Innovative ideas and practical solutions for improving health and health care.
In the late 1980s, a group of visionary individuals set health care on a new course, a new direction, a new way. They imagined a health care system no longer plagued by errors, waste, delay, and unsustainable social and economic costs. And they held firm to the belief that they could achieve this transformation through a systemic focus on quality improvement. This vision was the beacon that became IHI. Over two decades later, the light of IHI’s founders still shines bright, offering guidance to a growing movement in an ever-changing environment.

Here are some of their reflections on how far we have come along the way…

“It all started with a crazy idea: to start an organization that would be dedicated to improving health care everywhere, starting with a focus on the United States and then, if possible, spreading its influence globally. It was a big idea, a bold dream, an audacious and seemingly impossible goal; and yet now we can look back and appreciate the immense wisdom of that vision.”

EUGENE NELSON, DSc, MPH

“I think we always knew that health care quality needed to be improved. But there was a learned helplessness that pervaded health care. It was so big that people thought we couldn’t possibly change it. Now people believe that change can and does happen. That gives us the encouragement to move ahead.”

DAVE GUSTAFSON, PhD

“Twenty years ago, there was just a glimmer of recognition that there were substantial quality problems in health care. Today, that fact is widely known — by health professionals, patients, policy makers, and the general public. Through the work of IHI and others, we know that these problems have solutions and there is both a desire and a strong expectation to vigorously pursue these solutions.”

JIM ROBERTS, MD

“At IHI’s first board meeting we were uncertain about how long this new organization needed to plan for; now we realize that the improvement of the quality, safety, and value of health care is one of the major challenges facing every country, every health care organization, every health professional, every citizen. These decades later, I am glad for the progress but recognize that another 95% or so of the job lies ahead and I am eager to help those who are ‘the next in line.’”

PAUL BATALDEN, MD
“IHI has helped expose a whole generation of health care professionals to innovative methods of clinical care improvement by providing a forum for health care organizations of all types — private, public, teaching, non-teaching, hospitals, physician groups — to develop ideas and applications and to learn rapidly from others.”
JIM SCHLOSSER, MD, MBA

“It is amazing to me how IHI and others have been able to continuously raise the bar in quality. Twenty years ago, we challenged health care organizations to measure and improve clinical quality by 10%. We had push-back with comments like, ‘We are not dealing with machines.’ Now we have many health care institutions aiming for zero errors and harm and achieving great results.”
VIN SAHNEY, PhD

“None of us involved in those early days would have dared to predict just how far we would have come in twenty years. What health care organizations all over the world have accomplished — not only by applying industrial quality management tools, but also by creating new methods and approaches to improving quality — is truly remarkable. Now many other industries are learning from health care.”
BLAN GODFREY, PhD

“Yes, we have come a long way! It is now possible to meaningfully compare health outcomes across groups and individuals and to precisely quantify the voice of the patient. This could not come at a better time — at the dawn of the individualization of patient care.”
JOHN WARE, JR., PhD

A Tribute to Donald Berwick, MD, MPP

Of course, none of this progress would have been possible without the dedication and visionary leadership of Don Berwick, who served as IHI’s President and CEO from its founding until 2010, when he became Administrator of the Centers for Medicare & Medicaid Services. Don taught so many of us how to be both bold and humble — pushing hard for improvements in care that all citizens, everywhere, deserve; graciously admitting what we don’t know; and never hesitating to ask for help so that our work can get better. Health care professionals worldwide have benefited from Don’s mentoring and confidence in their leadership. On behalf of everyone who feels more determined than ever to “climb that next hill,” including the thousands of patients and families whose names we will never know, we thank you, Don, for sharing your knowledge and wisdom and believing in us as much as we’ve always believed in you.
In 2011, the Institute for Healthcare Improvement celebrates the 20th anniversary of its formal founding. It’s been a little longer than twenty years since Don Berwick and a small group of colleagues put us on the path to better health care. What started with a modest demonstration project to show that quality improvement theory and methods could be applied to health care has become the enduring mission and life’s work for me and for so many of you. Don’s vision and passion continue to guide and inspire us every day. I have the great privilege of seeing the legacy of IHI’s founders — the bold pioneers whose words appear on the previous pages — embodied in the remarkable skill, tireless energy, and enduring spirit of an ever-expanding corps of health professionals committed to improving care for patients every day.

Before you read about what IHI is doing in 2011 and beyond, I want to reflect a little on 2010 — a year of transition for IHI. Don Berwick, the only CEO we ever had, moved to Washington to take up the challenge of reforming and leading the most important and influential health care organization in the country. But well before Don’s departure to CMS, IHI was actively expanding our leadership team and deepening our bench strength. We recently welcomed Jeff Selberg, Dr. Karen Boudreau, and Dr. Pierre Barker to our senior team and are thrilled to add such distinguished leaders who have demonstrated a commitment to IHI’s mission throughout their careers. My confidence in and optimism about both where IHI is heading and the team at the helm have never been stronger.

The landscape we are heading into together isn’t easy to read or to navigate. These are extremely “interesting” times and the demands are many. Cut costs. Improve quality. Increase market share. Yet, I see this as a time of unprecedented opportunity. I know the solutions to the cost, quality, and safety issues plaguing health care in this country and abroad are out there. I know because I’ve seen them. I’ve seen them in Seattle, Cedar Rapids, Oakland, Memphis, East
Lancashire, Edinburgh, Accra, and Johannesburg. I’ve seen them in remote rural clinics, large academic medical centers, modest African villages, and neighborhood supermarkets. As Louise Liang, one of IHI’s early board chairs, aptly put it, “We are excellent at everything, just not everywhere.” So our work is twofold — we must continue to develop and discover innovative models and approaches, and we must test and spread these everywhere, so that all patients get exactly the care they want and need, exactly when they want and need it. We must do this together.

Twenty years ago, health professionals committed to quality improvement probably felt alone. But today, they are part of a genuinely global movement, as evidenced by the fact that IHI has now trained people in 45 countries on all major continents through our professional development programs. Leading the movement is our extraordinary faculty — the lifeblood of IHI. This group of over 400 committed professionals is devoted to learning, sharing, and teaching. IHI’s successes, large and small, are their successes. The stories you’ll read about in this report are their stories. Together with IHI leadership and staff, our faculty are working on projects that touch every part of the health care system. They are the vanguard of our global movement, and I am so grateful for their extraordinary contributions.

This report is a cross-section of the many innovative ideas and practical solutions IHI is working on now and in the years to come. A comprehensive report of our activities wouldn’t fit in this brief report. We’ve tried, in these pages, to show where we are heading. I invite you to join us in leading the new way to a better health system.

Sincerely,

Maureen Bisognano
President and CEO
Institute for Healthcare Improvement
ICU physicians BELA PATEL, MD, and KHALID ALMOOSA, MD

IHI’s R&D Process

Staff at Memorial Hermann are uncovering waste in the system and addressing it.

Drs. Bela Patel and Kahlid Almoosa are part of a team rooting out waste in the ICU — saving time, energy, and money, while also improving care and the patient experience.

<table>
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<tr>
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Finding and testing tomorrow’s health care solutions

While politicians and other public figures debate whether or not there is waste in the US health care system, an energetic improvement team in Houston is moving past the rhetoric to uncover waste in their own institution. Using the IHI Hospital Inpatient Waste Identification Tool—a tool recently developed and tested by IHI with support from the Health Foundation in the United Kingdom—this team from Memorial Hermann–Texas Medical Center is not only identifying waste, but quantifying it as well. The data reveal surprising waste and opportunities for greater efficiencies.

The Waste Identification Tool—developed through two cycles of research and development at IHI—is designed to provide a snapshot of actual and potential areas of waste within a hospital, as identified by front-line clinical staff. Initially tested by eight hospitals, six in the United Kingdom and two in the US (including Memorial Hermann), the tool includes five modules that focus on identifying waste in inpatient wards, patient care, diagnosis, treatment, and from the patients’ perspective.

Seeing Things in a New Way
IHI Director Katharine Luther is working with Memorial Hermann as they use the Waste Identification Tool. “The tool helps you see things you might not see, or might not see as quickly,” she says. For example, the Waste Identification Tool revealed early on that a new type of catheter was resulting in a higher rate of complications. “I think the tool helped us recognize this earlier than we might have otherwise.” The hospital discontinued use of the catheter after only 18 days.

Luther says that the organization is using the Waste Identification Tool to create snapshots across the medicine service line. Waste categories already identified and evaluated include: repeat reference testing for known conditions (such as HIV); repeated labs on transfers from the Emergency Center to the Medical ICU; redundant blood panels with arterial blood gas (ABG) testing in the MICU, particularly on patients being weaned from a ventilator; end-of-life decision making in the MICU; and inefficient care processes for certain patient populations such as those with sickle cell anemia or non-cardiac chest pain.

Waste in the ICU
Bela Patel, MD, Director of Critical Care Medicine, decided to use the tool every day for a month to measure waste in the 16-bed MICU. The tool does not invite users to make value judgments about care delivery; rather, it provides clear, standardized definitions of how and what to measure, such as patients who experience adverse events, infections, unnecessary hospitalizations, or delays in care (all forms of waste). The 31-day test revealed that there are two days of wasted bed space in the MICU every day. “Waiting for a tracheostomy to be placed is costing us 20 days a month,” says Luther.

Using the Waste Identification Tool, staff have estimated that reducing unnecessary arterial blood gas testing in the MICU can save $15,000 a year. This is a drop in the financial bucket compared to two other projects the hospital is targeting, thanks to the Waste Identification Tool: streamlining evaluation and treatment of patients with non-cardiac chest pain, with an estimated $400,000 annual savings; and standardizing treatment plans for patients with sickle cell anemia, with an estimated annual savings of $450,000.

Roger Resar, MD, IHI Senior Fellow, says that Memorial Hermann is using the tool exactly as it is intended. “The tool creates a kind of bridge from the snapshot of waste in the system to the financial discussion where you decide if it is a big enough problem to resource. The staff looked at waste in the care of chest pain and sickle cell patients and discovered a huge amount of money can be saved. Now they know they have to work on these processes. That’s exactly what the tool was meant to do.”

“IHI has made a significant investment in R&D and our team has developed a highly reliable process to rapidly identify and test promising innovations. Our goals are to develop innovations internally and to celebrate and spread effective new approaches to improving health care wherever they have been developed.”

Don Goldmann, MD, IHI Senior Vice President
All across America, hospitals are providing better care than ever before. A 2010 Joint Commission report based on data from more than 3,000 hospitals shows that hospital performance on accountability measures has improved significantly over time, resulting in enhanced quality of care and better patient outcomes.

Gundersen Lutheran Medical Center in La Crosse, WI, is one such hospital. The organization has worked with IHI for many years, and has for decades been focused on improving care processes and patient outcomes. Leaders there attribute much of the hospital’s most recent performance improvement successes to a staffing model that gives nurses on the front line more responsibility for improving the quality and safety of care.

“In 2008 we implemented a leadership model at the local nursing unit level that consists of a clinical manager, a quality nurse, and a nurse educator,” says Michele La Fleur, Director of Quality for the hospital. “Together they lead the safety and quality work on the unit.”

These quality-focused teams use the IHI Improvement Map, among other tools, to guide their work. “We look to IHI for some really good standards of care that others are using so we don’t have to reinvent the wheel,” says La Fleur. “We look at our current performance and then we use the Improvement Map to assess what our next steps might be.”

Hardwiring Changes
Jean Krause is the organization’s Chief Quality Officer. She says that nursing improvement teams at the unit level have been very successful working on falls prevention, pressure ulcer prevention, hand hygiene, and use of the IHI Ventilator Bundle to prevent ventilator-associated pneumonia (VAP). The organization is currently implementing multidisciplinary rounding on their medical-surgical units, building on what they learned from the Improvement Map and participation in an IHI Expedition. Krause says that techniques learned from IHI, such as safety huddles, have been key to the success of their improvement efforts. “After a confirmed VAP we would have a safety huddle that included everyone who took primary care of that patient, to see what we could have done differently,” says Krause. “We recognized that we didn’t hardwire the standard bundle process enough, and the players had changed, so there was a lot of variation. We put the data into the hands of the clinical nurse specialist who rounds every day with staff and talks to them about why the bundles are important.” It has now been more than 471 days since the hospital had a case of VAP.

Empowering Front-Line Staff
As is the case with other high-performing hospitals, Gundersen Lutheran has created a culture of safety at all levels, and a sense of shared responsibility for continuous improvement. Jeffrey Thompson, MD, the organization’s CEO, is a tireless quality champion and the strategic plan includes specific safety and quality goals. But leaders also recognize the importance of empowering the people on the front lines. “The bedside nurses can tell you how many falls we’ve had, or the number of pressure ulcers, or the things that make hand hygiene challenging,” says La Fleur. The quality nurses, says Krause, provide regular reports to their clinical managers with safety and quality data as well as recommendations for next steps.

Krause and La Fleur rely on the IHI Open School’s online safety and quality curriculum to provide nurse leaders with a solid foundation of knowledge for their work. “I couldn’t have gotten my nurses up to speed without the IHI Open School,” says La Fleur. “It has provided a lot of basic information about quality and safety principles, and leadership as well.” Krause says that new medical residents are beginning to complete Open School modules on improvement and patient safety.

“We always go to IHI first and we check the Improvement Map before we kick off any new project,” says Krause. “Sometimes we find validation that we are ahead of the curve, and sometimes we find new ideas that we try. IHI is an invaluable tool for us.”

ANDREA KABCENELL, RN, MPH, IHI VICE PRESIDENT
Critical care nurses at Gundersen Lutheran use the IHI Improvement Map to guide improvements such as implementing the Ventilator Bundle. Hospitalist Barthel leads the hospital’s multidisciplinary rounding, building on lessons from the Map.

Spreading best practice knowledge for the acute care setting

Left to right: Connie S. McCullick, MSN, RN, Mary Francis Barthel, MD, and Julie Weibel, RN

Percent of times hospitals achieved composite measures in heart attack, pneumonia, surgical, and children’s asthma care

Data from more than 3,000 accredited hospitals
Source: Joint Commission’s Report on Quality and Safety, 2010
“Last week at our clinical quality meeting, we reviewed an organizational authority map and uncovered issues around alignment. I don’t think we would have seen it if I hadn’t been involved in IHI’s coaching program.” TESSA ARONS

“I’ve seen so many practices struggle with change — not because of lack of knowledge or expertise, but because humans have a hard time changing. That’s what is so rewarding about IHI’s Practice Coach Program — by bringing field-tested frameworks and tools around change management, coaches help practices learn to change together.”

CORY SEVIN, RN, MSN, NP, IHI DIRECTOR
Spreading best practice in ambulatory care

Turning a traditional primary care practice into a high-functioning medical home with a focus on continuous quality improvement is a tall order. Not only does it require skills and knowledge that practice staff members often don’t possess, but even if they do, fitting this work into the already heavy demands of a practice is difficult.

Many practices are turning to a new type of professional to help them with this work: a primary care practice coach. These coaches are experts in redesigning practices and processes, and implementing and managing improvement initiatives. Now, a group of coaches from around the country is participating in a new program offered by IHI, the Primary Care Practice Coach professional development program, where they work with expert faculty on coaching, quality improvement, and office practice redesign.

Tessa Arons began participating in IHI’s Practice Coach program in July, 2010, and serves as the Quality Coach with the Integrated Physician Network (iPN) in the Denver area. iPN is a clinically integrated quality improvement collaborative of 30 practices that began in 2004 when a group of independent physicians began to implement a common electronic medical record (EMR). They work together to embed key evidence-based care protocols in the EMR to provide decision support at the point of care.

Helping Practices Manage Change

“The coaching position is about helping people manage change,” says Arons. “Change is a constant, and it’s at the forefront in this rapidly evolving health care environment where the focus on quality is ever-increasing.”

Helping practices maximize the use of data and the technology that collects it is an important part of Arons’ work. EMRs not only provide decision support and workflow assistance during a patient visit, but are also essential tools for providing data that are useful in quality assessment and planning. “iPN member practices track measures such as diabetes care — eye exams, foot exams, HbA1c — and other preventive measures such as cancer screening and flu shots,” says Arons. “I work with practices to help them use the system effectively at the point of care, and to produce meaningful data that will inform improvement efforts.”

Arons is able to share what works at one practice with the others in the network, such as the success one group had giving the pneumonia vaccine to its patients over 65. “The Broomfield practice vaccinated more than 90 percent of its older patients, and I talked with each of the other practices to see if they wanted to work on this,” she says. “I take what’s working in certain practices and help other practices customize it for their own implementation.”

Sheila Harrington, RN, is a project manager at Broomfield Family Practice, and she says that Arons has helped fill in the gaps in her own skills and knowledge about quality improvement techniques. “I don’t have a lot of expertise in areas such as PDSAs, or process mapping, and she is really helping me with that,” says Harrington. (PDSA stands for Plan-Do-Study-Act, a method for rapidly testing process changes on a small scale.)

Using Technology to Harness Information

Harrington says that Arons is currently helping the practice focus on improving care transitions. “As a patient-centered medical home, we are responsible for the care of our patients across the whole system,” she says. “We are looking at reducing our readmission rates, and Tessa helps us to identify potential workflow process changes to figure out how to do that.”

Arons is also very involved in helping the practice work with a number of regional entities focused on improving care. “We collaborate with the Colorado Foundation for Medical Care, and we’re part of the Colorado Associated Community Health Information Exchange, and Tessa works closely with Marjorie Martens, iPN’s Quality Manager, to help ensure that our reporting capacity matches our process improvement needs as we work with both groups,” says Harrington.

Arons receives support from the IHI coaching community, through bi-weekly conference calls and a listserv that keeps her in touch with faculty and other coaches. “I’m connected to this network of smart people with vast experience and great ideas,” she says. “It has been tremendously helpful in my work.”
Rita Smith-Nickens has learned a lot about how to improve her health from nurse practitioner Peggy Segura. “I am passionate about education,” says Segura. “I start with patients while they are still hospitalized. I teach them the signs and symptoms to watch for when they get home. I follow them with phone calls to see if they are seeing their doctor and taking their medications.”

PEGGY SEGURA, NP

Sinai-Grace Hospital
All-cause heart failure readmission rate

Pre-STAAR Average = 32.7%
Post-STAAR Average = 29.3%
Reducing costly readmissions

Rita Smith-Nickens has been in and out of Detroit’s Sinai-Grace Hospital quite a lot during the past few years. At 47, she suffers from congestive heart failure, diabetes, asthma, high blood pressure, and a host of associated difficulties. But on this November day, she says it has been nearly five months since she was last hospitalized. The reason? “It’s Peggy. She is the best nurse I’ve ever had. She helps me with everything,” says Smith-Nickens.

Peggy Segura, FNP-BC, is a nurse practitioner at Sinai-Grace and it’s her job to support heart failure patients like Rita when they transition home from the hospital. “I meet with them while they are hospitalized, and talk to them about the benefits of follow-up home care,” she says.

Segura also arranges a follow-up appointment with the patient’s primary care physician for several days after the expected discharge date, and makes sure that the appointment is highlighted in the patient’s discharge instructions. Segura follows up with post-discharge phone calls on day 3, 8, 13, and 25, after which the patient is referred to the hospital’s call center for twice-monthly follow-up calls.

Transition, Not Discharge
Follow-up care is just one of the ways in which Sinai-Grace is working to reduce preventable readmissions. The hospital’s effort is part of an IHI initiative called STAction on Avoidable Rehospitalizations (STAAAR), which aims to reduce rehospitalization by working across organizational boundaries in four states: Michigan, Massachusetts, Washington, and Ohio. STAAAR’s work in the first three states is funded by The Commonwealth Fund; funding in Ohio was separately identified.

Nancy Vecchioni, RN, MSN, CPHQ, co-leads the Michigan initiative, called MI STAAR, along with Sam Watson, MSA, MT (ASCP). Vecchioni is Vice President of Medicare Operations for MPRO, the state’s Medicare Quality Improvement Organization, and Watson is Senior Vice President for Patient Safety and Quality at the Michigan Health & Hospital Association.

“Once a patient leaves the four walls of the facility, most hospitals don’t know what happens to them,” says Vecchioni. “So it can be very eye-opening to learn, for example, about the 84-year-old man who had to walk three blocks and take three buses to keep his follow-up appointment. No one arranged for free transportation for him prior to his transition home from the hospital.”

Vecchioni prefers to talk about “transitioning” patients rather than discharging them. “Discharge means to disenroll, unload. And that’s what hospitals have traditionally done,” she says.

In an effort to change this, 28 hospitals across the state are collaborating on better ways to teach patients about self-care and help with their transition home or to other care settings. “They share innovations, ideas, and data,” says Vecchioni. They work together to reduce the barriers to effective post-hospital care, such as creating more reliable handovers to community resources. “Case managers tell us sometimes there is a long wait to get Meals on Wheels, or to get signed up for free medications. We have small collaboratives that are working on solving these sorts of issues,” says Vecchioni.

Worth the Investment
Katie Flannigan, MS, PA-C, is the STAAR Project Manager at Sinai-Grace. She says work to reduce heart failure readmissions is paying off. “We tested a lot of ideas, and created a process map showing what should happen each day of a four-day hospitalization,” she says. “We have already dropped the readmission rate for heart failure [patients whose discharge code is heart failure, regardless of the diagnosis on admission] by 20 percent. Effective bedside education and post-discharge follow-up by phone are two important keys to our success.”

Now she says the hospital is looking at how to create similar programs for asthma, stroke, pneumonia, and acute myocardial infarction patients.

The importance of strong leadership from the top in efforts such as these cannot be overstated. Sinai-Grace CEO Conrad Mallett is a charismatic and passionate leader who lives in the struggling city his hospital serves. “Why are we hiring four full-time people for this program when their work is not currently reimbursable?” he asks. “Because if you’re going to reshape the behavior of this community, this is what it will take, and this is what it will cost. We know it is worth the investment and we want policy makers to see that too.”

“The STAAR effect — concurrent engagement of the hearts and minds of front-line clinicians to improve transitions in care across clinical settings and efforts of state leaders and policy makers to align incentives and remove barriers to providing effective and coordinated care — gives me hope that health care system reform is within our grasp.”

PAT RUTHERFORD, RN, MS, IHI VICE PRESIDENT
Many health care leaders are deeply familiar with the challenge of spreading improvement across an organization. Imagine, then, what it takes to spread change across an entire nation.

“We think we are the only country in the world that has a goal of no avoidable injury or harm, nationwide,” says Jason Leitch, National Clinical Lead for Quality for the Scottish Government. All 30 of the nation’s hospitals are involved, says Leitch. The program’s specific goals are to reduce hospital mortality by 15 percent and adverse events by 30 percent in five years.

Coordinated by a special quality improvement board within NHS Scotland, in partnership with IHI, the Scottish Patient Safety Programme (SPSP) builds on the work of the Safer Patients Initiative, a programme of the Health Foundation with IHI. By building capacity and capability in improvement methodology, integrating the work with national initiatives, and developing in-country measurement expertise, SPSP aims to develop a sustainable infrastructure for continuous quality improvement. SPSP is currently focused specifically on five key workstreams where implementation of evidence-based changes have been shown to reduce harm and mortality: leadership; critical care; general ward; medicines management; and peri-operative.

**Dramatic and Amazing Results**

“We are just over halfway into our five-year program,” says Ros Gray, SPSP’s National Coordinator, who oversees the project across all 14 of the country’s health Boards — the geographically based bodies responsible for local health care delivery. “We have established leadership at the executive, team and program management levels across all our Boards, and every system has a coordinated approach to delivering the program goals that have been tailored for them,” she says.

Interventions related to each of the five workstreams are being implemented and Gray says that “some are absolutely flying, like critical care, where we are beginning to see some dramatic and amazing results.” She attributes some of this progress to building on the work the teams had started by reliably introducing IHI’s “care bundles” to reduce central line bloodstream infections (CLBSI) and ventilator-associated pneumonia (VAP). A bundle is a series of evidence-based interventions that, when implemented together, result in significantly improved patient outcomes.

Health Secretary Nicola Sturgeon says the program is helping clinicians achieve impressive results. “For example, at the ICU in the Royal Alexandra Hospital, Paisley, there hasn’t been a central line infection for over a year and there have been no cases of ventilator-associated pneumonia for over 100 days,” she says, noting that the hospital’s mortality rate in the ICU has also dropped by 12 percent.

“This is obviously great news for patients and is helping to contribute to shorter stays in intensive care. Up and down the country other hospitals are reaping similar rewards and, just as importantly, sharing best practice throughout Scotland.”

**A Compelling Vision**

Ros Gray says that in addition to specific improvement tools and interventions, IHI contributed two essential elements to this bold undertaking. “IHI helped us set the vision for change in a meaningful way that was also very human,” she says.

“Second, IHI’s Learning Collaborative model has been a huge success for us, a way to bring teams physically and virtually together to share the tools they are using to influence change, the results they are seeing, and ideas to try. If one Board is struggling with something and another has had successes, we will put them together so Team A can learn from Team B.”

The introduction of Rapid Response Teams is another intervention Gray says the SPSP is currently focused on. These teams of critical care specialists are available at a moment’s notice to come to the bedside of any patient who shows early signs of deteriorating health. “So far only two Boards have formally implemented a Rapid Response Team, and some have been reluctant to take that step,” says Gray. “But one of the Boards that did implement Rapid Response Teams had three patients treated by the team in the first week. Two of those patients would have likely suffered a heart attack if the team hadn’t intervened. That story serves as a compelling vision for the rest of the country.”

“It has been a privilege and a pleasure to be part of a nationwide program of improvement whose scope is unprecedented, as is its ambition. The ability of a nation to apply its will, resources, and pride to dramatically improve care for all its citizens surpasses all our expectations and has become a source of inspiration for others to do likewise.”

**Carol Haraden, PhD, IHI Vice President**
“We have had some significant successes with some of the interventions we’ve adopted, and we’re now getting to the stage where clinicians are seeing the potential for transferring successful methodologies to other areas of care, to benefit patients in other settings. That, for me, is very exciting.” ROS GRAY
By walking into the Busunu Health Center in the West Gonja District of Ghana’s Northern Region while she was in labor with her tenth child, Safura Musah saved her baby’s life as well as her own. She also demonstrated the immeasurable value of that region’s promising work to reduce mortality in children under five.

IHI is partnering with the National Catholic Health Service to reduce the staggering rate of mortality among Ghana’s youngest children by applying quality improvement methods to the country’s family health program. Current estimates are that 80 children per 1,000 live births die by the age of five. Of these deaths, 40 percent occur in the first month of life; about 50 percent of those occur on the first day of life, and 75 percent by the end of the first week.

The partnership, Project Fives Alive!, which is funded by the Bill & Melinda Gates Foundation, collaborates closely with the Ghana Health Service. The project trains and coaches staff from participating clinics and hospitals to use quality improvement methods and tools to identify, prevent, and mitigate process failures that lead to the most common causes of death in labor and delivery, the postnatal period, and children up to the age of five. About two years into the project, results are impressive.

A Significant Culture Shift
Working with front-line staff in three districts and one Catholic diocese in the Northern Sector of Ghana, quality improvement advisers from Project Fives Alive! help them test, evaluate, refine, and retest change ideas designed to encourage families to seek health care early and to ensure that health staff provide safe, effective, timely and patient-centered care.

The project, led by IHI Director, Nana A.Y. Twum-Danso, MD, MPH, a Harvard-trained Ghanaian physician, is being implemented in four waves over five years. It started in 2008 on a small scale in the North, began spreading to all three regions of the North and the Catholic hospitals in the South in 2009, and will spread to the whole country by 2012.

Convincing women to deliver their babies with a skilled attendant such as a midwife is a significant culture shift in the rural areas of Ghana where home births are the norm, and where women who seek professional help can be viewed as weak or afraid. Safura Musah wanted to deliver her tenth child at home, just as she had delivered all the others (one of whom had died). “I did not want to leave my smaller children in the house and go to Damongo for the delivery,” she says. “So I tried to deliver alone at home, but I couldn’t.”

Steady and Impressive Results
During a visit to Safura’s home in the last stages of her pregnancy, the midwife from Busunu Health Center, Martina Naagmentoma, explained to Safura and her family the importance of a skilled delivery. Remembering this, Safura sought Martina’s help when she could not deliver the baby by herself.

When she arrived at the clinic the midwife knew that, because this was Safura’s 10th delivery, she needed to be taken to the hospital by ambulance. While Martina stabilized her, Safura’s husband rushed to borrow money to pay for the ambulance — a common barrier to timely hospital care in the region. Because the sole doctor at the district hospital in nearby Damongo was away, Safura had to go all the way to the regional hospital, an 80-kilometer ride over rough and dusty roads. Once there, she delivered her large baby by Cesarean section. The hospital staff commended Martina for the timely referral, saying that any delay could have been catastrophic.

In addition to making steady progress increasing skilled deliveries, Project Fives Alive! has also been delivering strong results in postnatal care. At the start of the project, only 10 percent of newborns in the catchment area, with 760 expected deliveries per month, were receiving postnatal care within 48 hours and none were receiving a second visit during the critical first week of life. Two years after starting improvements in this area, 80 percent of newborns on average received their first postnatal care within 48 hours, and 80 percent also received a second visit on day 6 or 7. Based on the remarkable success of this initiative, it has now been implemented in 33 districts.

“What’s especially impressive about this work is that the health staff are analyzing and using their own local data to determine areas in need of improvement, and monitoring their data on a regular basis to assess whether the changes they are making are leading to improvement.”

NANA TWUM-DANSO, MD, MPH, IHI DIRECTOR, PROJECT FIVES ALIVE!
“I know that delivering in the clinic or the hospital is always better than delivering at home. I have been telling other women that as soon as you realize you are pregnant, you should attend antenatal care. And if you are in labor, you have to rush to the clinic and deliver. It is better than delivering at home.”

SAFURA MUSAH
Through an innovative partnership, HealthPartners and Allina Hospitals and Clinics are working together across competitive lines around a shared goal: realizing the Triple Aim of improved population health and experience of care, and reduced costs.

HealthPartners Clinics
Triple Aim health-experience-affordability indicators

- Total cost index
- Percent of patients “would recommend”
- Percent of patients with optimal diabetes care
Being an effective health care leader in today’s complex landscape is no simple task. It requires a host of disparate skills, including the ability to work vigorously toward seemingly contradictory goals simultaneously. It requires what Rosabeth Moss Kanter calls “thinking outside the building.”

Nowhere is this challenge more evident than in Minnesota, where leaders are working to achieve what IHI defines as the Triple Aim — improving the health of the population and the individual experience of care, while also lowering the per capita cost — by working in partnership with their competitors.

This is the idea behind the Northwest Metro Alliance, a long-term collaboration between Bloomington, Minnesota-based HealthPartners and Minneapolis-based Allina Hospitals and Clinics. HealthPartners is an integrated health care organization providing health care services, health plan financing and administration, and research. Allina is a not-for-profit network of hospitals, clinics and other health care services, providing care throughout Minnesota and western Wisconsin.

Joining Around Common Objectives

“In the Northwest Metro area of Minneapolis—St. Paul, we provide health coverage and own and operate four large primary care clinics, and Allina owns and operates four clinics and Mercy Hospital,” explains Brian Rank, MD, HealthPartners’ Medical Groups and Clinics Medical Director. “Our patients go to Mercy for care, and our doctors have a long-term relationship with Mercy. We had talked about doing some joint venture in that area, but we realized what we really wanted was to create some common objectives around the Triple Aim. From a delivery system perspective Allina is our competitors, but we knew that changing the trend on cost of care beyond our own four walls is in everyone’s best interest, including ours. So we agreed to create a relationship focused on achieving the Triple Aim. Now we’re all bound together around that goal.”

The partnership is governed by an overarching agreement that outlines the relationship and defines goals, principles, and key measures. An oversight council is responsible for joint planning and dispute resolution, and a Clinical Services Committee of physicians and other team members from both organizations jointly plans Triple Aim improvements. A project director, employed half-time by each organization, manages the partnership. “A long-term health plan agreement uses withholds and incentives to create shared financial risk.”

Says Penny Wheeler, MD, Allina’s Chief Clinical Officer, “Unfortunately, the business model that supports most health care organizations doesn’t line up with the Triple Aim. We are still paid for volume. If we are going to create this value, how can we do it without doing ourselves financial harm? The agreement starts to address this challenge.”

Improving Efficiency and Experiences

Using HealthPartners’ population-health data models to understand the patient population and identify variation in treatment patterns, along with claims data that captures all expenditures for patient care regardless of where care is given, the Alliance can measure the total cost of care. Sharing electronic health information helps the two organizations coordinate care — particularly important for patients with chronic conditions — which improves efficiency, reduces redundancy, and improves the patient experience.

In addition, says HealthPartners’ Brian Rank, “We look for areas where we can impact big cost drivers. One example is an imaging joint venture that has eliminated the need to duplicate services and expensive equipment.”

Just completing the first year of its seven-year agreement, the Northwest Metro Alliance has identified the following initiatives as priorities: increase generic prescribing; reduce variation in communicating with patients about low back pain; reduce preventable birth trauma and increase safe and effective inductions of labor; reduce readmissions for heart failure patients; and reduce the percentage of patients with bronchitis who are dispensed an antibiotic, a common cause of antibiotic overuse.

Allina’s Penny Wheeler says the two organizations learn from each other’s strengths, and that benefits both the partnership and the patients. “Our work on the Northwest Metro Alliance was a catalyst that resulted in 25 fewer C-sections during this first year, across all Allina sites. It’s an example of how you can reduce costs and increase affordability. And we are just getting started.”

“What has been so exciting about IHI’s Triple Aim work is the range and diversity of organizations and coalitions that are declaring their commitment to population and cost improvement as well as better experience of care. Through their enthusiasm, this work has become a significant focal point for change, in the US and around the world.”

CAROL BEASLEY, MPPM, IHI DIRECTOR
Medical, nursing, and business students at Vanderbilt University work together to learn the value of interdisciplinary teamwork in pursuing improved health care processes and outcomes.
Most health care professionals in the field today have acquired their quality improvement skills through on-the-job training and professional development programs. But many of tomorrow’s health care professionals are learning these skills as part of their education and will be prepared to enter the workforce as change agents.

Through the IHI Open School for Health Professions, students can take free, online courses created by some of the best minds in health care improvement. And they can learn from and share with a global peer group through the 275 student-led IHI Open School Chapters in 38 countries around the world.

An Opportunity to Collaborate
The Vanderbilt University Chapter in Nashville, TN, is an especially vibrant example of what student leaders can create when they are energized and supported. “We have one of the largest health care MBA programs in the country,” says Irving Ye, a fourth-year medical and first-year MBA student, and co-founder and co-leader of Vanderbilt’s IHI Open School Chapter. “There is as much interest in health care improvement at the business school as there is at the medical school.”

Fellow fourth-year medical student Piotr Pilarski, who founded and leads the Chapter with Ye, says the interdisciplinary nature of the Chapter’s programs—including a new elective course on improvement fundamentals that is open to medical, nursing, and business students—really appeals to students. “As physicians, our work will be largely interdisciplinary,” he says. “This is an opportunity for us to collaborate with nursing and business school students now.”

The Vanderbilt course, called Fundamentals of Quality Improvement in Health Care: An Interdisciplinary Elective, was designed by students and is almost entirely student-run. Faculty from all three schools teach the course, along with guest lecturers from the community representing business, law, health policy, even patients. In addition to lectures, the course includes opportunities for the students to work on case studies in small, interdisciplinary groups.

The Value of Interdisciplinary Thinking
The value of interdisciplinary collaboration becomes clear through the course’s small group exercises. “I’m primarily clinically-minded,” says Ye, “so when we discuss a case I am thinking about the disease process and the medications. The business and nursing students might point out that those things may not matter because it’s about systems, communication, or efficiency. When I stop talking and start listening to them, I learn a very different perspective.”

Students in the class are also strongly encouraged to complete related IHI Open School online courses throughout the duration of the elective. Pilarski says that many students also take part in the monthly IHI Open School Chapter calls, which are interactive web-based sessions hosted by a different Chapter each month. “It’s an opportunity to share best practices in Chapter management and growth,” says Pilarski. “This community is really developing rapidly, but each Chapter is doing it differently.” Pilarski and Ye also regularly attend IHI Open School Chapter meetings, such as the congress that precedes IHI’s annual National Forum on Quality Improvement in Health Care every December. “Chapter leaders and advisors from around the world come together to share best practices,” he says.

Bonnie Miller, MD, is Senior Associate Dean for Health Sciences Education at the Vanderbilt School of Medicine and an advisor to the IHI Open School Chapter there. She says it can be tough to fit all of the necessary curriculum into a medical student’s education. Nonetheless, she says, an understanding of the fundamentals of quality improvement is essential for the next generation of health care professionals. “We can’t leave the systems work to other professions, which is what has been the case in the past,” she says. “In the academic world, this is becoming part of the air we breathe.”

“When we created the IHI Open School, we had no idea how much energy and enthusiasm it would unleash at health professions schools throughout the world. We’re thrilled that thousands of students, faculty members, and deans have seized the opportunity to engage in learning about improvement and patient safety.”

PENNY CARVER, MED, IHI SENIOR VICE PRESIDENT
THE INSTITUTE FOR HEALTHCARE IMPROVEMENT (IHI)

believes that everyone deserves safe and effective health care, and we have been working with health care providers and leaders throughout the world to fulfill that promise. An independent not-for-profit organization based in Cambridge, Massachusetts, IHI focuses on motivating and building the will for change; identifying and testing new models of care in partnership with both patients and health care professionals; and ensuring the broadest possible adoption of best practices and effective innovations.

In today’s rapidly evolving health care environment, IHI responds to the interests of those committed to sustaining good health and improving health care delivery systems. We are building on our long history as a trusted source for innovation and collaboration — always seeking others who want to work with us to test new ideas and implement better processes for caregivers on the front lines. We mobilize teams, organizations and, increasingly, nations. We aim to inspire and train the current and future health care workforce to be skilled agents of change — to improve care at home, in the community, in the office practice, and throughout the hospital: in the outpatient clinic, on the medical-surgical floor, in the intensive care unit, and in the emergency department.

IHI has a staff of more than 100 people. We also have partnerships with hundreds of faculty around the world who share what they know and learn from each other under the philosophy of “all teach, all learn.” Our programs and activities are designed to enable committed individuals and organizations to innovate together, share knowledge, and collaborate on the rewarding work of improving health and health care.
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“The problems that exist in the world today cannot be solved by the same level of thinking that created them.”

ALBERT EINSTEIN