oil, Water, Apples, Oranges: Bootstrapping Innovation with Social Networks," (2005) with Linda DeWolf. *Creating a vibrant learning network among grantees of the VHA Health Foundation.*

"A Primordial Pedagogy: Caves, Campfires & Watering Holes at the Mayo/Plexus Summit," (2003). *Learning insights and lively design methods for a complexity science conference.*

"Surprise & Serendipity At Work: Managing the Unknowable Future," (2002) with Jim Smith. *Scenario-planning insights with a complexity twist at Group Health Cooperative.*

"Conversation As A Creative Advance Into Novelty; A Collaborative Hunch-In-Progress" (2002). *Exploring how dialogue unleashes creative adaptability and resilience via Seattle's Conversation Café movement.*

"Reliability, Resilience and Results in Operations: Designed Autopilot and Collective Mindfulness At Work," (2002). *Exploring behaviors that help people collectively and mindfully respond to surprise and complexity.*

"Integrated-Autonomy: From Shilly-Shallying to Unleashing System Vitality" (2002.) *Reflecting on the paradoxical development of distributed systems, moving beyond "bi-polar swings" between decentralized and centralized strategies.*

# Grantee Profiles in Brief

## *Montana Mobile Educational Delivery and Learning Program (MEDLearn)*

**Year submitted:** 2004

**Organizational background:** Frances Mahon Deaconess Hospital (FMDH), located in Glasgow, Mont., is an up-to-date facility with broad service capability in radiology, two operating rooms, one delivery room and emergency services. Hospital physicians specialize in family practice, internal medicine, general surgery, orthopedics, obstetrics and gynecology. FMDH owns and operates STAT Air Ambulance and has active outreach programs serving a regional population of 10,000 in northeast Montana.

**Problem:** Rural and frontier healthcare providers struggle to maintain clinical proficiency necessary to support optimal practice in treating victims of trauma, heart attack and stroke. Educational support needs are particularly acute for nurses, nurse assistants and emergency response personnel. Due to geographic distance between rural providers and urban centers, coupled with the fragile financial situation facing most rural healthcare organizations, travel and training funds to maintain clinical proficiency are virtually nonexistent. The death rate from accidents and injuries in rural Montana is 31 percent higher than the national norm. An affordable and effective solution must be found to improve clinical outcomes for rural residents and travelers in need of emergency care.

**Solution:** A mobile clinical education delivery system will allow the delivery of on-site opportunities for physicians, nursing staff and emergency response personnel to maintain clinical proficiency and speed the dissemination of new treatment skills in Montana's smallest rural and frontier communities. The mobile delivery system will feature a state-of-the-art human patient simulator, providing a participative and interactive learning environment where physical and behavioral science and technical and clinical education is integrated. This will give learners the opportunity to perform various interventions and review outcomes in a collaborative environment without jeopardizing the care of an actual patient. A full-time clinical educator will coordinate the project, supported by supplemental faculty and administrative services provided by the Montana Health Network.

**Impact:** MEDLearn will have a profound impact on acute care in rural Montana. In the first year, over 700 physicians, nurses, nurse assistants and emergency medical personnel will complete at least one course designed to improve clinical proficiency. The mobile clinical education delivery system will build on the network of collaboration already established in the region, offering an innovative and cost-effective solution to the problem of finding resources for staff development.

**Sustainability:** Once adopted, MEDLearn will require continuing operating revenues of approximately $96,000. This will be provided through modest program fees charged to participants.

**Replicability:** Healthcare organizations across the country all struggle with finding resources to assist staff in the maintenance of clinical proficiency and acquisition of new skills. This innovative collaborative delivery model could be replicated in virtually any region of the country where healthcare providers are willing to act collectively to solve a common problem.

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## *Leading Innovation in Health Care Delivery: the SPARC Innovation Program*

**Year submitted:** 2004

**Organizational background:** The Mayo Clinic, founded in 1889, is a charitable, not-for-profit organization based in Rochester, Minn. Our mission is to provide the best care to every patient every day through integrated clinical practice, education and research.

**Problem:** In majority of practice management changes made to health care delivery, especially in the ambulatory setting, the actual impact and adverse effects of changes have not been measured in a systematic way. In addition, because of the disruptive nature of innovation, it is often difficult to develop and study innovations in a traditional health care setting.

**Solution:** SPARC is an innovative practice management research program dedicated to identifying, developing and measuring the impact of innovation in the ambulatory setting. To our knowledge, SPARC is the first systematic "live clinical laboratory" in the healthcare industry to explore and test innovations in outpatient health care delivery. The highly modular and flexible physical space, dedicated team of experts, unique methodology combining innovation, hypothesis driven experimentation, as well as ethnographic and design methodology make this program very unique in the healthcare setting.

**Impact:** About 80 percent of Mayo patients are treated as outpatients, accounting for 1.44 million visits per year. Hence, the SPARC innovation program centered on enhancing outpatient service delivery has a very significant scope of impact. The SPARC innovation program aims to improve work flow efficiency, effectiveness and safety; enhance long term financial viability of the institution; understand and meet patient and provider needs; and ultimately improve the health of patients.

**Sustainability:** SPARC exemplifies tangible evidence of ongoing institutional commitment to innovation and quality improvement and is the realization of the strategic objectives of the Mayo Clinic and the Department of Medicine, both of which have invested significant resources and support staff toward the successful implementation of the program. The carefully researched methodology and experimentation dedicated expert team, leadership commitment, dedicated resources and funding as well as significant internal and external collaborations ensure the long-term sustainability of the program.

**Replicability:** The SPARC provides an excellent opportunity to observe and study the various components of care delivery and innovations in the outpatient setting. Given the scope of the outpatient practice in Mayo Clinic, the impact of learning from SPARC projects has potential for significant impact in outpatient practices throughout the United States. In addition, the carefully studied SPARC research methodology to generate and evaluate innovation is in itself a replicable tool to identify, develop and evaluate innovation in a health care setting.

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## *Improving Medication Compliance: A Multifaceted Approach*

**Year submitted:** 2004

**Organizational background:** Scripps Mercy Hospital, the largest hospital in the Scripps Health System, is a 520-bed acute tertiary care hospital. Scripps Mercy and its medical staff of over 900 physicians serve an urban population with great cultural and linguistic diversity. More than 150 languages are spoken by its patients. The hospital is completing a California Endowment-funded two-year study of discharge medication compliance by English and non-English proficient (LEP) patients with cardiovascular disease.

**Problem:** Accurate documentation of medication regimens and patient compliance with those regimens are extremely difficult problems. These problems are greatest in individuals with health illiteracy or limited English proficiency (LEP). It is likely that some 15 million Americans with chronic conditions are not taking their evidence-based medications correctly.

**Solution:** Innovations in this project will include transforming a human network and adopting a newly developed electronic translator for culturally sensitive patient instructions across the entire continuum of care. We will transform the network of patients, physicians, pharmacists and other caregivers by completing the development of a process for assuring measurable compliance with medications across the continuum of care, and implement a cultural change whereby patients and clinicians adopt the process. We will create an integrated medication recording and instruction process across the continuum of care. The process will provide any caregiver in any location with an accurate, up-to-date list of all medications a patient is taking and the ability to further update that list based on new prescriptions issued and recommendations to modify or discontinue medications already on the list. It will also provide any caregiver the means to give a patient an updated, accurate and easily understood set of instructions and medication schedule in the language of their choice using an already developed electronic language translator.

**Impact:** When fully adopted, the processes described in this project will dramatically improve compliance of patients with their evidence-based therapies, resulting in improved survival, improved quality of life, reduced medical errors and enhanced patient safety.

**Sustainability:** IDX LastWord© has already been purchased by Scripps Health, and is in use at Scripps Mercy Hospital. Once the Rx Pad© Module is implemented, there are no further costs. Maintenance of a server for the translator will require a modest ongoing expense, which could perhaps be shared by all users throughout the county. The position of medication reconciliation technician is new. To expand it to all inpatient care areas will require further investment. However, once the Rx Pad© functionality is used by most caregivers; a pre-existing medication record will accompany patients wherever they go, and this position will promote its own obsolescence.

**Replicability:** Problems of medication compliance and list reconciliation in patients with acutely decompensated chronic disease are national problems, affecting up to 15 million patients nationally. The ability to utilize this methodology in other communities should be limited only by the presence of local champions who are willing to adopt this disruptive technology and teach others to utilize it.

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## *Nutritional Options for Wellness (NOW)*

**Year submitted:** 2004

**Organizational background:** Spectrum Health is the regional leader in health care, serving a 13-county region with nine hospital facilities. The Healthier Communities Department at Spectrum Health is a unique initiative that works with community partners toward increased access to quality care for the underserved.

**Problem:** Over 75 percent of the families who are food insecure also have a family member in poor health. Many people are choosing between health care and rent or between food and medicine. For these individuals, successfully managing a chronic illness can be very difficult. Numerous studies have proven that proper nutrition is vital to healing, disease prevention and disease management. The local food pantry system does not have the capacity to provide highly nutritious, disease appropriate food provisions for the over 78,438 different people who receive assistance each week. On top of that, many of these individuals need to be educated about the link between proper nutrition and their disease.

**Solution:** Nutritional Options for Wellness is a collaborative approach to addressing the health needs of the chronically ill and food insecure population of Kent County. The NOW program increases the availability of nutritionally appropriate food items available through the current food pantry system. Referred patients will access specific food orders at a pantry near them through the use of a "food prescription" that will be filled out by their provider. In addition, clients will have the opportunity to attend disease self management classes and cooking classes that will increase their knowledge about appropriate diet, activity and lifestyle choices on a very low budget.

**Impact:** This innovation will initially serve over 850 clients, but has the potential to impact 6,000 clients per year once all 16 community clinics are engaged. The anticipated results of the program include: decreased emergency room visits, decreased length of stay, decreased mortality, increased coordination of services within the food assistance community, improved health indicators (blood pressure, lab blood sugar, weight, cholesterol, etc.) and change in behavior. We expect to show decreased costs due to these outcomes.

**Sustainability:** In the first year, the overall program costs will be approximately $187,000. Spectrum Health's Healthier Communities Department has a commitment both of financial as well as technical assistance resources to the program. We anticipate funding from the United Way to sustain a portion of the food needs. The nature of the program is to grow the capacity within the entire community to meet the needs of the chronically ill in a way that will not depend on the NOW program exclusively.

**Replicability:** The impacts of chronic disease on the low-income population is a growing trend nationally that needs to be addressed. Providers across the country would welcome a model that is relatively simple to implement and which results in improved health for their clients and reduced burden on the health care system. Additionally, food pantry in infrastructure is already in place nationwide, requiring only increased coordination of referral, education and linkages to assist them in providing appropriate food options. Finally, our experience locally is that health care providers, emergency food agencies and the clients themselves are asking for a way to improve the system.

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## *Quality in Pediatric Subspecialty Care (QPSC)*

**Year submitted:** 2004

**Organizational background:** The American Board of Pediatrics (ABP), the American Academy of Pediatrics (AAP), the North Carolina Center for Children's Healthcare Improvement (NC CHI) and University of North Carolina's School of Public Health (UNC SPH) seek support for a national effort to transform pediatric subspecialty care for children with complex health problems. As part of the recently approved requirements for maintenance of board certification, QPSC will impact the approximately 12,000 pediatric subspecialists, representing 13 disciplines, that care for children with leukemia, cystic fibrosis, congenital heart disease, diabetes, autism and other complex problems.

**Problem:** Children with complex problems suffer because of the gap between the quality of care currently delivered and that which could be delivered. For example, the Cystic Fibrosis Foundation estimates that applying what is known now could extend the life expectancy of affected children by an average of seven years. Yet, advances in medical therapy take years to translate into practice. This problem is especially significant for children with serious chronic illness because such diseases are infrequent and few pediatric subspecialists accumulate enough cases to systematically improve care delivery for their patients.

**Solution:** The QPSC model aims for improved health care outcomes, The three part model includes: a) shared data across sites of care b) multicenter quality improvement collaboratives and collaborative research; and c) education in quality improvement methods. The model has been implemented within the pediatric gastroenterology subspecialty society to improve care for children with inflammatory bowel disease (IBD). A national data registry has been developed to support quality measurement as well as research. A group of 10-15 hospitals and practices will work collaboratively as an "innovation community" to develop and test methods to improve specific aspects of IBD care. Innovations will then be deployed to all gastroenterologists through the specialty society and AAP's Web-based educational modules.

**Impact:** The QPSC program provides a platform from which to rapidly test and deploy strategies to improve health care for millions of children suffering from serious chronic illnesses such as IBD. This project will directly impact the outcomes of children with IBD by addressing issues such as nutritional management and appropriate medication use and will be a pilot for the other subspecialties.

**Sustainability:** The existing similar smaller scale efforts such as VON and Northern New England Cardiovascular Study Group are self-sustaining through subscription fees from participating institutions and grant funding related to ongoing studies. We are working with the National Association of Children's Hospitals and Related Institutions to establish a broad base of support for spreading the model across the pediatric hospital sector. The ABP, AAP and UNC have committed more than $1.5 million dollars.

**Replicability:** All 13 pediatric subspecialties have endorsed this model and many are working to customize the model to their needs. We are currently working with other medical boards and professional organizations to replicate the components of the model across additional medical specialties outside of pediatrics.

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## *Innovation Learning Network (ILN)*

**Year submitted:** 2005

**Organizational background:** Kaiser Permanente is an integrated delivery system providing health care to over 8.4 million members across nine states. The organization has made significant investments in innovation over the past few years that will identify new and effective ways of delivering care to our members. One of Kaiser Permanente's most notable undertakings is the implementation of an electronic health record (EHR). The massive implementation of this new system is currently underway in every region. At the same time, Kaiser Permanente has solicited the assistance of a design firm IDEO to engage our frontline staff in developing optimal workflows for the delivery of care. Utilizing IDEO's innovation methodology, Kaiser Permanente engaged front line staff at eight inpatient medical centers in four states to improve patient care over the past two years.

**Problem:** New health care technologies are emerging at an unprecedented rate. There is limited understanding of how nurses and other members of the patient care team can best adapt to and integrate new technologies into their work environment. Kaiser Permanente, as well as other health care organizations, does not know which key factors are associated with successful adoption of technology. Additionally, we do not fully know how to best replicate and diffuse effective technologies across multiple organizations.

**Solution:** Kaiser Permanente is creating a national learning network of up to eight healthcare institutions engaged in innovation work who are interested in advancing their own technology and workflow innovation work to ultimately determine ways to disseminate these innovations internally and externally. It is the dissemination of these innovations that will lead to widespread transformation of health care. To achieve this goal, a formalized "learning network" among other interested innovators will be formed with regularly scheduled conference calls and two in person meetings over a 15-month grant period. A "toolkit" will be developed and shared among the learning network members and other interested health care organizations.

**Impact:** The Innovation Learning Network will help Kaiser Permanente and other network organizations define the factors for successful adoption of new technologies and workflow innovations. While it is helpful for these organizations to share the methodology, processes and the subject matter of their innovation "experiments," the dissemination of these innovations internally and externally is the greatest challenge.

**Sustainability:** The dialogue, tools and formalized relationships of the Innovation Learning Network support network organizations in generating and spreading workflow and technology innovations.

**Replicability:** With 30 inpatient hospitals across three states, Kaiser Permanente provides a significant opportunity for replication within its own organization. The Innovation Learning Network's toolkit will outline the processes the innovation network members use and, more importantly, dissemination strategies that have been successful in spreading successful practices internally or externally.

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## *Creating Better Health Through Innovation*

**Year submitted:** 2005

**Organizational background:** Midland Memorial Hospital's (MMH) operations include a full service 250 licensed bed acute care hospital (Main Campus), a 51 licensed bed Rehabilitation facility (Midland Memorial Rehabilitation Hospital), a 70 licensed bed facility designated primarily for women's and children's services (West Campus), two Emergency departments (one at Main Campus and one at West Campus), an inpatient pharmacy, an outpatient pharmacy for indigent care and employees, an outpatient imaging center, mammography services and magnetic resonance imaging center. Approximately four miles geographically separate Main Campus, Rehabilitation Hospital and West Campus each from the other.

**Problem:** One of the greatest obstacles to the adoption of a fully integrated Electronic Health Record by medium and small size acute care hospitals is the large financial investment required to acquire, implement and provide ongoing support for such systems.

**Solution:** Midland Memorial Hospital will be challenging this financial barrier by implementing the Freedom of Information Act (FOIA) release of the Veterans Administration's VistA information system, known as "OpenVistA," on an open source platform. To our knowledge, this implementation will be the first of its kind in the United States for a full-service, private-sector, acute care hospital setting. This project will evaluate the effects on patient safety, quality of care, organizational efficiency and return on investment as the result the OpenVistA implementation. The planned implementation will encompass three geographically diverse campuses and dissimilar healthcare settings. The deployment will encompass all clinical features of OpenVistA including Pharmacy, Laboratory, Computerized Patient Record System (CPRS), Bar Code Medication Administration (BCMA), Computerized Physician Order Entry (CPOE), Document Scanning, Dietary and other clinical applications. CPRS is a comprehensive EMR that includes clinical alerts and reminders, physician order entry, results, vital signs, nursing and physician documentation, consults, allergies, problem lists, clinical reports and more. It is expected that all care providers will substantially benefit from the immediate, secure access to all aspects of the patient's medical record. Patients will benefit from the enhanced quality of care.

**Impact:** The successful, cost effective implementation of the OpenVistA system in a private sector setting is expected to have far reaching national implications. In addition to breaking the cost barrier for medium and small hospital settings, the system already has many inherent design features that are being encouraged by federal and private agencies and initiatives to improve patient safety and quality of care. These include the ability to share clinical information electronically among different institutions, a closed-loop medication cycle to include BCMA and electronic ordering by physicians (CPOE).

**Sustainability:** One private-sector company exists with the sole mission of deploying and offering long-term support of OpenVistA. It is expected that others will arise as this business model is seen as viable.

**Replicability:** A cost-effective, private-sector deployment of the OpenVistA system will serve as a model to the entire industry and will be inherently reproducible. Specific deliverables include system enhancements required to interface to existing commercial financial systems for registration and patient billing.

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## *Outcomes Measurement Initiative at Center for Medical Education and Innovation*

**Year submitted:** 2005

**Organizational background:** OhioHealth is a nationally regarded not-for-profit family of hospitals and related healthcare services covering 46 counties across Ohio. Part of OhioHealth, Riverside Methodist Hospital is a major independent academic medical center in Columbus, Ohio. Medical Education at Riverside supports six residency programs accredited by the Accreditation Council for Graduate Medical Education: OB/GYN, Internal Medicine, Family Practice, General Surgery, Transitional and Preliminary Medicine.

**Problem:** Preventable medical errors cause 44,000-98,000 deaths every year and cost the nation's hospitals $17 to $29 billion. Errors can occur at any point along the continuum of medical care. Rapid advancements increase the complexity of the medical profession and create more opportunity for errors. The traditional approach to medical education focuses on maintaining educational and clinical competence of physicians. However, by virtue of relying on patient bedside training and classroom review, the traditional approach can have difficulty in teaching and maintaining competency in the vast number of the procedures and critical skills physicians may encounter.

**Solution:** The Center for Medical Education + Innovation (CME+I™) is a new perspective on graduate and continuing medical education that supplements patient-bedside training with training in a fully simulated hospital environment. The Outcomes Measurement Initiative at CME+I will investigate how the training of physicians in a simulated hospital environment affects medical education outcomes and, potentially, patient outcomes. CME+I lets physicians test themselves on treatment procedures and protocols without putting patients at risk. The immediate availability of simulation feedback from the simulated hospital environment allows learning to be self-directed or physician-faculty directed. Though not part of the Outcomes project, CME+I also trains physicians, nurses and healthcare professionals side-by-side as patient care teams. The purpose of the Outcomes Measurement Initiative is to use educational and potentially clinical outcomes to demonstrate that simulation can change the way physicians learn and practice.

**Impact:** Patients will benefit directly as physicians learn and hone their skills at CME+I making them able to provide treatment with a greater awareness of the safety thresholds that could put patients at risk. CME+I will track educational and potentially clinical outcomes, evaluate the effectiveness of simulation in medical education, and make contributions to graduate and continuing medical education throughout the United States.

**Sustainability:** The operating costs for CME+I are approximately $1 million per year. The Center has the support of the OhioHealth hospital family, the philanthropic support of the OhioHealth Foundation, and an operating model providing fee revenue from users outside of OhioHealth.

**Replicability:** The learning outcomes at CME+I will be analyzed and disseminated to other healthcare systems for replication in graduate and continuing medical education programs nationwide.

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## *Medical Accident Data Collection and Analysis Service*

**Year submitted:** 2005

**Organizational background:** Cognitive Technologies Laboratory is in the Department of Anesthesia and Critical Care at the University of Chicago Hospitals. The University of Chicago Hospitals serves the in- and out-patient care needs of the Chicago metropolitan area. Medical staff are faculty of the University of Chicago.

**Problem:** Healthcare accidents continue despite years of effort to eradicate them and progress on their prevention is limited by the quality of post-accident investigations. In other sectors such as aviation, qualified, objective outside investigators interview those who were involved and visit the accident site in order to obtain crucial information. Most healthcare accident investigations are performed by untrained staff or stakeholders and produce uninformative results.

**Solution:** We propose the creation of a 15-month national pilot program to demonstrate and validate the methods and procedures to investigate, analyze, and report healthcare adverse events. A board and small team of qualified investigators will provide expert support to 10 hospitals to investigate and analyze selected actual adverse events. The team will assist each facility with its event response and perform on-call, on-site accident investigation. The participating facilities will share their individual experiences and team-event analyses throughout the project.

**Impact:** The project will demonstrate and validate methods for the investigation and analysis of healthcare accidents. The results will make it possible to measure both the costs and the benefits of this approach to understanding and remediation of medical accidents. Participating healthcare facilities will obtain immediate assistance with in their response to medical accidents. The experience will build confidence in this approach among members of the clinical community and will encourage managers and risk handlers to respond to incidents more effectively.

**Sustainability:** The project will provide proof of concept and a model for a standing organization to perform independent medical accident investigation and analysis.

**Replicability:** The project will significantly improve the understanding of adverse outcomes among healthcare organizations within and outside of the United States. Success in this project will create the environment that is needed to create a national organization for accident investigation and analysis, to benefit all U.S. healthcare organizations. It will serve as a model for a "National Transportation Safety Board" for healthcare.

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**Abstract**

Mastering the Art of Innovating: A Funny, Wonderful Thing Happened on the Way to My Deliverable!

This article continues the story of VHA Health Foundation innovation grantees first chronicled in, "Oil, Water, Apples, Oranges: Bootstrapping Innovation with Social Networks (VHA, 2005). Over two 15-month grant cycles ('04-'05 and '05-'06), each grantee developed an innovative service, practice, or technology with the intention of spreading it to other settings. Research illuminates the powerful role of social networks in spreading new ideas. Adoption occurs in communities, rather than in aggregates of unrelated individuals, with interpersonal dynamics influencing the rate and scope of diffusion. This article explores the unfolding experience among nine diverse grantees in spreading their innovation. Phone and follow-up e-mail interviews were conducted with project leaders. The innovators' formal, informal and serendipitous spread activities are explored with a focus on surprising twists and turns. The interplay of successful tight and loose spread strategies – "making it happen" goal-directed management and "letting it happen" open-ended exploration – are illuminated. Seven themes describing open-ended exploration and adaptive practices are featured through grantee narratives: 1) Re-Invention Fidelity – Always and Never the Same; 2) Small Things Grow and Combine to Make Big Things; 3) Simultaneous Mutual Shaping; 4) When Hard Work, Hope and History Rhyme; 5) Structured-Yet-Improvisational Spread; 6) Mountains Beyond Mountains Resilience; and, 7) Social Proof Is The Pudding.

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