



Pursuing Perfection: Raising the Bar for Health Care Performance

An RWJF national program

SUMMARY

Pursuing Perfection: Raising the Bar for Health Care Performance—a national program of the Robert Wood Johnson Foundation (RWJF)—supported efforts by seven health care organizations to dramatically improve their care processes and patient outcomes. It ran from 2001 to 2008.

The purpose of the initiative—the Foundation's most ambitious quality improvement effort up to that time—was not just to improve the performance of the seven participating health care institutions but also to demonstrate to the broader provider community that ideal care is attainable.

The funded sites—four hospitals and three organizations predominantly outpatient in focus—implemented a series of projects aimed at redesigning condition-specific processes of care and units of operation.

The goal was to use the projects to spread improvement and build capacity to the point that the organization was providing ideal care to all patients—a point termed *organizational transformation*.

Key Results

The following were the key results reported to RWJF by program staff at the [Institute for Healthcare Improvement \(IHI\)](#), which served as the national program office for *Pursuing Perfection*:

- Most of the seven grantee organizations made "tremendous progress" in improving the quality of their care.
- The organizations transitioned from "devoted but average performers" to national leaders in health care improvement.
- However, none of the seven reached the program's ultimate goal of *organizational transformation* to a fundamentally new health care model.

- The program generated new ideas and approaches that influenced the health care field.
- Lessons learned from *Pursuing Perfection* informed new efforts by IHI to improve patient safety and care.

Funding

The RWJF Board of Trustees authorized up to \$25.6 million to fund *Pursuing Perfection*—\$20.9 million (later reduced to \$20.4 million) in 2001 and an additional \$5.2 million in 2003. The grantees provided millions of dollars in matching funds.

THE PROBLEM

Despite the 20th century's many advances in medical science, research in the 1990s established that American health care was unreliable. Most dramatic was a finding that preventable medical errors resulted in the death of an estimated 44,000 to 98,000 hospital patients a year—a total surpassing the annual number of Americans killed in automobile accidents.

That finding—reported by the Institute of Medicine (IOM) in 1999 in *To Err Is Human*—sent a powerful wake-up call to health care leaders and policy-makers: all too often Americans were getting poor care.

Other research echoed that conclusion. In 1998, for example, the *Milbank Quarterly* published data indicating that only 50 percent of Americans received recommended preventive care and 60 percent of recommended chronic care.

The IOM responded in 2001 with a report calling for sweeping reform of the health care system. The report—*Crossing the Quality Chasm: A New Health System for the 21st Century*—placed the blame for poor quality care not on the physicians, nurses and others who deliver care but on the way their work processes and delivery systems were organized:

Health care has safety and quality problems because it relies on outmoded systems of work. Poor designs set the workforce up to fail, regardless of how hard they try. If we want safer, higher-quality care, we will need to have redesigned systems of care, including the use of information technology to support clinical and administrative processes.

Quality Health Care—What Is It?

The term quality health care has no formal, established meaning, but the definition used by the federal Agency for Healthcare Research and Quality is widely cited: "Quality health care means doing the right thing, at the right time, in the right way, for the right person—and having the best possible results."

Michael B. Rothman, M.P.P., quality improvement director at Johns Hopkins Hospital in Baltimore, put it more simply in 2004, when he was the RWJF program officer overseeing the Foundation's quality improvement initiatives. Quality health care, he said, means: "Getting all the care that can help you, not receiving any care that cannot possibly help you, and not being hurt by the care you do receive."

The IOM's *Crossing the Quality Chasm* report defined quality care by identifying six characteristics or elements that it encompasses. Quality care is:

- Safe
- Effective
- Patient-centered
- Timely
- Efficient
- Equitable

These six elements became the principal focus—the "blueprint"—of the *Pursuing Perfection* program, the subject of this report. See [Appendix 1](#) for an elaboration on the meaning of each element as defined by the IOM report.

CONTEXT

Improving the performance of the American health care system has been a concern of RWJF since its inception as a national philanthropy in 1972.

However, as Foundation leaders took stock at the beginning of the 21st century, they concluded that quality improvement had not been a sufficiently major focus of RWJF programming. As with the health care community in general, IOM's *To Err Is Human* and *Crossing the Quality Chasm* reports were important catalysts in increasing RWJF's attention to the quality issue.

One key ingredient of RWJF's new quality improvement effort was *Pursuing Perfection: Raising the Bar for Health Care Performance*—a \$26 million, five-year national demonstration program to improve patient outcomes at hospitals and physician organizations.

As signaled by the program's name as well as the funding level, *Pursuing Perfection* was an ambitious undertaking—indeed, the Foundation's most ambitious quality improvement effort up to that time.

RWJF hoped that the program's participating institutions would not just transform their own care-giving processes but also demonstrate to the broader provider community that the attainment of ideal care is both technically possible and financially feasible.

Rosemary Gibson, M.Sc., former senior program officer at RWJF and the final program officer for *Pursuing Perfection*, noted that at the time the program's strategy was being developed, some RWJF staff "had the misperception that health care organizations would not do this work because the method of reimbursement would not support quality improvements, and they might lose money.

"But the other reality," she noted, "is that quality improvement work by health care organizations can uncover enormous amounts of waste in the system. Such defects cost the health care organization money, and when they 'clean up' their processes and eliminate the waste, they get to keep that money." She gave an example of a hospital that in one week "dramatically reduced the amount of paperwork that went with patients who were discharged to nursing homes. Staff members asked themselves, and the nursing homes, 'Do we really need all of this paper?' The answer was, 'No.' Most of it was thrown away when the patient reached the nursing home. So the hospital saved money by stopping this practice. This is money from quality improvement that a hospital/provider can keep."

The design, operation and results of *Pursuing Perfection*—and the lessons to be learned from it—are the subject of this report.

PROGRAM DESIGN

The specific genesis of *Pursuing Perfection* was a trip that RWJF program staff members made to southwestern Pennsylvania in the summer of 2000. The purpose was to get a first-hand look at the Pittsburgh Regional Healthcare Initiative—a collaborative effort to improve patient care and safety at area hospitals.

Established by community leaders and backed by physicians, insurers and businesses, the Pittsburgh Regional Healthcare Initiative helped participating hospitals identify internal conditions underlying patient care problems and then redesign the care-giving systems to eliminate those conditions.

To guide the work, the initiative's leadership adapted the quality improvement model that Toyota developed to eliminate defects and inefficiencies in its automobile production systems. Paul O'Neill, a key leader of the Pittsburgh effort and CEO of Alcoa (and U.S.

treasury secretary 2001–2002 under President George W. Bush), had used the Toyota production system to reduce worker injuries at Alcoa, and he was a strong proponent of expanding Toyota's defect-reduction approach to the health field. (This was years before Toyota's recall problems of 2009–10.)

The Pittsburgh project impressed the RWJF delegation, and subsequently the Foundation provided \$1 million to support the work (see [Program Results](#)). Another gauge of the trip's impact is the fact that Michael Rothman—then an RWJF program officer, head of RWJF's quality team and one of the visitors—immediately began developing plans for an RWJF program aimed at achieving defect-free care.

Indeed, it was from O'Neill that the Foundation got the word perfection as well as the concept, says Rothman.

Program Goal

Working with other RWJF staff and consultants, Rothman developed a concept for the new program and solicited critiques from outside health care experts. What emerged from this process differed from the Pittsburgh initiative in a key respect. The RWJF program would focus on single institutions—specifically, hospital and physician organizations—and not on regions.

The goal of *Pursuing Perfection*—as stated in RWJF's February 2001 announcement of the new program—was to help organizations "dramatically improve patient outcomes by pursuing perfection in all of their major care processes." The words *in all major care processes* were central to the program concept.

Initially, the participating organizations would focus on improving a few—at least two—specific clinical processes or areas—cardiovascular disease prevention, for example, or prevention of hospital-acquired infections.

However, the objective was not to complete a series of individual improvement projects but to use the pilot efforts as learning experiences to build staff, leadership and technical capacity that would allow the organization to deliver ideal care to all patients in all major care processes.

Reaching that point—the point of organizational transformation, in the program's lexicon—was the intended destination of *Pursuing Perfection*.

"The purpose of this initiative is to show that system-wide quality improvement efforts are feasible and, through such efforts, set new benchmarks for health care quality and safety," the RWJF announcement said.

The name, *Pursuing Perfection*, was a metaphor for the kind of dramatic advancement that Toyota brought to automobile production, said Donald M. Berwick, M.D., M.P.P.,

president and CEO of the Institute for Healthcare Improvement (IHI), who became the program's director.

The program, he said, was to be a "game-changing example" of how far performance could exceed the existing norms of mainstream health care: "Everyone would have to catch their breath and say, 'Oh my goodness, how did they accomplish that?'"

Key Program Elements

As designed, *Pursuing Perfection* had these main components:

- **Two funding phases and the possibility of a third.**

- **Phase I: Seven-month planning period.** Up to 12 competitively selected hospital and physician organizations would each get a seven-month \$50,000 grant to develop a detailed plan for pursuing the six elements of quality care identified in the *Crossing the Quality Chasm* report (safe, effective, patient-centered, timely, efficient and equitable).

The plan would outline the improvements to be piloted in two care processes or areas and the strategy for then spreading the effort throughout the organization. The plan would also include strategies for:

- Building partnerships outside the organization to improve care. A hospital, for example, might work with primary care physicians and heart specialists to improve cardiovascular care.
- Building infrastructure to support organization-wide improvements in areas such as clinical measurement, accounting, information systems and human resources.
- Ensuring that pursuit of perfection was positive from a business perspective. This meant a financial analysis of revenue changes projected to result from the improvement effort and a marketing strategy to "sell" the effort to consumers, insurers and other purchasers of care.

Involving the organization's CEO, board members and medical leadership in the improvement process as "champions of change."

- **Phase II: Two-year initial implementation period.** Based largely on the strength of their plans, up to six of the 12 planning sites would receive two-year grants—ranging from \$1.5 million to \$3.5 million—to begin implementing their plans.

By the end of the two years, the recipient organizations were expected to show near-perfect compliance with national quality standards in their two pilot areas and to have begun improvement projects in at least five other major care areas.

Near-perfect meant, for example, 95 percent compliance with standards of care for cardiovascular disease prevention and treatment, or 98 percent compliance with accepted performance and outcome measures for diabetes management.

- **Phase III: Possible additional funding for continued implementation.** The RWJF program staff assumed it would take at least five years to see large-scale results at the funded sites. Accordingly, the Foundation program staff said that after "a midcourse review," it would consider giving successful Phase II sites a third grant similar in size to the Phase II funding.

The intent, says Andrea Kabcenell, M.P.H., R.N., deputy program director, was that this second round of implementation funding would allow the sites "to swing the bat all the way." RWJF did, in fact, provide Phase III grants to all seven sites but at a greatly reduced level. (See [Program Evolution: Phase III](#) for details.)

- **Technical assistance.** In addition to money, the program would provide grantees with extensive consultation and training to help them develop and implement their plans. The assistance was to range widely—from instruction in team building and change management to advice on technical operational issues, such as quality measurement, patient safety reporting and industrial engineering.
- **\$1.2 million communications campaign.** As viewed by the RWJF staff, many health care organizations were reluctant to increase the quality of their care because they believed the efforts would not be rewarded in the marketplace. The absence of consumer demand for improvement was a major barrier to progress, the staff believed.

The communications campaign would try to reverse those conditions by disseminating information on the work and accomplishments of the *Pursuing Perfection* grantees, showing providers and policy-makers that defect-free care was achievable and also valued by the individuals and organizations that pay for care.

In another effort to reach the provider community, the program was to develop a "learning network"—a forum that would allow the grantees to share their strategies and results with providers and others who were not part of the program.

The idea was that this exchange—to be conducted primarily through conference calls and other electronic means—would encourage outsiders to apply the program lessons to their own operations and, in turn, share their experiences with the network.

Funding

In January 2001, the RWJF Board of Trustees authorized \$20.9 million (later reduced to \$20.4 million) over three years to fund Phases I and II. In October 2003, the board authorized an additional \$5.2 million over 30 months for Phase III, bringing the total to \$25.6 million.

RWJF expected the Phase II grantees to provide "a significant match" but set no firm ratio. While a one-to-one match was "preferred," the requirement would be tailored to each organization's circumstances, RWJF said. The sites ended up contributing unspecified millions to the work, according to RWJF.

PROGRAM OPERATION

Management

RWJF established the national program office for *Pursuing Perfection* at the [Institute for Healthcare Improvement](#) (IHI) in Cambridge, Mass., under the direction of Donald M. Berwick, M.D., M.P.P., IHI's president and CEO.

IHI is a nonprofit organization founded in 1991 to improve health care around the world. It seeks to be a change agent, offering providers and policy-makers a long menu of educational programs, training tools and other resources aimed at encouraging new approaches to care.

Berwick, co-founder of IHI and a professor in the Harvard schools of medicine and public health, is a widely cited authority on quality improvement. Experts consulted during the program's design process were unanimous in recommending him as director, says Rothman.

Thomas Nolan, Ph.D., IHI senior fellow, was program co-director and led the technical assistance activities. Andrea Kabcenell, an IHI vice president and former RWJF program officer, was deputy director, responsible for day-to-day program operations.

National Advisory Committee

RWJF appointed a committee of health care experts to assist the Foundation and national program staffs. The panel's primary function was to guide the grantee-selection process, including recommending to RWJF which organizations to fund.

Some committee members—not all—remained active throughout the program's duration, attending grantee meetings, providing technical assistance and joining the program staff on visits to the sites. See [Appendix 2](#) for a list of the 15 original committee members.

Implementation

Site Selection Process

In response to RWJF's *Call for Proposals*, 226 organizations submitted Phase I grant applications; the majority of them (81 percent) were hospitals or hospital-anchored integrated delivery systems.

Given the program's ambitious goal, the level of interest surprised the national program office staff. But while a pleasant surprise, it made selection of the 12 Phase I grantees—a mere 5 percent of the pool—difficult. The paring down left behind a lot of unsuccessful candidates—and some hard feelings, according to program staff. For IHI, which had ties to many of the applicants, the process was especially uncomfortable.

The announced selection criteria included the applicant's improvement proposal, the degree to which the leadership was committed to the pursuit of perfection and the organization's track record in quality improvement.

However, according to Kabcenell, RWJF made it clear that this was not to be a program for the nation's best known, most prestigious hospitals. The reasoning, she says, was that breakthroughs made by program participants with superstar status would lack relevance as examples for the rest of the provider community.

The national advisory committee reviewed the proposals and, following site visits to 26 of the most promising applicants, recommended the organizations for Phase I funding—and later, after additional site visits, those for Phase II grants.

(In 2002, RWJF separately funded an independent examination of why academic health centers appeared to fare poorly in the *Pursuing Perfection* competition. One finding of the \$50,000 study (ID# 047103) by the Institute of Health Policy at General Hospital Corporation-Massachusetts General Hospital was that, in fact, they did not do poorly in the application and selection process compared to other types of applicants. Researchers also found that, although quality improvement work is "orders of magnitude" harder in academic systems than in other health care settings, many academic health centers demonstrate commitment to improvement. See [Program Results](#) for details of the research.)

The Grantees

In September 2001, RWJF awarded \$50,000 planning grants to 12 organizations and the following April gave \$1.9 million implementation grants to seven of the 12—not six, as originally planned.

The reason for adding the seventh was to ensure that organizations emphasizing outpatient care were adequately represented, explains Kabcenell. Although not intentional, the program design and application put a premium on highly organized institutions with well-established infrastructure and leadership—conditions that program leaders realized in hindsight tended to favor hospitals and discourage ambulatory care centers from applying, she says.

Increasing the number of sites permitted the inclusion of an additional non-hospital organization and thus a more balanced breakdown of the participants. To accommodate

the additional grant, RWJF divided the Phase II grant total into seven portions instead of six. The seven sites selected for two-year implementation grants were:

- [Cambridge Health Alliance](#), an academically affiliated public health care system in Cambridge, Mass., with more than 20 primary care sites, three community hospitals, a Medicaid managed care plan and the Cambridge city public health department.
- [Cincinnati Children's Hospital Medical Center](#), a large pediatric academic medical center in Cincinnati, Ohio, with suburban locations offering outpatient and other services.
- [Hackensack University Medical Center](#), a 775-bed teaching and research hospital in northern New Jersey that provides inpatient and outpatient services to the metropolitan New Jersey-New York City area.
- HealthPartners Medical Group and Clinics, part of Minnesota-based [HealthPartners](#), an integrated care delivery system that includes two hospitals in the Twin Cities area and a family of health insurance plans. The medical group has more than 550 physicians practicing in more than 50 primary and specialty clinics in the Minneapolis-St. Paul and St. Cloud areas. (Officially, the grantee was Group Health Plan, the legal corporate name of HealthPartners.)
- [McLeod Regional Medical Center](#), a nonprofit, academically affiliated, acute care hospital with 500–600 beds in Florence, S.C., serving the state's largely rural northeastern area.
- [Tallahassee Memorial HealthCare](#), a not-for-profit 770-bed acute care hospital and community health care system serving Florida's capital city and the surrounding rural area. In *Pursuing Perfection*, Tallahassee Memorial partnered with Capital Health Plan, a not-for-profit health maintenance organization (HMO) with the same service area.
- An unincorporated coalition of health care providers, payers and patients in Washington State's Whatcom County (Bellingham). The grantee was St. Joseph Hospital in Bellingham, part of [PeaceHealth](#), a nonprofit health care system in the Pacific Northwest sponsored by the Sisters of St. Joseph of Peace. Of the seven sites, this was the only consortium effort. It is identified as the Whatcom County project in this report.

For details of the Phase II grants, including contact information at each site, see [Appendix 3](#).

RWJF and IHI hoped that the five Phase I organizations that did not receive additional funding would still implement their improvement plans. However, their involvement essentially came to an end with the selection decision. For a list of the five, see [Appendix 4](#).

Technical Assistance

National program office staff was fond of likening *Pursuing Perfection* to the Lewis and Clark Expedition: an ambitious, first-of-its-kind mission through difficult territory dotted with the unknown.

To help guide project teams through the quality improvement wilderness, Thomas W. Nolan, the program co-director, oversaw a robust offering of instructional meetings and consultations on quality improvement strategies, leadership issues and clinical topics. "Coaching" the organizations' CEOs on leading the improvement process was a key focus.

Nolan, a statistician specializing in quality and productivity improvement in and out of the health care field, provided much of the guidance. For a list of other experts engaged as program "faculty," see [Appendix 5](#). Staff and experts engaged as "faculty" visited each site at least once annually.

In addition to assisting the sites directly, IHI converted some of its RWJF funding into vouchers that local teams could use to hire their own consultants to help with issues specific to their projects. The sites also had money in their RWJF grants for technical assistance.

The program staff viewed cross-fertilization among the participants as a critical part of the learning process and crucial to the program's success. To facilitate the exchange of information, the national program staff:

- Held conference calls every two weeks with the seven project leaders
- Convened several annual face-to-face meetings of the local teams
- Created an extranet site that allowed the grantee organizations to share documents.

Pursuing Perfection gave participants access to leading authorities on performance improvement and a community of people interested in discussing improvement issues, says Uma R. Kotagal, M.B.B.S., M.Sc., Cincinnati Children's senior vice president for quality and transformation. "It taught us an incredible amount—lessons we're continuing to build on."

"This was the most sophisticated technical assistance I have seen in any [RWJF] program," says Rosemary Gibson, the RWJF senior program officer responsible for *Pursuing Perfection* after Michael Rothman, the program's originator, left the foundation in 2004.

"2 to 5 to All"

As outlined in the design stage, the grantee organizations were to proceed to perfection via a staged improvement process, which the national program staff captured with the slogan "2 to 5 to all," shorthand for:

- Two initial improvement projects
- Followed by five more
- Leading—hopefully in five years—to the "all," that is, defect-free care across the entire organization

For a list of the "2" and "5" improvement projects proposed by each of the grantee organizations at the beginning of Phase II, see [Appendix 6](#).

Some grantees questioned the value of this incremental, project-by-project approach, suggesting a more direct, concerted effort to build organizational capacity and infrastructure—from upgrading information systems to overhauling the leadership structure—would be a more direct route to transformation.

The national program staff, however, believed the project-specific strategy put the emphasis, where it should be: on improving patient outcomes. Focusing immediately on big-picture changes removed from the front-line action risked distancing the program from patient care and the professionals who provide it, the staff reasoned.

The theory was that achieving defect-free care in any one area would necessitate structural and system changes and significant staff learning that went beyond that one area. Thereby, each individual project would contribute to the overall remaking of the organization. "The idea is you have to think simultaneously about the big system and the front-line, narrow improvement project," says Kabcenell.

As an example of the theory in practice, the national program staff cites McLeod Regional Medical Center's project to improve care for heart attack victims. See Sidebar: [Reducing Door-to-Balloon Time](#).

As the program progressed, staff realized that a modification of the strategy mantra was in order. Instead of "2 to 5 to all," Kabcenell says, it became "all to 2 to 5 to all"—an effort to capture the need for a big-picture vision at the outset of how the various projects fit together as a path to transformation.

Site Activities: A Sampling

Pursuing Perfection was a learning experience in which the participating organizations were free to experiment. There was nothing rigid about the program—no model that the

local teams had to follow as they designed their improvement initiatives, explains Kabcenell.

Consequently, the nature of what was being improved varied widely from site to site, even from project to project within a single site:

- **Some projects targeted a specific disease.** Like McLeod, Hackensack University Medical Center and Tallahassee Memorial HealthCare took steps to improve the diagnosis and care of heart attack patients.

Cincinnati Children's worked with parents to improve outcomes for children with cystic fibrosis. Cambridge Health Alliance instituted a support system for pediatric asthma patients and their providers.

- **Other projects went beyond a single condition or process.** One of Tallahassee Memorial's efforts was reducing the hospital's mortality rate; this included formation of *rapid response teams*—teams of hospital personnel available around the clock to intervene at the first sign of a patient's decline.
- **Some projects involved improvements in physical infrastructure.** McLeod implemented a medication safety system that included new automated storage and dispensing equipment. Read the Sidebar on [McLeod's work on medication safety](#).
- **Non-hospital grantees focused on outpatient care.** While the four hospital grantees emphasized improvement in inpatient care, the other three organizations focused largely on outpatient care.
 - Cambridge Health Alliance recognized the critical role played by school nurses in decreasing the effects of asthma on children and the health care system, and included school nurses in its Pediatric Asthma Project team. A communication system with a written action plan and e-mail, pager and telephone contact ensures ongoing and timely feedback between the school nurse and a child's primary care team.
 - HealthPartners started off with two disease-specific projects but shelved those plans and instead redesigned its primary care clinic process for all patients irrespective of the reason for their visit. The new system—a modified version of the [Chronic Care Model](#)—organized care around nurse-physician teams instead of individual clinicians.

In essence, HealthPartners reversed the program's "2 to 5 to all" progression, focusing at the outset on the "all" and later adding condition-specific improvements. Read the Sidebar on the [HealthPartners project](#).
 - In response to consumer input, the Whatcom County coalition created the position of clinical care specialist—a nurse or social worker to help chronically ill patients navigate the health care system and become actively engaged in their own care.

The coalition also developed a document—available in either paper or Web-based form—to help patients organize and track their health information. The purpose of the tool, named the Shared Care Plan, was to facilitate patient self-management and communications with clinicians.

Program Evolution: Phase III

In April 2004, RWJF gave each of the seven sites a second two-year implementation grant, this one for \$300,000. While there had been no promise of support of any kind beyond Phase II, the grantees had anticipated continued funding at about the same level as Phase II (\$1.9 million) and were, as described by the national program office, "unprepared" for the large reduction.

While some of the grantee organizations had sufficient internal funding to make up the difference, several had to scale back their *Pursuing Perfection* efforts, according to program staff. The reduction was especially hard on the Whatcom County coalition, says Kabcenell.

The main reason for the reduction was a lack of resources, says Michael Rothman, RWJF's initial program officer for *Pursuing Perfection*. However, the Foundation also saw Phase III as an opportunity to find out whether the pursuit of perfection was self-sustaining. "A key test in Phase III is whether or not organizations will continue the projects at the same scope by increasing their own contributions," the program staff told the RWJF Board of Trustees.

A Change in Emphasis. In addition to less funding, Phase III brought a change in program emphasis. Ground rules set by RWJF called for the grantee organizations to focus more fully on improving care across the continuum, particularly on the effectiveness and coordination of outpatient care.

This thrust had an effect mainly on the hospital grantees, causing them to look for new activities with an outpatient component, according to Kabcenell. As an example, she cites the collaborative that Hackensack University Medical Center formed with other local hospitals, the local health department and the medical society to improve compliance with best-practice guidelines for the prevention and treatment of heart attacks and other diseases.

For a site-by-site list of the major Phase III projects, see [Appendix 7](#).

European Participants

Through arrangements made by IHI, teams from six European health care sites participated in *Pursuing Perfection*—attending grantee meetings, joining in the conference calls, implementing their own improvement projects and sharing results.

Four were National Health Service Trusts in England; one was a hospital in the Netherlands; and one was a county council in Sweden with responsibility for medical care in the local area. See [Appendix 8](#) for the names of the six sites.

IHI leaders believed that inclusion of the European organizations exposed the American participants to new perspectives on the organization of health care delivery and the integration of health care with social services.

During Phase II, the CEOs and project directors of the U.S. grantee organizations visited the Swedish site, Jönköping County, to learn about quality improvement in a public health care system.

Education was also the motive for the Europeans' participation. Despite different systems, both the European and American organizations embrace the goal of improving care, says Mats Bojestig, M.D., chief of the department of medicine for the Jönköping County Council. By joining *Pursuing Perfection*, his organization became part of a learning community with guidance by IHI experts, he says.

IHI—separately from RWJF—contracted with the European organizations to give them the same kind of technical assistance that the U.S. teams were getting through RWJF funding. RWJF welcomed the foreign participation but did not support it financially. RWJF funds only U.S. organizations and projects.

EVALUATION

In May 2002—at the beginning of Phase II—RWJF awarded a \$1.5 million, 30-month grant (ID# 044466) to Boston University School of Public Health to evaluate Phase II of the program. The basic objective was twofold:

- To determine the level of success achieved by the seven grantee organizations
- To identify the factors that influenced—both positively and negatively—the organizations' ability to achieve transformation

The evaluation team consisted of faculty and researchers with joint appointments at Boston University (either the School of Public Health or the School of Management) and the U.S. Department of Veterans Affairs (VA) Center for Organization, Leadership and Management Research in Boston, a health care research center funded by the VA's Health Services Research and Development Service.

Martin P. Charns, D.B.A., professor at the School of Public Health and director of the VA center, headed the team. Charns is a recognized expert in organizational change. See [Appendix 9](#) for the names of the other team members.

Data Gathering

To gather data, the team visited the seven sites multiple times between 2002 and 2005, conducted a series of interviews with staff members and administered a written survey to a broad-based sample of the site personnel.

The interview and survey questions focused on:

- How the improvement efforts were organized
- The role played by top leadership
- The degree of progress
- The barriers to success and factors that helped overcome the barriers
- The individual customs and characteristics—the *culture*—of each organization

To distinguish the program's impact, the team also studied five additional organizations. Two of the five had received *Pursuing Perfection* Phase I planning grants but no implementation funding. The other three had no connection to the program but were recognized for their quality improvement efforts. (Out of respect for confidentiality, the team did not publicly identify the five comparison sites.)

For a more detailed description of the research methodology, see [Appendix 10](#).

Using the research data, the team analyzed the elements and processes of organizational change and developed a theoretical model describing the factors that permit a health care organization to move from short-term, isolated performance improvements to sustained, reliable organizationwide improvement in patient care.

While many theories and extensive research on organizational change and improvement already existed, there was no single theory or model to sufficiently explain the complex processes involved in the *Pursuing Perfection* effort, according to the team.

See [Evaluation Results and Findings](#) and [Appendix 10](#) for more about the model developed by the team.

In addition to using the site visit and survey results for its own analysis, the team shared the data with the grantee organizations to help them identify their strengths and deficits.

Additional Evaluation Grants

During *Pursuing Perfection*, RWJF gave Boston University School of Public Health two additional grants to support work by Charns' team:

- In February 2005, RWJF awarded a \$900,000 grant (ID# 052283) to continue the evaluation of the program in Phase III. The research process was similar to that of Phase II. See [Appendix 10](#) for details.

- In December 2005, RWJF provided \$100,000 (ID# 055813) to test and validate the team's theoretical model of organizational change. For an overview of the validation methodology, see [Appendix 10](#).

CHALLENGES

The national program office reported to RWJF that the program encountered the following challenges:

- **A bold, new idea.** Because the concept of defect-free care was so new and ambitious, the grantee and program staffs had to tackle problems for which the health care field had no ready tools. Program participants were "creating, not following a path" to a new level of improvement.

National program staff responded by providing experts with strong experience to help the participating organizations. Its role was to stay ahead of the grantees, anticipating what challenges they might encounter and working to identify solutions, the program office said.

- **The current health care system.** The biggest external challenge was "the tyranny of the current health care system." While the grantee organizations demonstrated dramatic improvements, they were unable to overcome the system's incentives to providing more care and disincentives to lowering costs. The grantees could improve hospital care but they would not put themselves at financial risk by reducing wasteful use of hospital care in the form of unnecessary procedures and inpatient days.

Professional constraints, regulations and resistance also slowed the pace of change. The "existing professional belief systems" limited the ability of several grantees to successfully scale up their improvement initiatives.

As a result of its experience with *Pursuing Perfection*, IHI initiated a new program of its own—*Triple Aim*—to help organizations overcome the "tyranny" of incentives and disincentives. (See [Program Results](#) for more information.)

- **Small Phase III grants.** For the grantees, the small size of the Phase III grants was a challenge. All seven organizations considered funding at that level insufficient for so ambitious an objective.

The organizations responded by investing their own resources in the effort, and the national program staff connected the grantees to other sources of support.

- **Limited time frame.** Time is a key barrier to achieving transformation in a health care system as full of complexities and constraints as the U.S. system is. Even with greater RWJF funding—even a doubling of the grant size—the program would not have produced a substantially improved result given the limited time period, the national program office staff told RWJF.

For challenges unique to the program evaluation, see [Appendix 10](#).

PROGRAM RESULTS REPORTED BY THE NPO

In a written report to RWJF in May 2008, the national program office identified the following key results of *Pursuing Perfection*:

Organizational Results

- **Most grantee organizations made "tremendous progress," according to program staff, in improving the quality of their care as measured by the six elements identified in the IOM report.** Key examples include the following:
 - Three grantees—Hackensack University, McLeod Regional and Tallahassee Memorial—reduced their medication error rates below one error per thousand doses, bettering the national benchmark. The same three hospitals also cut their heart attack mortality rates in half.
 - Efforts by Cambridge Health Alliance and HealthPartners to improve management of chronic illnesses such as diabetes and asthma reduced trips to the hospital by at least 20 percent.
 - *Pursuing Perfection* organizations reduced variation in service delivery for the populations they served:
 - Cincinnati Children's reduced the gap between the percentage of children with cystic fibrosis who have private insurance who are of low weight (below 10th percentile by age) and those who have Medicaid from a difference of 20 points in mid-2002 to less than five points in mid-2006.
 - At Cambridge Health Alliance in 2002, the percentage of Spanish-speaking children with asthma who had emergency room visits was almost 45 percent, compared with just over 10 percent of English-speaking children. By 2006, improved care for all children with asthma resulted in fewer than 10 percent of children with asthma in each of four language groups (English, Spanish, Haitian Creole and Portuguese) having emergency room visits. The range of difference among the groups was only 6 percent.

For a specific site-by-site list of project results, as compiled by the national program office staff, see [Appendix 11](#).

For a further look at results achieved by two sites that the national program office, Senior Program Officer Rosemary Gibson of RWJF and the evaluation team considered among the program's most effective—see the Sidebars on the [HealthPartners](#) and [McLeod](#) projects.

- **The organizations transitioned from "devoted but average performers" to national leaders in health care improvement.** The following examples provide evidence of this leadership, according to the national program staff:
 - Cincinnati Children's won the American Hospital Association-McKesson Quest for Quality Prize in 2006.
 - HealthPartners won the [National Quality Forum's National Quality Healthcare Award](#) in 2007.
 - Hackensack University and McLeod Regional medical centers were leaders in the [Centers for Medicare & Medicaid Services \(CMS\)/Premier Hospital Quality Incentive Demonstration Project](#). In the first year of the demonstration, they were the only two hospitals to rank in the top two deciles for all five clinical conditions measured.
 - Whatcom County's Shared Care Plan became a model tool for patient self-management. It also helped inform development of HealthVault, Microsoft's personal health information system, according to Lori Nichols, director of the Whatcom Health Information Network and former director of the local *Pursuing Perfection* project.

Deputy Program Director Andrea Kabcenell, in an interview, noted that in June 2009—more than three years after RWJF funding of the sites ended—President Barack Obama publicly cited four organizations for providing the kind of outstanding medical care that he said should be the national standard. Two of these "islands of excellence" were *Pursuing Perfection* grantees:

- Cincinnati Children's, where Obama said "the quality of care for cystic fibrosis patients shot up after the hospital began incorporating suggestions from parents."
- Tallahassee Memorial, where "deaths were dramatically reduced with rapid response teams that monitored patients' conditions, and 'multidisciplinary rounds' with everyone from physicians to pharmacists."

The president made the comments in a speech to the American Medical Association on health care reform.

- **Nevertheless, none of the seven organizations reached the program's ultimate goal of transformation to become a fundamentally new health care model.** Several grantees show "the signs of transformative change," but none has "become a 'Toyota' for health care yet," according to the national program office Summative Report to RWJF—written before Toyota's 2009–10 recall problems.

The goal itself was not unrealistic, says program director Donald Berwick, but reaching it "turned out to be a lot harder than anyone, including me, had ever thought." See [Challenges](#). (Berwick made this and other comments in an interview conducted in 2009 for this report.)

Virtually all care processes have been perfected on an individual basis, but nowhere in the world have they yet all been perfected under one roof, he says. Just why "putting it all together" is so elusive baffles him, but he is not giving up.

"In fact, in my moments of pure psychosis, I think we should do it again now. We should have *Pursuing Perfection 2.0*," he says. "Because I think we're ready technically."

Impact on the Health Care Field

Part of *Pursuing Perfection's* goals was to influence the health care field:

- ***Pursuing Perfection* generated new ideas and approaches that influenced the health care field.** A number of program innovations gained traction nationally, according to Berwick, citing the following examples:

- Efforts to involve patients in the design of care improvements—especially Cincinnati Children's collaborative work with parents of its pediatric patients—have stimulated initiatives across the country to give patients a larger role in determining the practices and processes of health care organizations.

All-or-none measurement—the term for withholding all credit for compliance with performance standards unless all components of the standard are met—started at HealthPartners, was embraced by other grantees and has since been adopted by organizations across the country, according to Berwick.

The purpose of the all-or-none approach is to increase the reliability of care. For example, to get credit for proper treatment of a heart patient, the hospital staff must satisfy every step of the evidence-based standard for heart care. If just one step is overlooked, the performance measure for that patient is zero.

- Another idea with national application for improving patient outcomes—the care *bundle*—had its roots in *Pursuing Perfection* and the work of the IHI faculty, Berwick says.

Bundle is a collection of care processes put together (bundled) as a single intervention for patients undergoing a treatment with inherent risks. For example, there is a bundle to prevent ventilator-associated pneumonia.

"I go around the United States and the world, and I hear the term bundle used, and people don't know it came from IHI and the RWJ *Pursuing Perfection* work. I was there. I could see it emerge," Berwick said.

- A group from local *Pursuing Perfection* sites and the national program office developed the Whole System Measures—a set of measures designed to give health care leaders the data they need to evaluate their organizations' overall performance on core dimensions of quality and value.

Unlike disease- or condition-specific measures, the Whole System Measures focus on system-level indications of performance, such as mortality across the organization and the level of patient satisfaction.

The idea of perfecting care organization-wide, not just improving disease-specific processes, is the program's biggest contribution to the field, says Gibson (who left RWJF in the fall of 2009). "It changed the expectations about what is possible in health care." That in itself is transformative, she adds.

While not claiming sole credit, the national program staff told RWJF in June 2007:

"The most dramatic change we have witnessed over the course of the Pursuing Perfection initiative is that the health care community now believes that transformation is a viable aim, and not just a distant hope. We are extremely pleased to have supported that shift in perspective."

- **Lessons learned from *Pursuing Perfection* informed new efforts by IHI to improve patient safety and care.**
 - The program helped shape the *100,000 Lives Campaign*—an IHI-led drive to prevent 100,000 unnecessary hospital deaths over 18 months starting in December 2004.

The campaign enlisted 3,100 hospitals across the nation in implementing six patient-safety measures, including deployment of rapid-response teams, new medication-safety procedures and other strategies that figured prominently in the *Pursuing Perfection* projects.

IHI estimated the campaign saved more than 122,000 lives.

It followed up with the *5 Million Lives Campaign*, a drive kicked off in December 2006 to prevent 5 million incidents of medical harm to hospital patients over two years. In this campaign, 4,050 hospitals enrolled, representing 80 percent of all U.S. hospital beds—a level of participation that itself was a significant outcome according to Joe McCannon, the campaign manager.

Although the *5 Million Lives Campaign* did not culminate in a definitive number of lives saved or harms reduced outcome, the outcome was increased attention by hospitals to improvement processes. In fact, Berwick said that both campaigns promoted improvement methods that trace directly back to *Pursuing Perfection* grantee projects.

- In 2007, as an outgrowth of *Pursuing Perfection*, IHI launched *Triple Aim*, a program to improve the health of the population and the experience of the patient while at the same time controlling the cost of care.

By working to accomplish those objectives simultaneously, the initiative seeks to address what IHI leaders saw as a key barrier to transformation of the *Pursuing Perfection* organizations: the "tyranny" of financial incentives and disincentives that stifle change.

As of mid-2008, *Triple Aim* involved more than 40 organizations in the United States and abroad, according to IHI.

Pursuing Perfection influenced the content of other IHI programs:

- One was *IMPACT*—IHI's membership "community" for senior executives and clinical leaders committed to working together to improve their organizations' system-level performance. IHI disseminated lessons learned by the *Pursuing Perfection* participants to the *IMPACT* network—some 200 hospitals and other health care organizations as of 2009.
- IHI's initiative to educate hospital board members on implementing change (called *Boards on Board*) was rooted in part in leadership concepts learned through *Pursuing Perfection*, said Berwick. Several *Pursuing Perfection* grantees provided good examples of the strong leadership role that a board of trustees can play by working closely with the executive and clinical workforce, said Berwick.

The deep involvement of the Cincinnati Children's board in that hospital's improvement effort helped shape IHI thinking about governance issues, Berwick said. Cincinnati Children's is now a *Boards on Board* "mentor hospital," providing advice and support to other pediatric hospitals on leadership issues.

EVALUATION RESULTS AND FINDINGS

The evaluation team came from Boston University (either the School of Public Health or the School of Management) and the U.S. Department of Veterans Affairs (VA) Center for Organization, Leadership and Management Research in Boston, a health care research center funded by the VA's Health Services Research and Development Service. Martin P. Charns headed the team.

- **The evaluation team developed a theoretical model that identifies five key elements or "drivers" of successful transformation of health care organizations and found evidence of the model's validity.**

Charns and Lori Melichar, the RWJF senior program officer who oversaw the evaluation, consider the model the key result and finding of the evaluation research.

The model, says Melichar, provides a common language for health care organizations interested in fundamental systemwide improvement and has the potential to serve as a road map to help organizations reach that goal.

See [Appendix 12](#) for a depiction and details of the model as published by the team in 2007 in *Health Care Management Review*. Appendix 12 also summarizes the validation study findings, as presented in June 2009 to the Annual Research Meeting of AcademyHealth.

In addition to the article, the team created a [website](#) with an interactive version of the model; users can "click on" each element and get an explanation of its importance to the transformational process.

RWJF supported the website's development with a separate \$102,760 grant (ID# 055891) awarded in December 2006 to Boston University School of Public Health. The purpose was to help disseminate the model to the health care field. The evaluation team continued to maintain the site after RWJF funding ended in March 2009.

- **The team found that the seven grantee organizations "improved their performance dramatically in numerous clinical areas" but "were still journeying toward transformational levels of care" at the program's conclusion in 2006.** "None had fully reached the level of transformation called for by the IOM."

The team—which did not issue a report assessing the sites' individual program results—stated this blanket finding in a 2008 proposal to RWJF for a follow-up evaluation grant. (The proposed follow-up project was not funded; see [Afterward](#).)

Elaborating in an interview, Charms says that while all seven sites made important improvements and none reached transformation, their levels of progress differed. Kabcenell, the deputy director, concurs that the sites were uneven in their advancement. Not all of the projects implemented by the sites met their improvement targets, at least not during the program period, she says.

- **Important areas on which management should focus to improve employee ratings of quality**, as indicated in a 2010 article by the evaluation team in *Quality Management in Health Care*¹ are:
 - Workgroup coordination
 - Sufficient resources and support for improvement
 - Training

¹ Shwartz M, Cramer IE, Holmes SK, Cohen AB, Restuccia JD, VanDeusen Lukas C, Sullivan JL and Charms MP. "Survey-Assessed Quality and Organizational Factors Related to Quality in Pursuing Perfection Hospitals." *Quality Management in Health Care*, 19(4): 349-363, 2010. Abstract available at <http://www.ncbi.nlm.nih.gov/pubmed/20924255>,

— Efficient use of people, time, and energy

- **The "2 to 5 to all" strategy "didn't work," Charns told RWJF staff in a May 2007 presentation.** Elaborating in an interview, he calls it "much too simple a formula," saying, "You can do five, you can do 50, you could do a hundred projects and still not transform."

In addition to projects improving care, what is crucial is the ability to spread and sustain the improvements across the organization, Charns says. The grantee organizations "never knew how [to] get from 5 to all. Nobody ever spelled that out."

COMMUNICATIONS

Drawing consumer and provider attention to the need for improved care, and the grantees' efforts to achieve it, were key parts of *Pursuing Perfection* from its start.

Initial Communications

In 2001—to help publicize the program's kickoff—RWJF commissioned the consulting firm of Wirthlin Worldwide to survey more than 1,000 health care providers and administrators nationwide on their view of the quality of American health care (Contract ID# 042607).

The poll—conducted in March and April 2001 and reported in conjunction with the public launch of the program on May 8—found that four out of five respondents believed the U.S. health care system needed fundamental changes.

To provide communications support to the national program and grantee staffs, RWJF then hired the communications firm of Manning, Selvage & Lee (Contract ID#s 042992 and 042397). Much of the firm's work focused on encouraging national media coverage of the program and helping the grantees get local coverage of their projects.

The firm reported that in the first 18 months its efforts earned 150 national and local news stories related to *Pursuing Perfection*. There were setbacks, however, including the misfortune of scheduling the public announcement of the selection of the 12 Phase I grantees for September 11, 2001, the day of the terrorist attacks on New York and Washington.

A more fundamental difficulty, according to deputy program director Kabcenell, was that the communications firm was hired and ready to promote the program before the program had much to promote. It wasn't until the end of Phase II that the grantees had any real results to show, she says.

A Shift in Communications

For Phase III, RWJF shifted responsibility for the program's communications—along with the program's unused communications funds—from Manning, Selvage & Lee to IHI under communications director Jonathan J. Small. The \$217,820, 18-month grant (ID# 052019) was separate from IHI's funding for program administration and technical support.

IHI used the grant to support a variety of dissemination efforts, including:

- Highlighting *Pursuing Perfection* on the [IHI website](#) with a series of reports detailing the individual projects and results. The website offered free access to improvement tools, including white papers on new concepts and approaches stemming from *Pursuing Perfection* work.
- Subcontracting with the firm of Goodman Media to foster coverage of the program in the lay press. The effort resulted in coverage in publications that included the *New York Times*, *USA Today*, *Newsweek*, *US News & World Report* and a variety of magazines with a health focus.
- Placing a five-part series on *Pursuing Perfection* in the magazine *Modern Healthcare*. The series, which ran in January–February 2005, led with an overview entitled "No Toyota Yet, But a Start" by the national program staff and followed with articles by local project leaders.
- Publishing an article by IHI faculty in the November 2005 issue of the *Journal of Clinical Outcomes Management* describing the program's interim results.
- Integrating *Pursuing Perfection* information and lessons into IHI staff and faculty presentations to national and international audiences. IHI also included the grantee staffs in IHI national meetings.

See the [National Program Office Bibliography](#) for details of some of these items.

The Learning Network

The "learning network"—the virtual forum for sharing improvement information—existed in Phase II as a combination of monthly website postings of program lessons and quarterly conference calls open to the public. Each call featured a rundown on the program by the national staff and a report by a site team on its specific activities.

IHI publicized the calls, and the first couple drew 200 to 300 people, according to Kabcenell. However, she adds, "it never jelled as a network." The outside participants learned about the local projects, but the anticipated back-and-forth sharing never materialized, she says.

Phase III included no funding to continue the calls.

A Parallel Communications Effort

Using funding outside the *Pursuing Perfection* authorization, RWJF commissioned a team of filmmakers led by producer Frank Christopher to create two media products aimed at building support for fundamental redesign of the nation's health care system.

One product was a series of seven motivational videos that highlighted improvements by the *Pursuing Perfection* sites; the series was sold through IHI. The other was a four-part television documentary on Public Broadcasting Service (PBS) stations entitled *Remaking American Medicine: Health Care for the 21st Century*; two *Pursuing Perfection* sites—Hackensack and Whatcom County—were among the featured examples of health care delivery improvements.

For details of this separate communications project, see the [Program Results](#).

LESSONS LEARNED

For both RWJF and IHI, *Pursuing Perfection* "represented a new and somewhat risky approach to fostering change," the national program office staff wrote in its Summative Report to the Foundation. Accordingly, "each step was designed to be a combination of learning and invention."

Among the lessons of *Pursuing Perfection* were the following:

1. **Don't expect an easy fix in health care improvement.** The program demonstrated that achieving ideal care is extremely challenging. "*Pursuing Perfection* is a long haul." (Program Officer/Gibson)
2. **Design technical assistance to be focused and sophisticated—that's what it takes to get high-quality results.** The assistance provided by IHI to the *Pursuing Perfection* grantees incorporated the theory and practice of quality improvement, combining a wide range of readings in the literature of quality improvement with expertise targeted to specific grantee staff needs. (Program Officer/Gibson)
3. **Provide basic training in process improvement skills at the start of a program aimed at organizational change.** Senior executives of the *Pursuing Perfection* organizations assumed their staffs knew how to go about improving processes. It became apparent, however, that they lacked even elementary knowledge of the steps involved. (Program Director/Berwick)
4. **Don't rush to disseminate results of a quality improvement program.** Wait until there are results to disseminate. Improvement projects take time, and efforts to publicize them before they have anything to show wastes resources and possibly credibility.

The communications firm hired by RWJF tried to shine a light on the work of the *Pursuing Perfection* grantee organizations before they had anything of interest to offer. Waiting would have been more productive. (National Program Office Reports to RWJF; Program Deputy Director/Kabcenell)

5. **Consider including foreign organizations in improvement initiatives.** The European participants in *Pursuing Perfection* provided unique and valuable learning to the teams in this country. (National Program Office Report to RWJF/Grant ID# 045534)
6. **Engage a hospital's senior leadership in quality improvement—it is critical but may be surprisingly easy.** Even though there was substantial turnover at the CEO level of the grantee organizations, the leaders understood their role was crucial in pushing for quality. The CEOs, boards and chief medical officers were committed to quality improvement to a degree that surprised the national program staff. (Program Director/Berwick; National Program Office Report to RWJF/Grant ID# 045534)
7. **Even if a hospital or medical group can deliver outstanding care to its patients, that will not automatically result in reduced costs of care or solve the problem of overuse, underuse and misuse of the health care system.** Nor will it necessarily improve the health of the community at large. "For those changes, an even larger transformation is necessary." (National Program Office/Draft white paper on the program)
8. **Press for consistency in assessment data and measures among sites taking different approaches to improving care.** Differences in how the *Pursuing Perfection* sites collected data and reported measures made it hard for the evaluators to assess the extent of change and progress. Some inconsistency is inevitable when sites are free to design their own interventions. However, the *Pursuing Perfection* evaluation would have benefited if the team had pressed harder for a more common set of measures. (Evaluation Director/Charns)
9. **Take the context of an organization—its culture and history—into account when assessing the outcomes of quality improvement efforts.** The *Pursuing Perfection* team understood the importance of context. Its work influenced RWJF to support further development of context measures as part of a separate initiative called Advancing the Science of Quality Improvement Research and Evaluation. (RWJF Evaluation Officer/Melichar)
10. **Be aware that the health care field suffers from limited availability of national comparable data on clinical performance and quality improvement.** Organizations implementing improvement efforts can augment what is available from the Centers for Medicare & Medicaid Services and other national sources by collecting their own site-specific quantitative and qualitative data. (Evaluation Team Report to RWJF/Grant ID# 055813)

11. **Don't expect information about a complex, multiyear program to be an easy sell to the media.** Newspapers and other publications can tell stories about individual achievements, but IHI found it challenging to disseminate what was learned from *Pursuing Perfection* in a way that would move the reader to take action. (IHI Report to RWJF/Grant ID# 052019)
12. **Manage knowledge gained in a program.** That is the way the program has the biggest impact. Managing knowledge, as IHI did with *Pursuing Perfection*, allowed for its continued deployment. (Program Officer/Gibson)

AFTERWARD

Grantee Organizations

As of mid-2009, there had been no assessment of the ongoing quality improvement work of the program grantees as a group. The Boston University/VA evaluation team had planned further work in 2008 to determine if the program sites had sustained their *Pursuing Perfection* achievements and to gather additional data to enhance the transformational model. Expected funding from RWJF was unavailable and the team did not undertake the planned project.

However, informal interviews conducted with staff of the organizations in mid-2009 for this report indicated that the organizations were continuing and expanding their improvement efforts. *Pursuing Perfection*, several said, provided the foundation on which their institutions were now building. For example:

- "*Pursuing Perfection* helped create a sense of urgency for us, and we continue to operate that way," said Beth Waterman, HealthPartners vice president for health improvement and care innovation.
- At Tallahassee Memorial, Cynthia Blair, vice president/chief improvement and planning officer, said the hospital's mortality rate was continuing to improve, and the *Pursuing Perfection* test-and-spread philosophy had been applied to new areas. She called the program "a beginning catalyst."

"It taught this organization focus, methodologies, how to create a change environment." As for transformation, "I think it's now in reach. We haven't gotten there, but it's certainly closer to our grasp than in 2005."

- At Cambridge Health Alliance, Priscilla Dasse, senior vice president for quality and planning, said *Pursuing Perfection* was helpful with clinical improvements. The model for asthma care developed by her organization as a *Pursuing Perfection* project had been extended to depression and diabetes and to patients with multiple chronic conditions, she said.

Pursuing Perfection was also helpful in identifying Cambridge Health Alliance's broader, nonclinical improvement needs. What the program did not do was get the organization to the point of being able to make the basic, structural changes necessary to meet those needs. The organization is now working to do that, using the improvement framework of the Baldrige National Quality Program, she explained.

But while *Pursuing Perfection* did not result in fundamental organizational change, Dasse said, "It did give us focus. It helped us build the capacity to change."

- Echoed Uma Kotagal at Cincinnati Children's, "It's given us the focus to move to the next level."

Additional Developments

Other post-program developments include the following:

- In September 2006—six months after the site grants ended—RWJF awarded IHI an 18-month, \$214,319 grant (ID# 057336) to help the sites sustain their program gains.

With the funding, IHI conducted quarterly conference calls with the local teams and a face-to-face meeting in Washington in November 2007. The sites also had use of an extranet site and opportunities to consult with IHI faculty.

Aside from those grant-supported activities, IHI continued to offer educational programs and online and print materials that incorporated concepts and lessons from *Pursuing Perfection*. In 2009, the organization launched the *Improvement Map*, an online tool designed to distill the best knowledge available on key process improvements.

- RWJF shifted its quality improvement strategy to focus on communities as opposed to single institutions. In 2006, the foundation launched *Aligning Forces for Quality*, a \$300 million initiative to lift the overall quality of health and health care in 15 targeted communities.

Aligning Forces for Quality, says former program officer Michael Rothman, is in many ways the community concept that RWJF learned in 2000 from the Pittsburgh Regional Healthcare Initiative—the program that was the catalyst for *Pursuing Perfection*.

- As of June 2009, the evaluation team continued to work with the transformational model, including using it in the evaluation of systems-design projects of the U.S. Department of Veterans Affairs, according to Charns.

Sidebars

REDUCING DOOR-TO-BALLOON TIME

McLeod Regional Medical Center

The national program staff cited McLeod Regional Medical Center's effort to speed up heart attack treatment as an example of how each project in *Pursuing Perfection: Raising the Bar for Health Care Performance* required redesign of core structures and processes.

As a key part of its project to improve care for people suffering from heart attacks, McLeod worked to reduce the time lapse from when the victim enters the emergency room to when the blocked artery is opened—commonly called the *door-to-balloon time* because of the catheter balloon and stent typically used in the unblocking procedure.

With a heart attack, time is critical because the blockage deprives the heart of oxygen, causing muscle cell loss. The longer blood flow is interrupted, the greater the chance for serious heart damage.

As a key part of its project to improve heart attack care, McLeod set a door-to-balloon goal of 90 minutes for every patient—a half-hour faster than the national guideline and far better than the hospital had been averaging up to that point.

Meeting the goal required more than simply working faster, the national program staff points out. It required changes in the hospital's ER triage process, its method for alerting the catheterization lab team and the way its emergency medical technicians and cardiologists worked with each other.

The work also taught the staff to set a goal, break down the relevant processes minute-by-minute, identify improvement opportunities and measure the results—lessons that could be applied to other areas of care. Because of its efforts, McLeod cut its heart attack mortality rate in half.

"It was a true culture change," Tony Derrick, B.S.N., R.N., director of the McLeod Chest Pain Center, says of the project.

IMPROVING QUALITY: HOW MCLEOD REGIONAL MEDICAL CENTER REDUCED MEDICATION ERRORS

The Problem

Medication safety was a concern at McLeod Regional Medical Center in Florence, S.C. A patient chart review found 3.5 harmful medication errors for each 1,000 doses administered in the 474-bed hospital.

While at the low end of the national average, that rate translated into 35 errors a day—mistakes serious enough to cause some degree of actual harm.

The proposed solution: Leadership of the nonprofit hospital and its parent corporation, McLeod Health, embraced a plan to automate the medication delivery process, adding safeguards against both prescribing and delivery mistakes.

The initiative was part of a comprehensive quality-improvement effort led by physicians and overseen by McLeod's Clinical Effectiveness Department headed by Donna Isgett, RN, MSN, vice president for quality and safety. For Isgett and her colleagues, the objective was—and is—to anticipate medical errors in all areas and install systems to prevent them.

“No one comes to work saying, ‘I’m going to hurt some patients,’” says Marie Segars, RN, MSN, the hospital administrator. The McLeod strategy, she says, is to make it easy “to do the right thing and impossible to do the wrong thing.”

Streamlining the Medication System

A multidisciplinary team analyzed McLeod's medication system—from the physician's order of a medicine to its administration to the patient—and instituted numerous technology and process changes. The result was a streamlined dispensing system that reduced the number of steps—and the opportunity for error—from 17 to five.

One key ingredient was installation of automated medication storage and dispensing cabinets in all inpatient units. The hospital also instituted an electronic medical record system that includes bar coding to verify the patient receives the correct medicine. Like a grocery store clerk at the checkout counter, the nurse scans the medicine packaging and the patient's wrist band to ensure they match.

The addition of order-entry computers allows physicians to key in prescriptions instead of writing them. Along with eliminating illegible handwriting, the system warns of potential dangers, such as a hazardous interaction with the patient's other medicines. The challenge

is getting doctors to use this safer but—for some—slower alternative, says pharmacy director Natasha Nicol, PharmD.

A Change of Approach to Errors

Also important was elimination of what Nicol says was a punitive approach to medication errors. Who did it? That used to be the response, she explains. Now when there is a mistake, the system failed, not a person, she says. Instead of an error report, the worker fills out an Improve the Process form.

With the “no-blame culture” came a sharp increase in the number of staff-reported medication errors—from 70 a year to 200 a month. “That doesn’t mean more errors are happening. It means people are more comfortable telling you about them,” Nicol says.

Results: At the conclusion of RWJF funding in 2006, McLeod personnel reported:

- The rate of harmful medication errors had dropped 90 percent: from 3.5 to 0.34 per 1,000 doses. As of September 2007, it was down still further—to 0.09 per 1,000 doses (97.4%), according to Nicol.
- The improvements—especially the automated storage/dispensing devices—helped cut the average time to get an ordered medication to the patient from 90 to 15 minutes (an 83% reduction).

McLeod’s other Pursuing Perfection initiatives also had measurable impacts.

Improvements in cardiac care helped reduce the heart attack mortality rate from 22 percent to 2 percent over two years (2002–2003), the hospital reported. Key to achieving this result was a concerted, collaborative effort by the emergency and cardiology staffs to expedite heart attack treatment—cutting the so-called “door-to-balloon time,” the time lapse from ER arrival to the process that opens up the victim’s blocked artery.

Additionally, the hospital instituted a new palliative care program aimed at reducing futile and unwanted hospital procedures.

At McLeod, says Isgett, quality is not a project but an integral, never-ending process. The hospital has received widespread recognition for its quality initiatives, most recently a citation of merit in the 2007 Quest for Quality Prize competition sponsored by the American Hospital Association, McKesson Corp. and McKesson Foundation.

REDESIGNING PRIMARY CARE AT HEALTHPARTNERS: CLINICS SWITCH TO PRACTICE TEAMS

The Problem

HealthPartners, a nonprofit health care organization based in metropolitan Minneapolis, had taken steps to improve the care delivered by its 20 primary care clinics—including initiating an electronic medical record system and offering same-day appointment scheduling.

However, the effort hit a plateau. “We had strong quality results, but we’d reached a point where we weren’t improving significantly,” says Beth Waterman, RN, MBA, vice president, health improvement and care innovation.

John Wheeler, MD, associate medical director (since retired), put it this way: “Between the care we deliver and the care we’d like to deliver, there’s not just a gap but a chasm. The good news is we think we can do something about it.”

The Proposed Solution: A Planned Care Model

Under the direction of Waterman and Wheeler, HealthPartners embarked on an ambitious redesign of clinic processes aimed at transforming the organization’s 638-physician medical group.

The plan called for reorganizing primary care around practice teams instead of individual clinicians. The concept—a modified version of the Chronic Care Model—puts the patient at the center of a collaborative effort in which nurses and clerical staff (receptionists) play expanded roles, allowing the physician to focus more fully on the patient encounter.

“The right person doing the right thing at the right time with the right patient experience”—that was the mantra for what HealthPartners christened its Planned Care Model.

Piloting the Model

HealthPartners piloted the Planned Care Model at three clinics in 2004 and the next year implemented it systemwide, teaming each physician with a nurse (an LPN or CMA) and a supporting RN and receptionist.

The new approach divides the clinic visit into four phases (pre-visit, visit, post-visit and between-visits) and defines the functions of each team member at each phase.

For example, the nurse’s pre-visit duties include reviewing the patient’s electronic record to identify health maintenance, prescription and immunization needs. The nurse or

receptionist then contacts the patient to encourage completion of any necessary lab work before the appointment.

In addition to consistency, the new process seeks to establish a close relationship between team members and patient—an element that can improve health outcomes, says Beth M. Averbek, MD, associate medical director for care improvement.

She tells of a diabetic patient who had hypertension but refused to take blood pressure medicine—until the team nurse took her aside and explained the consequences.

Results: No one at HealthPartners pretends the new care process has yet reached perfection. Waterman concedes some physicians are not enthusiastic about the changes, and compliance is incomplete.

Nevertheless, initial process measures indicate the system is taking hold. At the end of the first year, clinic staff used pre-visit planning procedures for about 70 percent of patient visits. “We are delivering more consistent care to our patients, more effective care to our patients,” says Waterman.

In the last phase of the RWJF project, HealthPartners spread the new structured process to congestive heart failure patients, smoothing their transition from primary to cardiac care and from hospital to hospice. HealthPartners has since begun applying the team approach to other specialties and to its 427-bed Regions Hospital in St. Paul.

“It is completely baked in. There’s no way we could stop,” HealthPartners CEO Mary Brainerd, MBA, says of the new care process and related improvements. “It’s so clearly part of our focus. I’d say it’s the top focus.”

In recognition of the new team process, the American Medical Group Association gave HealthPartners the association’s 2006 Acclaim Award. For its overall quality effort, HealthPartners received the 2007 National Quality Healthcare Award presented by the National Quality Forum.

Prepared by: Michael H. Brown

Reviewed by: Mary B. Geisz and Molly McKaughan

Program officers: Rosemary Gibson, Lori Melichar and Michael Rothman

APPENDIX 1

The Six Elements of Quality Health Care Identified by the Crossing the Quality Chasm Report

The Institute of Medicine's 2001 report (Executive Summary, page 6) said that health care should be:

- "*Safe*—avoiding injuries to patients from the care that is intended to help them.
- "*Effective*—providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).
- "*Patient-centered*—providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- "*Timely*—reducing waits and sometimes harmful delays for both those who receive and those who give care.
- "*Efficient*—avoiding waste, including waste of equipment, supplies, ideas, and energy.
- "*Equitable*—providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status."

APPENDIX 2

National Advisory Committee for Pursuing Perfection

(Current as of the time of the grant; provided by the grantee organization; not verified by RWJF.)

The following were the 15 original committee members appointed by RWJF.

Polly Arango Executive Director Family Voices Algodones, N.M.	Schaumburg, Ill.
Robert H. Brook, M.D., Sc.D. Director Clinical Scholars Program School of Medicine University of California Los Angeles, Calif.	A. Blanton Godfrey, Ph.D. Dean College of Textiles North Carolina State University Raleigh, N.C.
Tina Castañares, M.D. Consultant Castañares Consulting White Salmon, Wash.	Clement J. McDonald, M.D. Director and Distinguished Professor of Medicine Regenstrief Institute Indianapolis, Ind.
W. Dale Compton, Ph.D. Lillian M. Gilbreth Distinguished Professor of Industrial Engineering Purdue University West Lafayette, Ind.	Arnie Milstein, M.D. National Health Care Thought Leader William M. Mercer Inc. San Francisco, Calif.
Helen Darling, M.A. Senior Consultant Group Benefits and Health Care Watson Wyatt & Company Stamford, Conn.	Gregg Meyer, M.D., M.Sc. Director Center for Quality Improvement and Patient Safety Massachusetts General Physicians Organization Boston, Mass.
John M. Eisenberg, M.D. Director Agency for Healthcare Research and Quality Rockville, Md.	Ellen L. Stovall President and Chief Executive Officer National Coalition for Cancer Survivorship Silver Spring, Md.
Charles K. Francis, M.D. President Charles R. Drew University of Medicine and Science Los Angeles, Calif.	Pete Velez Senior Vice President New York City Health and Hospitals Corp. Elmhurst Hospital Center Elmhurst, N.Y.
Robert W. Galvin Chairman of the Executive Committee Motorola Inc.	Gail L. Warden Chief Executive Officer Henry Ford Health System Detroit, Mich.



APPENDIX 3

Grant Details of the Seven Implementation Sites

(Grant sums are what the grantees actually spent, which in some cases was less than what RWJF awarded.)

Cambridge Public Health Commission d/b/a Cambridge Health Alliance (Cambridge, Mass.)

Implementing improved care systems for five priority diseases, including pediatric asthma and adult diabetes

- Amount: \$ 50,000
Dates: September 2001 to March 2002
ID#: 043394
- Amount: \$ 1.9 million
Dates: April 2002 to March 2004
ID#: 045416
- Amount: \$ 300,000
Dates: April 2004 to March 2006
ID#: 050441

Contact

Priscilla Dasse, M.P.H., R.N.
(617) 665-2708
pdasse@challiance.org

Children's Hospital Medical Center (Cincinnati, Ohio)

Advancing the quality of health care for children and adolescents

- Amount: \$ 49,969
Dates: September 2001 to March 2002
ID#: 043395
- Amount: \$ 1,899,149
Dates: April 2002 to March 2005
ID#: 045413

- Amount: \$ 299,990
Dates: April 2004 to March 2006
ID#: 050442

Contact

Uma R. Kotagal, M.B.B.S., M.Sc.
(513) 636-0178
uma.kotagal@cchmc.org

Hackensack University Medical Center (Hackensack, N.J.)

Improving geriatric care, patient safety and care for congestive heart failure, atrial fibrillation, stroke and acute myocardial infarction

- Amount: \$ 50,000
Dates: September 2001 to March 2002
ID#: 043396
- Amount: \$ 1.9 million
Dates: April 2002 to March 2004
ID#: 045417
- Amount: \$ 300,000
Dates: April 2004 to March 2006
ID#: 050444

Contact

Jay Goldstein, M.B.A.
(201) 996-3032
jgoldstein@humed.com

Group Health Plan Inc. (Minneapolis, Minn.) (Group Health Plan does business as **HealthPartners** and is identified as such in this report.)

Improving both the processes and the outcomes of care for all patients with depression, heart disease and diabetes

- Amount: \$ 50,000
Dates: September 2001 to March 2002
ID#: 043408
- Amount: \$ 1.9 million
Dates: April 2002 to March 2004
ID#: 045419
- Amount: \$ 300,000
Dates: April 2004 to March 2006

ID#: 050443

Contact

Beth Waterman, M.B.A., R.N.

(952) 883-5769

beth.a.waterman@healthpartners.com

McLeod Regional Medical Center of the Pee Dee (Florence, S.C.)

Reducing adverse drug events and improving the care for people with coronary heart disease

- Amount: \$ 50,000
Dates: September 2001 to March 2002
ID#: 043404
- Amount: \$ 1.9 million
Dates: April 2002 to April 2004
ID#: 045412
- Amount: \$ 300,000
Dates: April 2004 to March 2006
ID#: 050445

Contact

Donna C. Isgett, M.S.N., R.N.

(843) 777-5619

disgett@mcleodhealth.org

PeaceHealth (Bellingham, Wash.) (PeaceHealth is identified as the Whatcom County project in this report)

Improving care across the continuum for diabetics and patients with congestive heart failure

- Amount: \$ 50,000
Dates: September 2001 to March 2002
ID#: 043401
- Amount: \$ 1.9 million
Dates: April 2002 to March 2004
ID#: 045418
- Amount: \$ 299,896
Dates: April 2004 to December 2006
ID#: 050446

(St. Joseph Hospital Foundation, part of the PeaceHealth organization, was the recipient of the third grant.)

Contact

James Marcus Pierson, M.D.

(360) 738-6709

mpierson@peacehealth.org

Tallahassee Memorial HealthCare Inc. (Tallahassee, Fla.)

Pursuing perfect cardiovascular care and medication systems

- Amount: \$ 49,992
Dates: September 2001 to March 2002
ID#: 043403
- Amount: \$ 1,899,848
Dates: April 2002 to March 2004
ID#: 045415
- Amount: \$ 299,888
Dates: April 2004 to March 2006
ID#: 050447

Contact

Cynthia Blair, R.N.

(850) 431-2132

cynthia.blair@mail.tmh.org

APPENDIX 4

Phase I-Only Grantees

These five organizations received \$50,000 Phase I planning grants but no additional funding for implementation:

- Children's Hospital and Health Center, San Diego, Calif.
- Henry Ford Medical Group, Detroit, Mich.
- Luther Midelfort-Mayo Health System, Eau Claire, Wis.
- Mission St. Joseph's Health System, Asheville, N.C.
- Scripps Mercy Hospital, San Diego, Calif.

APPENDIX 5

Pursuing Perfection "Faculty"

(Current as of the time of the grant; provided by the grantee organization; not verified by RWJF.)

The national program office reported the following individuals were active in bringing expert advice and instruction to the program participants.

- Maureen Bisognano, Executive Vice President and Chief Operating Officer, Institute for Healthcare Improvement, Cambridge, Mass.
- Connie Davis, Geriatric Clinical Program Development Specialist, Fraser Health, British Columbia, Canada
- Susan Edgman-Levitan, P.A., Executive Director, John D. Stoeckle Center for Primary Care Innovation, Massachusetts General Hospital, Boston, Mass.
- Robert Galvin, M.D., Director of Global Healthcare, General Electric, Waukesha, Wis.
- Frances A. Griffin, R.R.T., M.P.A., Director, Institute for Healthcare Improvement, Cambridge, Mass.
- Carol Haraden, Ph.D., Vice President, Institute for Healthcare Improvement, Cambridge, Mass.
- Mike Hindmarsh, Associate Director of Clinical Improvement, MacColl Institute for Healthcare Innovation, Group Health Cooperative of Puget Sound, Seattle, Wash.
- Cindy Hupke, R.N., B.S., M.B.A., Director, Institute for Healthcare Improvement, Cambridge, Mass.
- Diane Jacobsen M.P.H., Director, Institute for Healthcare Improvement, Cambridge, Mass.
- Beverley H. Johnson, President and Chief Executive Officer, Institute for Family-Centered Care, Bethesda, Md.
- Jerry Langley, M.S., Statistician, Associates in Process Improvement, Washington, D.C.
- Ronald D. Moen, Statistician, Co-founder and Partner, Associates in Process Improvement, Detroit, Mich., and Adjunct Lecturer, Physics and Engineering Science Department, University of Michigan-Flint, Flint, Mich.
- Kevin Nolan, M.A., Statistician and Consultant, Associates in Process Improvement, Washington, D.C., and Senior Fellow, Institute for Healthcare Improvement, Cambridge, Mass.

- Lloyd P. Provost, M.S., Statistician, Associates in Process Improvement, Washington, D.C.
- James Reinertsen, M.D., President, Reinertsen Group, Alta, Wyo., and Senior Fellow, Institute for Healthcare Improvement, Cambridge, Mass.
- Michael D. Pugh, M.P.H., Principal, Pugh Ettinger McCarthy Associates, Pueblo, Colo.
- Roger K. Resar, M.D., Senior Fellow, Institute for Healthcare Improvement, Cambridge, Mass.
- William C. Rupp, M.D., Part Time with Luther Midelfort, Mayo Clinic, Eau Claire, Wis., and the Institute for Healthcare Improvement, Cambridge, Mass.
- Pat Rutherford, R.N., M.S., Vice President, Institute for Healthcare Improvement, Cambridge, Mass.
- Terri Simmonds, R.N., Director, Institute for Healthcare Improvement, Cambridge, Mass.
- Edward H. Wagner, M.D., M.P.H., General Internist/Epidemiologist and Director, MacColl Institute for Healthcare Innovation, Center for Health Studies, Group Health Cooperative, Seattle, Wash.
- John W. Whittington, M.D., Lead Faculty, Institute for Healthcare Improvement *Triple Aim* Initiative, Cambridge, Mass.

APPENDIX 6

Proposed Phase II Projects of the Grantee Organizations

As reported by the national program office, the seven *Pursuing Perfection* sites selected the following areas and topics on which to focus during Phase II. The number "2" denotes an area slated to receive initial attention in the organization's 2-to-5-to-all implementation strategy, while "5" identifies areas planned for the second round of improvement projects.

PROJECT:	Cambridge Health Alliance	Cincinnati Children's Hospital Medical Center	Hackensack University Medical Center	HealthPartners Medical Group and Clinics	McLeod Regional Medical Center	Tallahassee Memorial HealthCare	Whatcom County
Acute Care/Care Management in Acute Care/Evidence based care		2					
Advanced Access (Outpatient)/Access/Outpatient Flow	5			2			5
Acute Myocardial Infarction/Acute Coronary Syndrome/Chest Pain			5		2	2	
Anticoagulation			5			2	
Asthma/Pediatric Asthma	2			5			
Cancer/Skin Cancer/Breast Cancer				5			
Care at the End of Life				5		5	2
Cystic Fibrosis		2					
Depression	5			5			
Diabetes	2	5		2		5	2
ED Triage, elimination of diverts				5			
Flow/Acute Care Flow/ Flow in the whole system	5					5	
Geriatrics/Hearing Loss/Falls Prevention/ Health and Aging			2				
Graduate Medical Education, Redesigning							

Heart Failure/CHF/CHF Out-patients			2			5	2
Influenza Vaccination							5
Informatics/CPOE/Computerized Support of Clinical Decision Making/ Implementing an automated medical record					5	2	
Intensive Care Services Redesign, ICU Care, Critical Care	5				5		
Juvenile Rheumatoid Arthritis		5					
Medication Safety/Medicines Management/ADE	5	5	5		2, 5	2	5
OR Redesign	5					5	
Planned Care				2			
Pre-Operative Process						5	
Preventive Medicine in the Physician Office			5				
Stroke			5			5	
Transfers of Care (hospital discharge)							5
Workforce Development, Workforce Improvement/ Leadership					5	5	

APPENDIX 7

Phase III Projects

The national program office reported the following were among the major Phase III activities of the seven sites:

GRANTEE SITE	PHASE III PROJECTS
Cambridge Health Alliance	Perfecting care for populations with chronic conditions, particularly asthma, diabetes and depression planned care
Cincinnati Children's Hospital Medical Center	Making the business case for <i>Pursuing Perfection</i> and improving asthma care in disadvantaged schools
Hackensack University Medical Center	Continued work in leadership, business case development, patient involvement, physician engagement, best practices, and public policy, and participation in the Bergen County Collaboration for Best Practices in AMI (acute myocardial infarction)
HealthPartners Medical Group and Clinics	Improving the care of congestive heart failure patients across the continuum of care
McLeod Regional Medical Center	Participating in a national demonstration project related to "pay for performance" (Premier/Centers for Medicare and Medicaid Service Hospital Quality Incentive Demonstration Project) and improving palliative care across the continuum
Tallahassee Memorial HealthCare	Providing perfect care across the continuum of care for people with multiple chronic diseases
Whatcom County	Addressing patients with diabetes and heart failure, and adding screening for hypertension risk and, possibly, depression; also, expanding and spreading successful innovations from Phases I and II

APPENDIX 8

European Participants in Pursuing Perfection

Teams from six European sites participated in *Pursuing Perfection* through funding arrangements with the Institute for Healthcare Improvement (and without RWJF financial support):

- Four National Health Service (NHS) Trusts in England (Devon and Exeter, Norfolk and Norwich, Lambeth and Southwark and Bradford), sponsored by the NHS Modernisation Agency
- Reinier de Graaf Group, a hospital in Delft, Netherlands
- County Council of Jönköping, Sweden (The council oversees local health care, including three hospitals.)

APPENDIX 9

Evaluation Team

Members of the *Pursuing Perfection* evaluation team, all of them affiliated with Boston University and the Center for Organization, Leadership and Management Research of the U.S. Department of Veterans Affairs:

- Martin P. Charns, D.B.A. (Principal Investigator)
- Alan B. Cohen, Sc.D.
- Irene E. Cramer, Ph.D., M.S.S.A.
- Sally Holmes, M.B.A.
- Barbara Lerner, M.S.
- Alexis Maule, M.P.H.
- Joseph Restuccia, Dr.P.H.
- Michael Shwartz, Ph.D.
- Carol VanDeusen Lukas, Ed.D.

APPENDIX 10

Evaluation Methodology

The Boston University/U.S. Department of Veterans Affairs evaluation team assessed the seven *Pursuing Perfection* organizations on their success in achieving their improvement goals and the factors that contributed to their successes and failures.²

The team's *working hypothesis* was that:

- Changes in measured quality would be observed.
- The changes were attributable at least in part to *Pursuing Perfection* participation.

Phase II

For the Phase II evaluation, the team assessed the sites' performance on various factors at the start of project implementation and again after one year and two years of implementation.

² ID# 44466 (\$1,500,000, May 1, 2002 to April 30, 2005); ID# 52233 (\$900,000, February 15, 2005 to June 30, 2007); and ID# 55813(\$100,000, December 14, 2005 to June 30, 2007)

Similarly, the team studied five additional sites chosen for comparison purposes—two Phase I-only sites and three sites with no tie to *Pursuing Perfection* but active in quality improvement work.

Data sources for the Phase II evaluation consisted of:

- **Interviews of organization employees.** Team members conducted six rounds of semistructured interviews at the seven Phase II sites—five rounds during site visits lasting two to three days each and one round by telephone. The team also interviewed employees of the five comparison organizations but made fewer site visits.

Across all 12 sites, the team interviewed a total of 860 individuals—sometimes individually, sometimes in groups—between June 2002 and December 2004, according to a report to RWJF.

The interviews—conducted by two- and three-person teams and lasting one to two hours—sought to gather descriptive qualitative information on:

- Quality improvement projects and efforts
 - Factors that affected project success
 - Motivations, beliefs, perspectives and actions of individuals throughout the organization, including senior management, front-line staff, clinical providers, human resource workers and the information technology staff
 - Collection and use of both process and outcome measures by the organizations
- **Survey of employees.** To complement the interview data with input from a broader range of staff, the team developed the survey using instruments from other studies but enhanced it with items specific to *Pursuing Perfection*, including measures of the six elements of quality care identified in the *Crossing the Quality Chasm* report.

In early 2004, the team administered a written survey to a random sample of employees of the seven Phase II sites and one comparison site. The sample included physicians, nurses, other clinical employees, nonclinical employees and staff involved in quality improvement work—a total of about 300 individuals at each site. The response rate varied between 26 percent and 40 percent, producing a total of 1,936 respondents, the team reported.

- **Secondary sources.** The team reviewed site-specific materials provided by the organizations or posted on the program intranet, including program planning documents, policy statements and improvement reports.

Phase III

The Phase III evaluation followed the same data-collection process used in Phase II:

- In late 2005, Charns' team conducted interviews at the seven program sites plus three of the five comparison sites, interviewing a total of 319 individuals across the 10 sites.

(Two comparison sites were dropped because of budgetary constraints and the belief that their continued study would yield no additional information of value, according to Charns.)

- In summer 2006, the team administered a second written survey to the same eight sites surveyed previously—the seven program sites and one comparison site. The survey went to 5,809 individuals—all of the previous respondents plus an additional stratified random sample to make up for the loss to non-response. Of those, 2,476 (42.6 percent) responded—producing an effective sample of about 300 respondents at most sites.

Model Validation

As part of its *Pursuing Perfection* evaluation, Charns and his team developed a model depicting five elements critical to transformational change in health care organizations. (See [Appendix 12](#) for the elements.)

To test the validity of the model, the team studied 10 hospitals unconnected to the *Pursuing Perfection* evaluation. That is, they were among neither the seven program sites nor the five comparison sites. To select the 10 hospitals, which were not publicly identified, the team:

- Calculated a composite measure of hospital performance based on Centers for Medicare & Medicaid Services measures for heart disease and pneumonia care
- Used the composite measure to divide hospitals into five groups (quintiles) based on their performance rankings
- Recruited six hospitals from the top quintile (high performers) and four from the third or middle quintile (medium performers)

The objective was to determine if the high-performing sites exhibited the elements of transformation identified in the model to a greater degree than did the medium-performing sites.

To gather data for the comparison, the team developed a set of interview protocols and conducted telephone interviews with 10 to 15 individuals at each of the 10 sites—118 interviews in all.

The interviewees ranged from senior leadership to front-line clinicians and individuals directly involved in improvement initiatives. The questions addressed attitudes and activities related to quality improvement and the degree of adherence to each model element.

Applying a rating system to the interview data, the team measured the presence of each element on a four-point scale—from no presence to full presence—and then calculated an overall "fidelity" score for each hospital.

Challenges to the Evaluation

The following were among the challenges that Charns and the evaluation team reported facing as they conducted the research:

- **Difficulty recruiting comparison sites for the evaluation and getting full participation from the five that were recruited.** The research would have benefited from a broader array of comparison sites, but efforts to attract more were unsuccessful, the team told RWJF.

One Phase I-only site initially agreed to participate but withdrew due to internal difficulties. Three academic medical centers that were approached declined, citing workload pressures and concern that the results might reflect badly on them.

Several of the five comparison sites that did participate did not respond to requests for follow-up site visits, and only one of the five agreed to participate in the employee survey; the others said workloads prevented participation.

Recruitment for the model validation study was also more difficult than anticipated. Hospitals were concerned about the time required.

- **Data inconsistencies across the *Pursuing Perfection* sites.** Differences in data collection, reporting and measures made it difficult to assess the extent to which the sites improved.

For example, a number of sites worked to improve diabetes management, but they used different quantitative measures of performance; some sites even changed their measures from one time period to the next, says Charns.

To some extent, this is an unavoidable problem when evaluating a program whose participants are free to determine their own interventions, says Charns.

A related challenge is that the health care field lacks a specific measure of organizational transformation, according to Charns. Using the interview and survey data, the team made judgments about how deeply and widespread change was embedded in the grantee organizations, he says.

APPENDIX 11

Selected Examples of Best Results of the Pursuing Perfection Sites

A December 2008 draft white paper by national program office staff included the following listing of project results during the period 2002–2006:

TEAM	RAISE THE BAR PROJECT	RESULTS STATEMENTS
Cambridge Health Alliance (CHA)	Pediatric Asthma	In July 2003, the rate of pediatric asthma ED visits was 12.41 percent at two pilot sites, 6.77 percent at another, and 12.12 throughout the rest of CHA. In July 2005, CHA reduced their rate of pediatric asthma ED visits to 6.77 percent, 4.0 percent, and 5.86 percent, for each location respectively.
	Health Disparities: Pediatric Asthma	In January 2002, the difference between non-English English-speaking patients for pediatric asthma ED visits was 35 percentage points; this gap was decreased to 5 percentage points in March 2006.
Cincinnati Children's Hospital Medical Center	Health Disparities: Cystic Fibrosis	In January 2002, the difference in incidence of nutritional failure (weight for age below the tenth percentile) for pediatric Cystic Fibrosis patients for those with government insurance and those with private insurance was 16 percent; the gap was decreased to 4 percent in July 2006.
	Adverse Drug Events: insulin	In November 2004, 31 days passed between insulin reversal agent administrations; this was increased to 244 days in September 2005.
	Increased Community Involvement: Asthma	In October 2003, 5 percent of the network asthma population was receiving "perfect care" (all indicated services); this was increased to over 80 percent in December 2005.
	Reliability of Care: Inpatient Unit	In July 2002, 75 percent of patients in the inpatient unit were receiving reliable evidence based care (all indicated services), which was increased to 95 percent in July 2005.
Hackensack University Medical Center	Adverse Drug Events	In 2002, the adverse drug event rate was 8 harms per 1000 doses; in the first quarter of 2007 there were 0 harms per 1000 doses.
	Reliability of Care	<p>In 2004, 96.53 percent of patients with acute myocardial infarction were receiving reliable evidence based care, which was increased to 99.30 percent in July 2006.</p> <p>In 2004, 98.29 percent of patients with coronary artery bypass grafts were receiving reliable evidence based care, which was increased to 98.44 percent in July 2006.</p> <p>In 2004, 94.22 percent of patients with congestive heart failure were receiving reliable evidence based care, which was increased to 96.27 percent in July 2006.</p> <p>In 2004, 89.88 percent of patients with pneumonia were receiving reliable evidence based care, which was increased to 96.03 percent in July 2006.</p> <p>In 2004, 93.90 percent of patients with hip and knee replacements were receiving reliable evidence based care, which was increased to 97.84 percent in July 2006.</p>
HealthPartners	Congestive Heart Failure Care	In January 2005, 22.9 percent of patients with congestive heart failure were receiving perfect care; this increased to 78.8 percent in December 2005.

	Diabetes Care	In the 2nd quarter of 2003, 1.8 percent of patients had optimal diabetes care (HbA1c <7 (the amount of glycated hemoglobin in blood), LDL cholesterol <100 & Blood Pressure (BP) <130, regular aspirin use, non tobacco use); this increased to 12 percent in the 3rd quarter of 2005.
	Care Team Approach	Prior to May 2005, 8 percent of primary care visits were pre-visit planned, which was increased to 72 percent in December 2005. Prior to May 2005, 56 percent of patients had an accurate health maintenance record, which was increased to 95.5 percent in December 2005.
	Reduce Ventilator Associated Pneumonia (VAP)	Prior to 2004, the average monthly incidence of ventilator-associated pneumonia (VAP) per 1000 ICU days was 4; this decreased to 0 by December 2005.
	End-of-Life Care	In January 2004, the average length of stay in hospice for end stage congestive heart failure was 3.3 days; this increased to 142 days in December 2005.
McLeod Regional Medical Center	Acute Myocardial Infarction Care	In 2002, mortality from acute myocardial infarction was 7.5 percent; this decreased to 4.1 percent in July of 2005.
	Adverse Drug Events	In 2001, the rate of adverse drug events was 3.5 harms per 1000 doses; this was decreased to 0.36 during the first 6 months of 2005.
	Workforce	Decreased staff turnover from approximately 8 percent in 2002 to less than 4 percent in 2005.
	Reliability of Care	In August 2004, 50 percent of patients with pneumonia received reliable evidence based care, which increased to 89 percent in July 2005. In August 2004, 57 percent of patients with congestive heart failure received reliable evidence based care, which increased to 67 percent in July 2005. In September 2004, 64 percent of patients with hip and knee replacements received reliable evidence based care; this increased to 85 percent in July 2005. In August 2004, 88 percent of patients with coronary artery bypass grafts received reliable evidence based care; this increased to 100 percent in July 2005.
Tallahassee Memorial HealthCare	Mortality Reduction	In 2001, the hospital standardized mortality ratio (the ratio of observed deaths to expected deaths) was 128.7, which decreased to 78.2 in 2005.
	Acute Myocardial Infarction Care	In 2003, the mortality rate from acute myocardial infarction was 7.6 percent, which was decreased to 4.67 percent in 2005.
	High Risk Chronic Care Management	In 2005, the mortality rate of Center for Chronic Care (CCC) patients was 3.96 percent, 5.85 percentage points lower than that of a control group and 2.54 percentage points lower than the original 1000 patients invited to participate in the CCC. In 2004, the inpatient days per 1000 patients dropped from 2354 to 1644 for patients using the CCC. In 2005, the inpatient days per 1000 patients dropped from 3622 to 1158 for a second cohort of patients using the CCC. In 2004, the cost per member per month decreased from \$1179 to \$932 for patients participating in the CCC. In 2005, the cost per member per month decreased from \$2869 to \$993 for a second cohort of patients participating in the CCC.

<p>Whatcom County/ PeaceHealth</p>	<p>Patient Involvement</p>	<p>As of 2007, there are 1097 active patient shared care plans in Whatcom County (increase from 0 in 2002).</p> <p>Whatcom County/PeaceHealth increased patient involvement by including patients on teams, committees, and community advisory groups; currently they have 22 patients involved with various improvement teams and committees (Medical Executive, Medication Reconciliation, SCIP, ICU Collaborative etc), 16 patients on their Center for Senior Health Advisory Group, and 10 patients who participate in Joint Camp Development. Recently two patients were involved in presenting on the topic of Patients as Partners on Teams during the Northwest Patient Safety Conference in Seattle.</p>
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APPENDIX 12

Evaluation Team's Organizational Transformation Model

Details of the Model

The following are the main details of the model developed by the evaluation team, as described by the team in an article ("Transformational Change in Health Care Systems: An Organizational Model") published in *Health Care Management Review* in 2007:

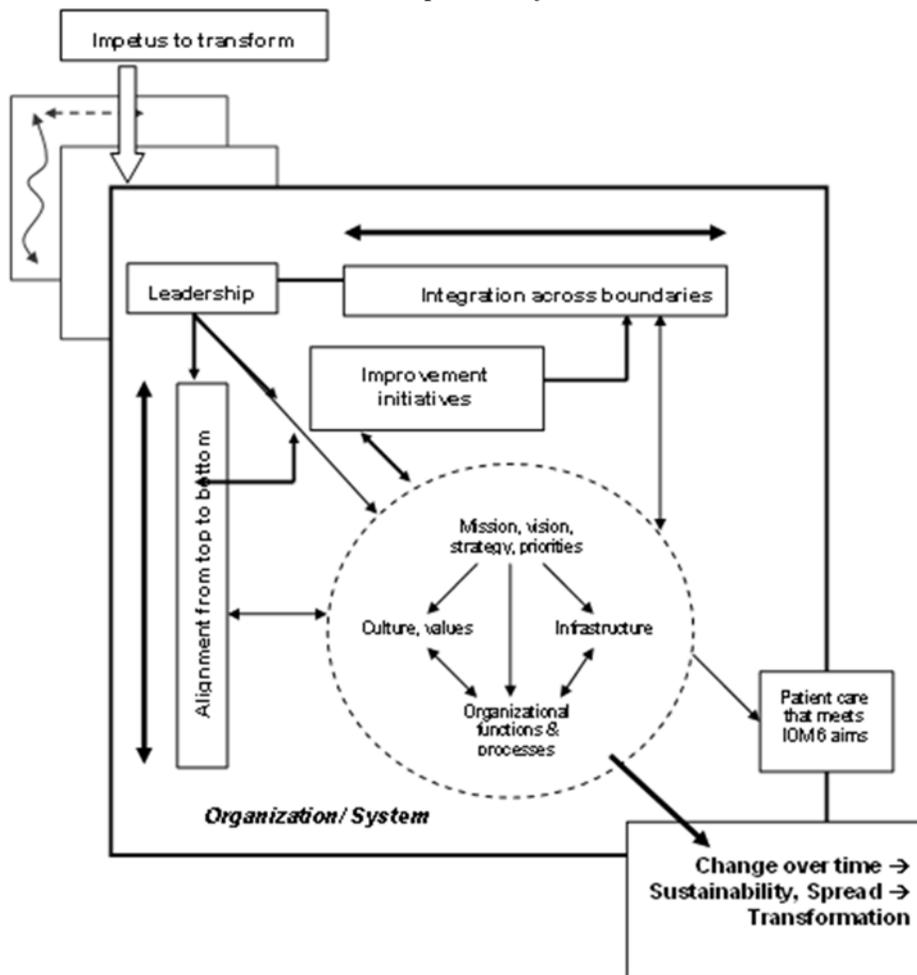
- **Five elements or "key drivers" appear critical to successful transformation of patient care:**
 - Impetus to transform
 - Leadership commitment to quality
 - Improvement initiatives that actively engage staff in meaningful problem solving
 - Alignment to achieve consistency of organization goals with resource allocation and actions at all levels of the organization
 - Integration to bridge traditional intra-organizational boundaries among individual components.
- **These five elements drive change by affecting four basic components of the health care organization:**
 - Mission, vision and strategies that set the organization's direction and priorities
 - Culture that reflects the organization's values and norms

- Operational functions and processes that embody the work done in patient care
- Infrastructure—such as information technology, human resources, fiscal services and facilities management—that supports the delivery of patient care

- **"Changes in these four components reflect the transforming health care system," with transformation occurring over time as iterative changes are sustained and spread across the organization.**

Transformation, says Charns, is a long-term process—at least eight to 10 years and maybe longer. "You've got to change the way people work as well as change the systems," he says. "You've got to get them engaged, and that takes time."

The team's depiction of the model:



Validation Study Findings

In June 2009—at the AcademyHealth Annual Research Meeting—Barbara Lerner, M.S., reported on the model validation study. Her presentation slides on the team's findings and conclusions included the following:

- Of the five hospitals with an overall "fidelity" score above the mean, four were from the high-performing group (first quintile) and one was from the medium-performing group (third quintile). Of the five hospitals scoring below the mean, three were medium-performing and two were high-performing.
- "Overall, the model fidelity scores discriminated between the hospitals in the two performance groups."
- "Results provide evidence for the validity" of the model.

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