CHAPTER ONE

OPPORTUNITY
AND STRATEGIC LEADERSHIP

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Chapter Summary
This chapter describes the key leadership challenges involved in Kaiser Permanente’s selection and implementation of a common electronic health record (EHR) system. It discusses the importance of a clear and compelling strategic goal, strong support and understanding from the board of directors, and full participation and buy-in from all leadership groups, especially physicians. It describes a unique “Blue Sky” visioning process that helped to establish broad principles for the transformation of health care quality and service—principles that would subsequently guide the implementation of KP HealthConnect. By bringing the entire organization together around the strategy, implementation planning, and execution, the KP HealthConnect initiative has helped forge a new, more collaborative culture throughout Kaiser Permanente.

Introduction
In 2002, pressure on the health care industry was increasing from multiple directions. Years of price increases that significantly exceeded the consumer price index were
eating into company profits, robbing workers of salary raises and other benefits, and showing no signs of slowing. Compounding the frustration of employers, regulators, policy makers, and other stakeholders were reports that health care quality and safety were lagging behind other developed countries even though the United States spent significantly more on health care.

In 1999, the Institute of Medicine’s report, *To Err Is Human*, concluded that tens of thousands of Americans were dying each year from preventable errors in the health care provided to them, and hundreds of thousands more were harmed or injured (Institute of Medicine, 2000).

In 2001, the landmark second IOM report on the U.S. health care system, *Crossing the Quality Chasm*, identified additional major problems in the American health care system, including delayed translation of knowledge into practice, ineffective application of technology, and inability to consistently deliver recommended care (Institute of Medicine, 2001). This second report touted information technology, notably the electronic health record (EHR), as a major solution for many of these failings. The report concluded that judicious use of information technology could help engage patients in their own care, prevent medical errors and duplication, offer reminders related to recommended care, provide the latest scientific evidence at the point of care delivery, streamline administrative processes, and enhance medical research.

Unfortunately, little improved with the release of these two IOM reports except for general awareness of care deficiencies. Frustrated with the health care industry, regulatory and accreditation bodies at the state and national levels moved to increase accountability by significantly increasing requirements for public reporting of clinical outcomes, patient safety metrics, and patient satisfaction.

At the same time, many large employers were addressing the increased cost of health insurance in their own way. Rather than paying the total cost for health insurance, employers were moving to insurance products that paid for only part of the cost by shifting a percentage of the premium to their employees, increasing co-pays for specific services, and adding deductibles.

All of these factors increased the out-of-pocket cost to the patient and put new demands on the Kaiser Permanente administrative systems to collect payment from each patient. These systems had always been considered low priority. Kaiser Permanente had pioneered comprehensive prepaid insurance, which required little or no additional claims for member payment, but our technology systems were not up to the task of administering these new complex insurance plans. With the significant revenue and customer service implications, it was important to collect these revenues promptly and accurately.

In addition, Kaiser Permanente had a long commitment and investment in improving clinical outcomes and patient safety through the development of evidence-based treatment guidelines. There was a shared belief between our health plan leaders and physician leaders that an EHR could make significant progress toward that goal.
by providing the latest science and clinical reminders at the point of care, enhancing knowledge, and decreasing human factors involved in medical errors.

However, despite excellent clinical outcomes, Kaiser Permanente was losing market share. There was hope that a comprehensive EHR would provide additional market differentiation on the basis of superior quality that would attract and keep members and provide the computer firepower to meet the growing employer demand for the administration of cost-sharing health plan options.

Given all of these pressures, in late 2002, George Halvorson, the new chairman and CEO of Kaiser Foundation Health Plan and Hospitals, set a goal to implement a more robust EHR than had been previously envisioned. What is more, he wanted to do it within three years, allowing some additional time for the two significantly larger California regions to complete deploying in the last of their many medical centers. Given that many single-hospital organizations took three years to complete a single EHR implementation, this was an unprecedented timeframe.

New Leadership, New Vision

Halvorson had arrived at Kaiser Permanente in May 2002 with a long history as an innovative CEO for Health Partners in Minneapolis, nationally known for its commitment to integrated quality care. His early leadership in the National Committee for Quality Assurance’s development of HEDIS® (Healthcare Effectiveness Data and Information Set), one of the first tools to provide comparative measures of health care quality and service, was part of his legacy in improving health care at a national level.

One of the key reasons Halvorson accepted the position of CEO was his belief that Kaiser Permanente had the opportunity, and arguably the obligation, to leverage its integrated structure via an electronic health record. The physical and financial alignment of committed physicians, medical offices, hospitals, and prepayment to provide effective and efficient services would be facilitated by the flow of information through all parts of the organization.

Moreover, when Halvorson arrived at Kaiser Permanente, the organization already had an impressive history of innovation in health IT that reached back to the 1960s. This reflected the long-standing commitment of the physician leadership to using health IT to improve care. In fact, three Kaiser Permanente regions had received the coveted Davies Award from the Health Information and Management Systems Society (HIMSS) for implementing various forms of EHRs (Kaiser Permanente-Ohio in 1997, Kaiser Permanente-Northwest in 1998, and Kaiser Permanente-Colorado in 1999).

Over the succeeding years, Kaiser Permanente had evaluated various commercial EHRs and concluded that vendor products might not be able to support the size and complexity of the organization’s more than eight million members, hundreds of
Several disappointing attempts with small vendors in the mid-1990s confirmed these concerns. In addition, the only two American organizations of significant size that had deployed an EHR, the Department of Defense and the Veterans Administration, had internally developed systems.

Kaiser Permanente at a Glance

Kaiser Permanente, founded in 1945, is the largest not-for-profit integrated health care delivery system in the United States, serving 8.6 million members in eight regions (Hawaii, Southern California, Northern California, Northwest, Colorado, Ohio, Mid-Atlantic States, and Georgia). Members receive the entire scope of health care: preventive care; well-baby and prenatal care; immunizations; emergency care; hospital and medical services; and ancillary services, including pharmacy, laboratory, and radiology.

Kaiser Permanente comprises three entities: Kaiser Foundation Health Plans, Inc.; Kaiser Foundation Hospitals; and the eight regional Permanente Medical Groups. Together these three entities provide integrated care delivery through insurance plans; owned and operated hospitals and medical offices; and dedicated, prepaid, multispecialty medical groups. In addition, patient referrals may be made to non-Permanente community providers or non-Kaiser Permanente hospitals, as deemed necessary. Kaiser Permanente’s mission is to provide affordable, quality health care services and to improve the health of its members and the communities it serves.

Facts and Figures (December 31, 2008)

- Total Operating Revenue: $40.3 billion
- Operating Income: $1.5 billion
- Capital Spending: $2.9 billion
- Hospitals/Medical Centers: 35
- Medical Office Buildings: 431
- Employees: 167,338
- Physicians: 14,641
- Nurses: 40,451
- Doctor Office Visits: 33.7 million
- Prescriptions Filled: 129 million
- Surgeries: 547,338

In 1997, Kaiser Permanente made a commitment to create an ambulatory, or outpatient, medical record system for all its regions. After several faulty starts, it settled on the approach of updating and expanding the Clinical Information System (CIS) developed internally by its Colorado region. Although delayed by one year and over
budget, CIS had begun pilot implementation in Hawaii and was scheduled for deployment next in Southern California, Kaiser Permanente’s second largest region.

Since the CIS project addressed only the outpatient medical office and had not kept pace with recent developments in the EHR vendor world, Halvorson asked clinical, operational, and IT leaders to re-examine the internal effort and compare it to “off the shelf” options that could provide additional functionality for administrative systems, hospital care, patient Internet portal options, and data capture and analysis. His objective was to have Kaiser Permanente reposition the initiative from a clinic office-based system into a program-wide strategic infrastructure that could leverage our integrated delivery system into a world-class national organization. The potential interruption of what appeared to be the final leg of a long EHR development journey created deep skepticism and angst. Further delays would be costly and frustrating, but Halvorson felt it was too critical to Kaiser Permanente’s strategic agenda to proceed without thorough reassessment.

His experience with implementing and using electronic health records at Health Partners had convinced him that delivering quality care required a robust EHR. As he developed his agenda, he knew he needed to carefully reassess and reposition Kaiser Permanente’s national EHR pathway and bring in a seasoned executive to be in charge of the project. He had been told by many inside and outside Kaiser Permanente it was important to look for an executive who could operate effectively in the complex organizational and consensus-driven culture that was the historical structure and operating approach of Kaiser Permanente, a national organization of eight semi-autonomous regions where strategic, budgetary, and care delivery discussions were often conducted on a regional, not program-wide, basis focused on local health plan and medical group issues.

Conveniently enough, the senior executive role with responsibility for the EHR effort, already established by Halvorson’s predecessor, David Lawrence, included oversight for national performance in quality, service, and patient safety. Lawrence was trained as a physician and had been a member of the IOM task force that produced Crossing the Quality Chasm. He and Halvorson shared a deep understanding and commitment to leveraging health IT to improve health care.

When Halvorson called me to discuss a possible position on his new executive team, we focused on the oversight responsibility for quality and service, with only a brief mention of the EHR effort. I had operational experience in several similar integrated delivery systems, which included Harvard Community Health Plan in Boston and, most recently, Group Health Cooperative of Puget Sound in Seattle, where I had served as both COO of the insurance plan and delivery system and founding CEO of the affiliated medical group, Group Health Permanente. I was no stranger to significant organizational and cultural change. My experience included several financial turnarounds, driving cultural change to enhance performance, and serving as a member and chair of the board of the Institute for Healthcare Improvement (IHI), the internationally
recognized leader in quality improvement headed by Don Berwick. He and I had started a long journey together in quality improvement in the 1980s when we practiced side by side as pediatricians and operating executives at Harvard Community Health Plan. As an added benefit, I was well known to Kaiser Permanente executives in both the health plan and the affiliated Permanente medical groups as a physician executive who was very familiar with the issues and challenges they faced. Although I had significant experience in the quality improvement area, it had always been as an operating executive. I had not held a staff position in over twenty years.

As the daughter of an engineer, my first love was math. Although I had learned computer programming for a summer job when I was sixteen, I had no professional experience in health IT. Unclear whether this was a good match with my experience, I called a long-time physician colleague, Jay Crosson, executive director of The Permanente Federation and a long-time advocate of the EHR efforts at Kaiser Permanente. The Permanente Federation supported the eight Permanente medical groups in national efforts, and he was very familiar with the issues. He assured me that overseeing CIS was not an IT job but an executive management job and reassured me that I should not be concerned. As it turned out, a few weeks before I arrived to join Halvorson’s team in July 2002, he commissioned the EHR evaluation, jointly sponsored with Crosson, that would completely change the agenda of my work at Kaiser Permanente.

The Business Case and Board Involvement

In addition to putting together his senior executive team, Halvorson had helped make some changes in the Kaiser Foundation Health Plan and Hospitals Board of Directors, adding several seasoned health care executives, senior business executives, and consultants. They would be understandably rigorous in their review and oversight of the largest capital project in the history of the organization, an estimated $3.2 billion investment (a figure that grew to over $4 billion) over ten years for the initial implementation and ongoing maintenance of the EHR system. As Halvorson told the board of directors, it truly was a “bet the farm” decision for the organization and would provide major budgetary competition with the already significant investments needed for new facilities and seismically required enhancements for the California hospitals. Very few health care organizations had implemented electronic health records to the extent planned by Kaiser Permanente, and none had solid information on the value realized by their systems.

The business case was based partially on assumptions and experience from the Southern California region, and spotty reports of specific savings from outside organizations. In reality, the expanded, fully integrated EHR and related IT systems would support almost 80 percent of the clinical and administrative workflows in the organization, and no one could predict the full nature of the changes, much less
the value, that could be gained. Making no assumptions related to increasing member satisfaction, competitive advantage, or growth, the conservative business case made a defensible case that the investment would break even and pay for itself in roughly eight-and-a-half years. Halvorson told the board that the actual payback would happen in half that time.

Make no mistake; this was a strategic decision, not one based on return on investment. The board of directors and the executive management of Kaiser Permanente believed that successful implementation and effective use of an EHR would streamline administrative and clinical operations and enhance performance in quality, service, and cost. The EHR would connect and leverage the Kaiser Permanente care delivery system via seamless information flow across all facilities. At the same time, it would connect to members via the Internet with features that could not be duplicated by its insurance or provider competitors. All of this was reflected in the project name, Kaiser Permanente HealthConnect.

The board gave KP HealthConnect much more than financial backing. It designated KP HealthConnect the number one priority in the organization’s business plan for three consecutive years, and it linked the achievement of development and deployment milestones to every health plan and hospital executive’s performance goals and compensation. Progress was reported to the board each quarter, and progress against plan was a condition for other capital expenditures, such as new facilities. This ensured that all of the key governance and executive leaders were fully engaged in this critical strategic endeavor. This large an endeavor in a three-year timeframe had never been attempted anywhere in the world, but the urgency was great and proved galvanizing for a new way of working to achieve this singular goal.

A Board Member’s Perspective

When the board of directors blessed and funded the creation of KP HealthConnect, we saw it not only as a strategic investment in our competitive future but an affirmation of our brand. Kaiser Permanente was just developing a highly successful “Thrive” advertising campaign built around empowering individuals to manage their own health, and KP HealthConnect was a major means to that end. It was also the key to fully providing “patient-centered” health care and service, which would differentiate us in the marketplace.

This powerful combination of synchronized, real-time medical records to facilitate seamless teamwork between medical specialists and online access for patients to communicate with their doctor and view their own medical information has taken Kaiser Permanente health care into the twenty-first century.

In making this investment, the board saw it as a natural progression in fulfilling the promise of integrated medical care, a philosophy and a mission that
Kaiser Permanente pioneered and embodied since its inception. A company brand is a reflection of a company’s mission and what it stands for, and KP HealthConnect has stayed true to that mission. When George Halvorson, the CEO, came to the board with the KP HealthConnect project, he warned that we were “betting the farm.” In reflection, we were also betting that the Kaiser Permanente form of medicine is best for the health of our members and a beacon for the future of American health care. It turns out that was an excellent wager from the standpoint of a competitive marketplace and improved medical care delivery.

The lesson here is a simple one: make decisions based on what is best for the patient, and you will be rewarded.

—Phil Marineau, retired CEO, Levi Strauss, and board member of Kaiser Foundation Health Plan and Kaiser Foundation Hospitals, Inc.

All EHRs Are Not Created Equal

Even though there had been a long history of innovation and use of electronic systems to support care in various Kaiser Permanente regions, they varied significantly from each other and from KP HealthConnect in their functionality and capabilities. Some systems captured office visit notes by scanning and storing documents. Some clinicians entered data in their offices from notes made during the patient visit, and some accessed additional data drawn from other clinical systems, such as the laboratory and the pharmacy systems. None of the systems in use, including the CIS pilot, fully integrated all clinical information to provide a complete, real-time health record. The ultimate value achievable from an investment in health information technology is directly related to the breadth and degree of integration it provides across all parts of the health care delivery system. Only with significant levels of integration will health IT be able to address the gaps, errors, and duplication described in Crossing the Quality Chasm. Figure 1.1 schematically shows the health care system, the health IT functionality, and the benefits that can be derived. Although it is easier for large, highly integrated systems such as Kaiser Permanente and others, even individual practitioners can derive benefits from an EHR.

Selecting a Vendor/Partner

Although Kaiser Permanente ranks as the sixth largest hospital system in the country, none of our previous EHR efforts had included hospitals. Including them now was essential to the strategy to leverage the integrated health care delivery system via seamless information flow across all our facilities. In addition, increased understanding of hospital medication errors and other opportunities to deliver safer and recommended care made this a newly appreciated area of importance.
Because Kaiser Permanente needed a system to support its hundreds of medical office buildings, dozens of hospitals, and online patient access for its more than 8.6 million members, there was a very short list of potential software vendors—essentially, two. One of them was the leading vendor for hospital systems but had limited experience with ambulatory applications. The other, Epic Systems, was the leading software vendor for ambulatory EHRs and administrative systems but had only limited experience with hospital applications. Neither vendor had fully implemented its integrated ambulatory/hospital/personal health record software in any health care organization. Neither had worked with a system as large as Kaiser Permanente, and there was uncertainty about whether the software from any vendor could be scaled to meet the demands of our size and multiregion structure.
Despite the fact that Kaiser Permanente’s Oregon-based Northwest region was one of the earliest Epic clients, the competition was open and rigorous. The selection process was exhaustive, including site visits to health care organizations using the systems, such as Mayo Clinic and Geisinger Clinic, and multiple demonstrations with question-and-answer sessions between the vendors and our physicians, pharmacists, nurses, and IT experts. External benchmarking and the KLAS reports—the equivalent of the “Consumer Reports” for health IT—added comparative information. Hundreds of people were involved from throughout Kaiser Permanente over a period of six months. Everyone involved realized that this was unlike previous “bake offs,” as these vendor selection processes were often called. Given the magnitude of the investment, the comprehensiveness of the software platform, the level of visibility, and high-level support, there would be no second chance.

Ultimately, Epic Systems was selected, despite its lack of hospital experience, on the basis of user satisfaction with its ambulatory medical record and administrative systems. In addition to a strong preference for Epic by the physicians and the medical group leadership, Epic’s leadership demonstrated a deep understanding of health care delivery and a forthrightness even when their product did not deliver a requested function or feature. That characteristic would prove to be a helpful discipline when internal stakeholders wanted to customize the software, even when it was already proven to be highly functional for dozens of other organizations.

**Start with the End in Mind**

When an organization makes a strategic investment of the size of KP HealthConnect, it had better have a good understanding of its strategy at the beginning. The primary goal of KP HealthConnect was lofty: to transform care and service delivery. But what did that mean? I learned from my experience as an operating executive the importance of developing a shared vision. In this instance, what was the organization’s vision of health care in the future? Even before the software contract was signed, the process to develop a shared organizational vision was begun.

As in all major Kaiser Permanente initiatives, the support and leadership of the Permanente medical groups was critical to success. I would work closely with a Permanente Federation physician executive who would engage and represent the eight independent regional Permanente medical groups. I knew and respected Andy Wiesenthal, the associate executive director for the Permanente Federation, who had extensive experience from leading the Colorado EHR development and CIS. Together, we would provide leadership for KP HealthConnect.

I relied on my intuition as a pediatrician, my experience as a health care executive, and my knowledge of quality improvement to develop the process. To me,
quality improvement means data-driven and patient-focused decision making, respect for front-line knowledge, and profound knowledge of systems thinking. My job was to identify and frame the important questions and issues and then design and facilitate a process that engaged the right people with the right information to develop the right answers and solutions.

**The Blue Sky Vision**

In the first part of the process we brought in a group of people to develop the key themes. I wanted the wild and crazy thinkers in the organization—the ones that make us a bit uncomfortable, but we are smart enough to keep them around. They were the folks who were always pushing at the edges. We cross-cultivated those sixteen people with seven outsiders. The reason for the outsiders was to avoid group think, because I was concerned that Kaiser Permanente was a very internally focused organization. These guests represented expertise in technology, health care policy, economics, alternative delivery systems, and self-care.

The themes that emerged from what we called the “Blue Sky Vision” process—the name suggested open-ended vistas—were developed using a technique about which I was initially skeptical. Facilitated by both Robert Mittman, from the Institute for the Future, and graphic facilitator Tom Benthin, small teams wrote actual skits which they acted out for the rest of the group. It was very entertaining, but it was also eye-opening. Even though each team had totally different care delivery settings to visualize—the emergency room, chronic care, acute care, home, and so on—the themes that emerged were the same. They reflected the organization’s aspirations, if not actual practices. They felt right and touched a nerve in a positive way.

I didn’t know beforehand what those principles or themes were going to be. I was an observer at the back of the room. Strategic vision actually lives within an organization. Processes like this, if done well, will surface, articulate, and codify them.

The assignment was intentionally broad in nature. The object was to create a Kaiser Permanente model for health care delivery in 2015 to guide the deployment of the integrated EHR. There were only two constraints put on the group: the assumption that Kaiser Permanente would be a viable organization delivering health care in 2015, and that affordability of services was a consideration. The year 2015 was selected for a reason. Planning twelve years out took our technology readiness concerns and other common short-term barriers to major change out of the equation. Conversely, the timeframe was short enough to ground participants in developing achievable care delivery models.

As with health care experts across the nation, there was a diversity of views among the Blue Sky participants on the future of the health care industry
and the specific implications for Kaiser Permanente. Some painted a dark picture of uncontrolled infections sparked by bio-terrorism and a collapse of health care financing due to severe economic depression. Others were more optimistic, seeing a continuation of the significant improvements in overall health care in the past fifty years. Participants were asked to identify the major trends affecting the health care industry. The group cited trends that are common to many discussions about health care’s future. The list included continuing cost pressures on both employers and providers, changing demographics affecting consumer trends and workforce availability, a perceived infinite consumer demand for the latest technological services regardless of cost, and the continuing advances of medical knowledge that will turn many fatal diseases into chronic illnesses. The year was 2003, but it could have been today.

The process was framed to elicit multiple alternatives for care delivery, but what emerged from the group was a single, dominant model that placed the consumer or patient at the center. Prompting that consensus was a shared sense that many consumers—especially those with the means and choices—would demand a central role in managing their own care. An aging baby boomer population would put greater demands on the health care system than any generation before them, the group concluded, thanks to medical advances that would allow them to live longer while managing multiple chronic diseases. In addition, an increasingly diverse patient population with a wide variation in language, religion, culture, technology-based communication skills, ability to pay, and interest in alternatives to the traditional delivery model would require customized treatment.

This new paradigm would require the patient and the care giver to reassess their roles and responsibilities. For the patient, it would mean going beyond choosing insurance coverage to selecting individual sets of services, both in terms of medical care and wellness activities. For the clinicians and staff, the changes would require a fundamental shift in the way they view their relationship with the patient. Instead of the role of definitive expert, they would become coach and facilitator. The Blue Sky Vision concluded that in 2015 a successful health care organization would recognize that the true primary care provider has always been the patient and his or her network of family and friends. The patient’s home would be the center of early diagnostics and service, with care givers serving as advisors on service options, clinical efficacy, genetic profile influence, and cost considerations.

The Blue Sky Vision, they further concluded, could be achieved with technology that already existed, including long-standing technology such as the telephone. The tricky task was to avoid falling too easily into the trap of uncritical adoption of technology and neglecting the hard work of leveraging that technology to achieve real change in care delivery.
Four themes composed this new vision of health care delivery in the future:

- **Home as the Hub:** The home and other nontraditional settings would grow significantly as locales of choice for care delivery, and a patient’s care delivery team would expand beyond the physician and other traditional care givers to include other community and family resources.

- **Integration and Leveraging:** Medical services to combat disease would be integrated with wellness activities to enhance overall quality of life as well as prevent and stem the onset of disease. Information technology would provide the vehicle to enable the leveraging of specialized clinical resources and increase patient and family involvement in care.

- **Secure and Seamless Transition:** Technology would allow the care giver to provide better informed and more efficient care to each patient. The computer would not replace human interaction, but enrich it by full availability of integrated longitudinal patient information coupled with the best knowledge and recommendations science could offer.

- **Customization:** Patients would become true partners in their health. Customer-centric care would be at the patients’ convenience and customized to their specific health status and personal preferences, leading to a deeper understanding by patients of the care they are receiving and a stronger relationship with their clinicians.
Once the four themes were identified, another set of Blue Sky participants—these from the operational side of the organization—took up the assignment of identifying the range of practical and actionable steps and technologies that would change processes and mobilize the Kaiser Permanente workforce to achieve significant progress on the Blue Sky Vision within five years (by 2008). These phase two participants consisted of about ten of the original insiders from the first group for continuity, supplemented by a new group of our operational leaders. It was made very clear to this second group that their job was not to change or approve the themes that the first group had developed. Their job was to identify how to put the Blue Sky Vision into practice. They discussed operational implications for Kaiser Permanente across five categories: business and clinical processes, technology, information and knowledge management, facilities, and people.

Their operational imperative was to make this new era of care delivery as simple, seamless, and intuitive as possible for the patient. It recognized the patient as leader and/or partner in deciding his or her care and the home as the center for much of the care delivery. It also recognized that in the future, care givers would need to adapt to the patient’s preferences for receiving information either electronically, by telephone, in person, or all three, depending on the nature of the information. And they would need to share, if not relinquish, the reins in deciding on the patient’s health care path.

It also meant more than lip service to the age-old effort to move away from the departmentally siloed approach to medicine. In this new world, geographic as well as departmental and professional boundaries would be eliminated, and gathering and viewing data would not be enough. Interpreting and leveraging real-time and longitudinal information would be required to meet the specific needs of patients, whether they were in our facilities or at home, school, or work.

Once the Blue Sky Vision and its key tenets were codified, they were reviewed and discussed with the board of directors and the organization’s key leadership groups, including Halvorson’s national leadership team and the presidents and medical directors of each Kaiser Permanente region. The themes resonated, especially “Home as the Hub.” The KP HealthConnect team would use these themes to guide the implementation.

In almost all other spheres of business and industry, electronic information systems coupled with the Internet have driven fundamental shifts in how business is conducted. Health care should be no different, but that has rarely been the experience with health IT.

We knew that KP HealthConnect could be the platform to achieve the Blue Sky Vision. With the immense changes required of clinicians and staff just to implement the EHR, could we also make fundamental changes in care delivery? It would be the only way to avoid adding cost and complexity to the system, but it is usually where organizations lose energy. That would be the key to achieving the Blue Sky Vision via KP HealthConnect, and we would need to stay focused.
Structure, Process, and Strategy

In his book *The Innovator’s Dilemma*, Clayton Christensen talks about the challenge successful organizations have in innovating, or creating a product, or operating in a way that is different from the current successful products or culture. Christensen states that “[w]hen new challenges require different people or groups to interact differently than they habitually have done—addressing different challenges with different timing than historically had been required—managers need to pull the relevant people out of the existing organization and draw a new boundary around a new group. New team boundaries enable or facilitate new patterns of working together that ultimately can coalesce as new processes—new capabilities for transforming inputs into outputs” (Christensen, 1997, p. 175). Such teams were initially described by Steven C. Wheelwright and Kim B. Clark and dubbed “Tiger Teams” (Wheelwright and Clark, 1992). Only in hindsight did I realize that we had developed a Tiger Team perfectly designed to lead the changes needed to implement KP HealthConnect effectively.

When he joined the organization as chief information officer in 2001, Cliff Dodd established a set of principles to guide major national IT investments that would prove useful in the EHR assessment, the software selection process, and the structure of the KP HealthConnect implementation process. The five guiding principles were (1) common platforms, processes, and services should be adopted to achieve efficiencies; (2) it is better to buy an established product than to build a custom product; (3) integrated applications have an advantage over multiple applications from different vendors; (4) an application will suffice if it meets 80 percent of the needs; and (5) the customer/business must lead the work and be supported by IT.

These principles would serve Kaiser Permanente well to avoid pitfalls that had contributed to delays and frustrations in previous undertakings, where too much customization had blocked the ability to share applications between regions and where IT professionals had too often attempted to guess at the real needs of their clients without having deep experience or knowledge of their work. Avoiding these pitfalls was especially critical because most health care delivery processes tend to evolve over time with local conditions rather than being systemically designed, standardized, and documented.

During the EHR assessment and software selection, Dodd and I had shared oversight for the process on behalf of the health plan and hospitals. But as the new national team was formulated, it quickly became apparent that shared responsibility, or matrix management, would be a setup for confusion, misunderstanding, and delays. None of these would help in making the myriad decisions and aggressive timelines necessary to be successful. In keeping with his own IT principle of having the customer/business owner lead IT projects, Dodd agreed that I should have sole accountability to the CEO and the board of directors regarding KP HealthConnect.
With my experience as an operating executive, I could serve as the surrogate of the care delivery system and ensure that the operating and clinical leaders were engaged throughout the implementation. The core IT departments would provide technical staff as requested by my lead project executive, Bruce Turkstra. With a new team, new team leadership, clear boundaries, and permission to operate as needed to accomplish the implementation, we had our own Tiger Team. We were ready to go.

**Implementation**

Turkstra and I knew that the national KP HealthConnect team would have to operate in a more streamlined and efficient way than many were accustomed to in order to meet the aggressive timeline. His background as a partner at a major consulting firm had instilled unwavering commitment to understanding and meeting client needs. “We can’t get that done” was simply not part of his vocabulary. The national team’s role was to ensure every region’s successful implementation. This included the development of capabilities in each region to sustain KP HealthConnect and its users long after completion of the software deployment. I frequently said that it was the national team’s job to work ourselves out of a job. Regional success would be our only measure of success.

As we built our leadership team, Turkstra and I looked for leaders with a combination of knowledge of the health care delivery world and technical understanding and skills. The non-IT business owners included many nurses, physicians, and clinical technicians who brought their experiences caring for patients to the task. The team quickly developed processes that demonstrated our understanding of our regional customers and our commitment to make them successful. Our behavior spoke volumes in a way that the regions quickly recognized was a different way of interacting with Kaiser Permanente’s national office. We made frequent regional site visits, held conference calls, shared decision making, and named dedicated regional liaisons charged with understanding regional needs and solving their problems.

The national team rapidly developed mottos that reflected our values and were used frequently to remind everyone of the priorities for the project. These included “Whatever it takes,” “Our only success is regional success,” and “Any regional problem is our problem.” Every team member would have to deliver every time, on time, for the implementation to be successful. Some of the KP HealthConnect IT experts were veterans of previous efforts, but many were new to the project. Over time, the KP HealthConnect project recruited many of the best and the brightest within and outside the organization to our mission and our high-performance culture.

While the special status and organization of the KP HealthConnect team outside of the rest of the IT structure was critical to the success of the implementation in the given timeline, it caused friction and occasional resentment from the IT staff.
embedded in the old culture, with its lengthy processes for every decision or action. It would be important to help them understand how they could support this essential IT platform for long-term enhancement and maintenance without losing the positive aspects of the project’s culture.

Early on, it became clear that the implementation would raise numerous procedural and policy issues. If the timeline was to be met and multiple regional solutions avoided, new ways of addressing these issues would have to be devised. Coordinating across regions and with other national initiatives was critical. One example was the establishment of the Joint Operating Group (JOG). In addition to the national KP HealthConnect team leader, Turkstra, and the project CFO, it comprised senior operational leaders from key national programs such as human resources, finance, IT, the Kaiser Permanente labor-management partnership, medical groups, products and marketing, and operations. JOG met weekly to address issues related to the project. When this group could not quickly clarify accountability and a pathway for resolution, our national executive sponsor group met to reach resolution. The executive sponsor group included me, Wiesenthal, the CIO, the CFO, and the national senior vice presidents of human resources, marketing and sales, and operations. Recommendations requiring our approval or clarification of accountability were dealt with typically within the week. Merely scheduling a meeting of these executives would have taken longer than a week in the usual processes of day-to-day business.

There was no precedent, no blueprint, for a venture like KP HealthConnect. In fact, it might have been exactly such uncertainty that set the stage for the old paradigm of eight siloed regions with a loose relationship to national functions to shift to a much more collaborative model. Now, the regional project teams looked to the KP HealthConnect national team to help them achieve a successful implementation by providing processes and expertise that accelerated problem solving and the sharing of knowledge from region to region. Whereas regional size (number of members) had been the historical currency for leadership in the organization, experience with KP HealthConnect became the new lever, and one of our smallest regions took the lead and taught everyone else on the basis of its experience as the first implementer.

A New Approach to Budgeting

The KP HealthConnect budget was also restructured to provide more national oversight and control than previous efforts. Traditionally, each region was responsible for all IT expenditures, including all regional and national IT priorities; ongoing IT maintenance; and mandates, such as regulatory changes. In addition, the regional IT budget competed with all other regional needs and agendas beyond IT for both operating and capital funding. With pressure to keep our insurance premiums down and to improve services and satisfaction, competition for resources was intense. The
regional temptation would be to lengthen the KP HealthConnect implementation timeline or decrease funding for staff to develop the system, participate in national meetings, and begin system training. Skimping on workspace renovations, ergonomic mobile carts and computers, and IT enhancements and infrastructure could equally jeopardize success. Even with a well-designed system, poor user experiences during implementation could doom adoption or result in ineffective use of the system. Many health care organizations had founndered or failed because of these issues. Therefore, the KP HealthConnect project budget included all national and regional operating and capital expenses related to implementation.

Each year our national KP HealthConnect team and each of the regional project teams prepared budgets that were integrated and reviewed by the KP HealthConnect executive steering committee, composed of senior national and regional executives. Once approved as part of the organizational budget process, project leadership reviewed regional expenses charged to the budget to ensure their relevance to the project and occasionally offered advice, but otherwise all relevant expenses were booked to the national project budget. Saving money in the KP HealthConnect budget was encouraged, but missing deadlines and goals was unacceptable.

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**Acting in a New Way**

A long-time colleague and friend of mine, Goran Henriks, talks about transforming health care to audiences all over the world. Henriks knows what he is talking about as the chief executive of learning and innovation for Jonkoping County, Sweden. Sweden has some of the best clinical outcomes among developed countries, and Jonkoping County is the best-performing county in Sweden and gets better every year. They achieve remarkable outcomes at a lower cost than the average Swedish county, obviously much lower than U.S. costs. Henriks’ premise is that vision and slogans are fine but the experience of acting in a different way is what really changes people’s thinking. He teaches that you help people change by providing an opportunity for them to act in a new way. The KP HealthConnect implementation gave us that opportunity, as nicely illustrated in a communiqué to me from one of our consultants, Richard Fitzpatrick, PhD, of Fitzpatrick Consulting:

I think the tipping point may have come at a retreat I was helping to facilitate in Sonoma, Calif. It was still relatively early in the deployment process and the KP HealthConnect leadership team had gathered with a group of Kaiser Permanente physician leaders who had designated responsibilities for supporting the implementation process. It was a group of about 40 people grappling with the complexity and the fragility of how they would align the eight regions and their physicians around a shared approach to certain aspects of the deployment.
Then it happened. A physician stood up and said, “You know, up till now the rule was that everything varies unless you could make a compelling case that something ought to be standardized, and that was fine. Until now. From here on the rule is that everything is standardized, unless you can make the case that it ought to vary!” At that moment, the group collectively stepped into a new mental model. It was a new paradigm, and everything was changing.

One could argue this epiphany was the breaking through of a cumulative series of conversations over some period of time. KP HealthConnect leadership had become increasingly clear that unnecessary variation would add cost and cloud the Blue Sky Vision. Variation had simply been accepted as the norm and had been tolerated silently. It was a “simple rule” that was now being openly challenged. Doctors and managers had issues with a thousand things regarding KP HealthConnect, but the real underlying struggle was always about giving up something in order to get something. It was all about moving “from me to we” and sacrificing some individual clinical autonomy and customs, as well as some regional organizational autonomy, for the sake of the common good.

Lao Tzu’s Chinese proverb rings true: “When the best leader’s work is done the people say, ‘We did it ourselves!’” Framing and facilitating a complex process involving significant change is leadership aikido. Never resist resistance. The journey begins with a compelling and personalized value proposition. Whether I’m a regional executive, or a physician toiling in the trenches, I want to hear a really good answer to the question, “What’s in it for me and what’s in it for us?” If that answer is compelling, I’ll be more likely to engage in all the trouble and hassles it takes to get to that Promised Land.

So What’s in a Name? A Microcosm

One of the project’s first tasks appeared deceptively straightforward: name the system and develop communication materials to inform physicians and staff about its scope and implications. Supported by experts in branding and communication, the process initially went smoothly. That is, until the regions heard the expectation that the EHR name and communication materials would be adopted uniformly by all regions. Most of the regions had a long-standing name they used for their medical records tools. For example, Kaiser Permanente-Ohio’s was called MARS, Kaiser Permanente-Mid-Atlantic States called its system PACE, and Kaiser Permanente-Northern California’s system was named CIPS.

Why did it make any difference if the regions each used their own names, they asked. Some of the old regional names were used externally with patients and members,
and wouldn’t a name change cause confusion rather than clarity? How would they deal with that? The generic communications materials developed by the national project team used terms and references that were different from those the regions used. They wouldn’t make sense to the regional physicians and staff, they argued. Why did they need to be the same? Was it really more efficient to develop them centrally?

In the past, several possible outcomes would have been likely. The national leaders could be dogmatic in the need to use the name and identical materials, in which case regional compliance would range from minimal to begrudgingly complete. The national team could back off, and the organization would encounter regional variants, complexity, and confusion for years to come. Or a compromise could be brokered, but each party might find the result unsatisfactory.

The challenge was to find a way to be adaptive and agile in meeting regional needs while furthering the overall purpose to develop a shared national IT infrastructure and operating platform. The issue of a single name for the system was a microcosm of much larger issues that we would face in the implementation. It would arise in software configuration, evidence-based clinical reminders and guidelines, the look of the computer screen, and response times to online member messages. The name was just the beginning.

A single name for the new system was non-negotiable. The formal naming was a step in reinforcing that this would be one system for all of Kaiser Permanente—a message that we were working to build something together—not for each region or department, but for all parties. But such operational issues had been left to regional discretion in the past, and in the two large California regions even delegated to their dozens of medical centers. Variation was the norm, not the exception. Mechanisms and processes for developing a single standard or making decisions about such standards across Kaiser Permanente were not even well established in most areas. It was often unclear which leaders or leadership groups had authority to make organization-wide decisions. There is an old Kaiser Permanente saying that carries the ring of truth: “No one is either so high in Kaiser Permanente they can make a decision, or so low they cannot veto a decision.”

Seeking the balance between expediency to meet timelines and making change manageable without compromising the goals, the national team redefined its role and expectations with the regions. The national team would develop core templates for the regional teams to adapt as needed for local terminology and circumstances. This would result in clarity regarding shared uniform names and terms, as well as efficiency and relevancy in the development of region-specific materials.

The approach that the brand and communication staff used was respected for the rigor of the process, so when the name and logo were selected, most fell into line. The fact that we trademarked the name and logo was also a sign that we were serious. But it may be worth noting that even after agreeing to adopt the KP HealthConnect
name, some regions added their own “taglines” for regional identification—a way of working around the name/logo and transitioning from names and terms that had been familiar in the region. Eventually many dropped these, probably discovering that the change was easier than anticipated.

The act of naming the system began to bring people together, even if unconsciously at first, around the reality that this was something we would share—something that would require us to act differently than we had in the past, because no one party would own it alone. Since then, KP HealthConnect has come to represent the shared clinical and business systems that support the daily office and hospital practice. The name, developed to reflect primarily the connection of clinical care among clinicians and with patients, also reflects the connection across the parts of our organization.

**Connected at the Hip**

KP HealthConnect encompassed multiple new software applications for each of the eight regions. This included as many as six major applications for the regions without their own hospitals and thirteen major applications for those with hospitals. Although there was initial complaining and chafing that each region would be interdependent with its fellows, the magnitude of the undertaking and the organization of the national team fostered new ways of acting to cope with these challenges. With the compressed timetable and multiple applications, there were bound to be conflicts in the combined schedules. To start, each regional executive team identified overall sequencing and timing according to their strategic priorities and operational constraints such as renovations, equipment, and resources. Since an application go-live, as the initial use of an application is called, involved hundreds of technical and program staff, the national team could support only one regional go-live at a time. The KP HealthConnect executive steering committee had been populated with a long list of key national and regional leaders with the expectation that the main task would be to referee scheduling conflicts between regions. But that was never necessary. In every instance over the course of the project, the regions together with the national team sorted out the conflicts and made adjustments so that every region’s needs could be met with the limited resources of the national team. Frequent conference calls, in-person meetings, and shared problem solving had created a shared understanding, trust, and mission. Give and take became the norm. In the peak implementation years, the national team was onsite supporting an initial regional application go-live every weekend except Thanksgiving and Christmas.

In addition, the practice of lending regional staff evolved as a mechanism for shared learning. During a regional go-live, it was typical to have staff from a region that had already deployed be available to support and teach the new region. Staff from regions with future deployments also came to help and learn. What may have started as a desperate attempt to make the unknown less daunting became a critical
technical and moral support during the go-lives. Many of the same staff who had sat together to learn and configure the software rolled up their sleeves and helped each other through the crucible of the go-live. Each region built on the experience of the previous ones so that all benefited. This was a long way from the days of eight autonomous regions.

Eye on the Prize—Value Realization

From the very beginning, we focused on achieving value from KP HealthConnect. This began with the development of the Blue Sky Vision to define a shared direction. An extensive review of the literature and canvassing of other health care organizations that had made similar investments revealed only anecdotal and fragmented evidence of benefits. In addition, no one had extensive experience with the full range of integrated applications and functions that we intended to implement. The one thing we heard repeatedly was that focus and discipline were essential. Our rapid timeline to start implementation—fifteen months between vendor contract signing and initial implementation—prohibited major workflow redesign before implementation. This was complicated further by varying workflows between regions, medical centers, departments, and even individual physicians. In fact, the decision making for the shared software configurations would drive a significant increase in workflow consistency just by decreasing regional variation. Beyond that, Carl Dvorak, COO at Epic Systems, felt that extensive work redesign of care delivery was not feasible before implementation. He cautioned that we couldn’t know beforehand how the system would change workflow and what opportunities would present themselves. Dvorak’s voice of experience proved accurate in so many ways. Our aggressive timeline forced us to manage some change before implementation, but much more would follow for years after, and is still evolving.

We began building infrastructure in 2003 to support the identification, evaluation, and spread of improvements and innovations related to KP HealthConnect. We knew that there would be significant impact from KP HealthConnect, but not necessarily what or where, so with operational leaders we developed a set of comprehensive metrics to identify operational impacts. We knew that spread of improvements and innovation would be faster with rigorous objective quantification, and so we developed a skilled evaluation unit to work closely with the operating units.

One of the most influential studies evaluated KP HealthConnect’s impact on our Hawaii region of 225,000 members (Chen and others, 2009). It showed a 26 percent decrease in patient office visits from the year before implementation to the year after implementation, as a result of patients having additional means of accessing their care givers. Almost evenly spread over primary care physicians and medical and surgical specialists, the shift in utilization is dramatic and has far-reaching implications.
Paradoxically, total patient interactions with their own physicians increased by 8.3 percent with the use of secure Internet messaging and telephone visits as new care options. Physicians and their teams would have the opportunity to redeploy time previously engaged in now-unneeded office visits to sicker patients with multiple chronic conditions.

**Learning from Others**

We also knew that we would need innovative skills to leverage KP HealthConnect, so we began working with IDEO, one of the world’s best-known design innovators, to improve our health care delivery processes. They had worked with SSM Health Care in St. Louis, which was the first health care organization to win the Malcolm Baldrige National Quality Award. IDEO taught us to see our processes from the viewpoint of front-line staff, who knew what helped them meet patient needs and what got in the way. IDEO also helped us to look at our processes from the patient’s and the family’s points of view. Their techniques helped us identify gaps and overlaps in our care processes that were invisible to us before.

We also developed a quality improvement strategic partnership with Berwick and IHI in 2004 to improve care and service leveraging KP HealthConnect. Although the institute had been internationally recognized as the most influential organization in health care improvement since its founding by Berwick in 1991, health IT’s impact on the delivery of care was new terrain for both of us. We learned from their deep experience with many other excellent health care organizations throughout the world to apply proven practices and to test and develop many new ones. We focused on using known tools for improving medication safety, such as learning from “near misses,” as the aviation industry does. We explored the complex interaction of human behavior and the use of computer-generated alerts and reminders. All of our hospitals committed to IHI’s “Saving 100,000 Lives” campaign to reduce medical errors (Berwick and others, 2006). The experience of learning with 2,000-plus hospitals around the country opened new doors to us for benchmarking and learning.

**Focus on Quality Improvement**

Building an infrastructure for quality improvement began with the development of an organizational dashboard for clinical outcomes, member service, patient safety, and resource utilization. The availability of trended, comparable quality data with external benchmarks would support the board’s oversight role, management’s operational accountability, and local improvement. It would prove catalytic and accelerate the accomplishment of Kaiser Permanente’s goal to provide care at the top-10-percentile performance level nationally. After a national benchmarking process with the
best organizations and theorists in health care, we developed a program to build leadership and staff capacity for performance excellence. We tapped national and international experts to teach our leaders and develop our own experts. The tools and techniques we developed and taught equipped our front-line teams to improve the quality of their work every day. Combined with organization-wide commitment to three-year goals, this capacity helped us to improve performance every quarter. In the HEDIS report on health plan quality for the performance year ending December 31, 2008, Kaiser Permanente regions ranked number one among all health plans in the nation for eight separate metrics. These metrics reflect excellence in the management of chronic diseases such as diabetes, cardiovascular disease, and asthma, as well as preventive care such as the immunization of children and cancer screening in adults. Most notably, Kaiser Permanente ranked number one in the nation for breast cancer screening, and all eight regions ranked number one in their respective geographic regions.

The Power of Evidence

Evidence is powerful and comparative evidence is even more powerful. It has become a cliché, but no less true because of this, that quality improvement requires measurement. Where quality data is publicly reported, hospitals and physicians are motivated to improve—this stimulus is professionalism, stimulated by healthy competition.

Most health plans have pretty blunt tools with which to influence providers—pay-for-performance and discretionary reminder systems among them. Kaiser Permanente has the unique advantage of being both a payer and a provider system, and potentially more connected to the physicians, nurses, hospitals, and other staff providing care to its 8.6 million members. But those more than 150,000 staff and providers are all in different regions with their own leadership, culture, and marketplace pressures, so the influence of the collective on innovation around quality improvement was not as powerful as many had hoped and believed, at least not until KP HealthConnect arrived.

A by-product of this patient-centered information system is a population-based database, empowering Kaiser Permanente to have the most extensive, most complete, and most accurate quality of care information of any health care system in the United States.

Thanks to KP HealthConnect, physicians now not only know what they need to know about each patient, but can measure their own performance against their colleagues across the organization on clinical quality, safety, efficiency, equity, and service. Not only does each hospital know its own rate of preventable adverse events and complications, but now they each can see the comparable data from every other Kaiser Permanente hospital. Experience in other sectors about this kind of public reporting is that it leads to improvement—and that has begun to happen within Kaiser Permanente, as well. In part, this is a natural human tendency to respond to data that
is less than perfect. But within the Kaiser Permanente family of hospitals and physicians, there is another, intensely powerful dynamic—a hospital or medical center that is doing very well on a specific set of measures becomes a beacon to the others, and people begin to reach out and “shamelessly steal” from one another, as the quality leaders are now beginning to call it.

Now the widespread availability of comparative and credible data allows everyone to learn from one another and create a push to get to the best—everywhere and all the time.

It also allows for more effective governance in quality and safety. The Quality and Health Improvement Committee (QHIC) of the board of directors is responsible for oversight of the hospitals and the overall quality of care, in partnership with the Permanente Medical Groups. Comparative and credible data enormously strengthens this function of QHIC and energizes the national quality effort.

It took huge interdisciplinary and cross-regional teams for the “collaborative build” and implementation of KP HealthConnect. That culture set the stage for the use of KP HealthConnect data to benefit the millions of Kaiser Permanente patient members, and to enable the thousands of Kaiser Permanente medical employees to feel ownership of quality of care and their ability to implement evidence-based improvement strategies that work.

This is a model we need as a nation to carry our health care quality to the next level:

- Data collected in the course of care;
- Clinical, not claims, data;
- Comparative and transparent reporting;
- A culture of collaboration and collegial competition; and
- EHRs like KP HealthConnect that are just what the doctor ordered to make that goal a reality.

—Christine K. Cassel, MD, MACP, president, American Board of Internal Medicine and chair, Quality and Health Improvement Committee, Kaiser Foundation Health Plan and Kaiser Foundation Hospitals, Inc. Board of Directors

In 2005, we began our 21st Century Care Innovation Project with IHI’s support, involving nine of our primary care practice groups. Some of these primary care teams consisted of a handful of doctors with their nurses and administrative staff. Some involved entire facilities with as many as eighteen physician practices and all of their clinical and support services. This work was guided by the key themes of the Blue Sky Vision: consumer-centric care, home-as-the-hub of care, secure and seamless transitions, integrated and leveraged resources and expertise, and care and services customized to each patient. Every design team included a patient member to ensure that we never lost sight of who we were trying to serve. Many of the changes they tested, such
as scheduled telephone “visits,” have been adopted in the rest of our delivery system and have served as a starting point for additional changes and improvements.

With surprising rapidity, our patients have seized new ways of receiving information, support, and care in the wake of KP HealthConnect. More than 3.3 million of our 8.6 million members are active users of our Internet-based supports and services, including over 48 percent of our members over age 65. Patient primary care contacts are now conducted 41 percent of the time via secure e-mail messages or scheduled telephone visits, according to internal data.

When we started the Blue Sky process, we thought that we would identify very advanced technological devices and completely new ways to deliver care. What we discovered was that all the approaches and equipment we needed to transform care and service were already in use—at least somewhere. KP HealthConnect added the technical platform and operational opportunity to rethink many of our historical approaches. The changes developed and tested by our 21st Century Care Innovation pioneers have demonstrated the power of information. Information shared among all care team physicians and staff has enabled every support and clinical team member to help care for the patient. Information shared between patient and care team has liberated patients from the limits of the traditional care delivery system and engaged them in managing their health care and, more important, their health. During the Blue Sky Vision sessions we learned a quote from the science fiction writer William Gibson: “The future is already here. It’s just not evenly distributed” (National Public Radio, 1999).

Lessons Learned

Many of the lessons we learned in developing KP HealthConnect will be detailed in the following chapters. Here are some of the most important lessons related to leadership, organization, and strategy:

- **Leadership Sponsorship:** High leadership commitment demonstrated through funding, priority setting, and executive attention and incentives is essential to accomplishing the technical, programmatic, and cultural changes necessary in a major EHR implementation.
- **Shared Vision of Care Delivery:** The Blue Sky Vision provided shared goals for the implementation and use of KP HealthConnect and unified leaders, teams, and users alike. It guided software decisions, prioritization, further IT investments, and innovation in how we deliver care.
- **Strategic Investment:** Positioning KP HealthConnect as a strategic investment to transform care and service ensured that it would be taken seriously by operating executives.
• **Tiger Team**: Creating protected space within the organization via senior executive leadership, structure, and budget for the KP HealthConnect national team to develop new ways of working with the regions and new problem-solving processes made it possible to deliver on the aggressive timetable.

• **Essential Partnerships and Engagement**: There were many parties essential to our undertaking. Our experienced software supplier, Epic Systems, shared our goal to improve health care. Our physicians, nurses, labor partners, and all other staff engaged fully in the work from the beginning. The changes we made were only possible because of their support and commitment.

• **Practice Changes Culture**: The implementation of KP HealthConnect gave Kaiser Permanente an opportunity to develop a new way of working together, which changed the historically semiautonomous regions into sharing, learning partners linked by technology but, more important, by trust and a shared mission.

• **Parallel Investments**: Building infrastructure for performance improvement and innovation created focus and capability for value realization. Developing rigorous tracking and evaluation processes enabled us to develop, identify, and adopt innovations and effective new practices from the very beginning.