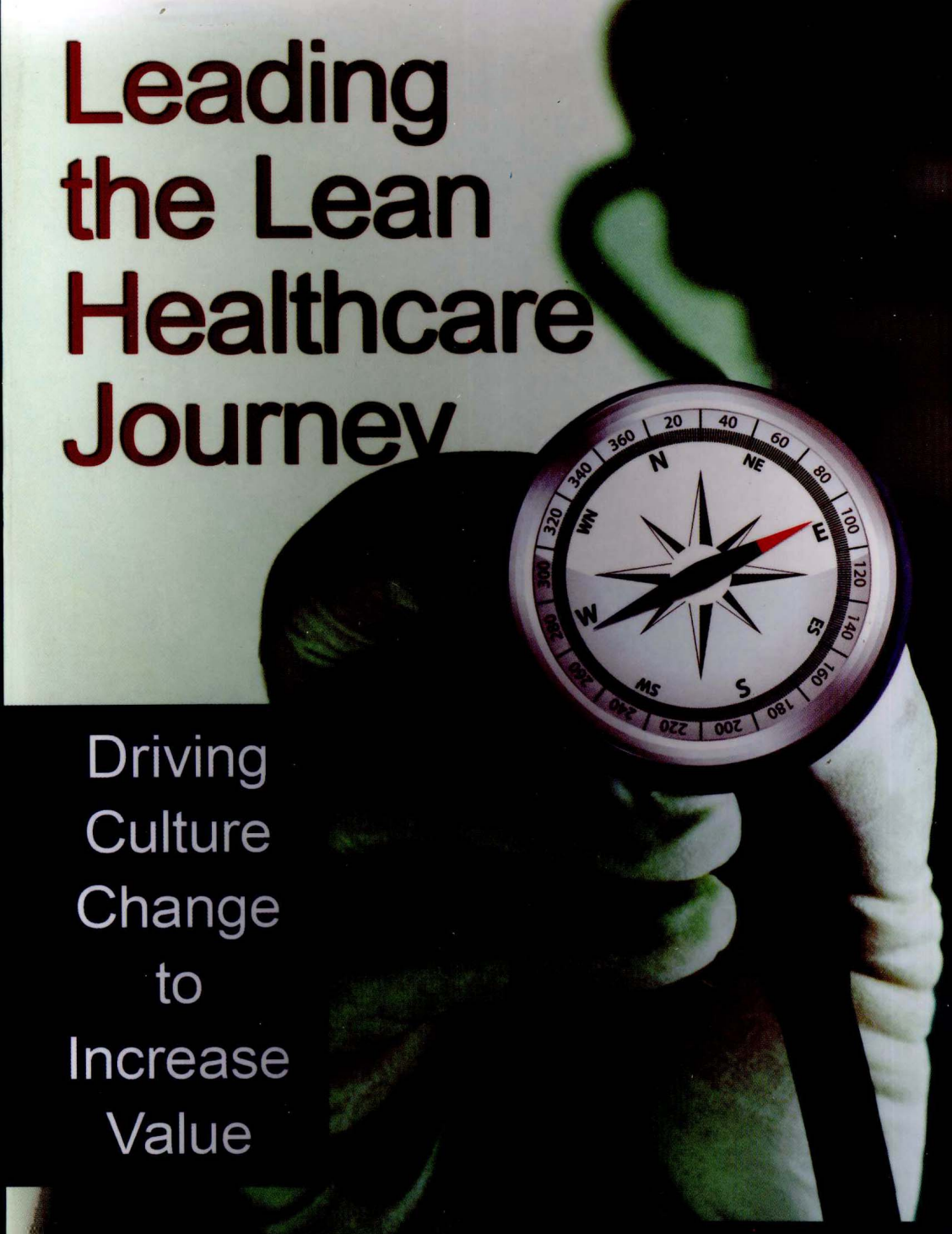
Leading the Lean Healthcare Journey



Driving Culture Change to Increase Value

Joan Wellman
Patrick Hagan
Howard Jeffries, MD

CRC Press
Taylor & Francis Group
A PRODUCTIVITY PRESS BOOK

Preface

Joan Wellman had invited Pat Hagan and Jerry Zimmerman to help her teach her weeklong Lean Leader Training to a group of physician and executive leaders at Children's Hospitals and Clinics of Minnesota. It was July 2008. During the course of the week, we talked a great deal with our "students" about the utility of applying continuous improvement principles to healthcare. After class each day, we took advantage of the long and warm Minnesota evenings to discuss the importance of an organization's leadership to a successful lean transformation, and the different paths taken by different hospitals (and manufacturing companies) on their lean journeys.

Joan noted her early 1990s involvement in the introduction of lean principles to healthcare in the Northwest, citing Bellevue's Overlake Hospital as an example of an early adopter of lean methodology due to the influence of their board chair from the Boeing Company. Later Peace Health, Virginia Mason Medical Center, Group Health, and Seattle Children's also began adapting continuous improvement to their organizations. Leaders at all of these organizations were taking the risk of applying "manufacturing methods" to healthcare practices. Each, however, took different approaches to implementation, some preferring a top-down approach and others a less philosophical "tools-only" path.

As we talked we discussed the Seattle Children's approach, what we called "continuous performance improvement" (CPI), and compared and contrasted it with those of others. At Seattle Children's, CPI was marked by guidance and direction from the top but grounded in the engagement and participation of clinical leadership, middle management, and staff, and we had embraced the philosophy of continuous improvement as well as the tools and methods. Not that we felt this approach was superior to others, but our results were pretty darn good and our people—faculty, management, and staff—were highly engaged in CPI.

As we talked we agreed we had a story to tell and, coincidentally, with the Lean Leader Training modules we were using that week, a structure with which to tell it. The training modules are based on the principles of continuous improvement, and we decided that our story should take the form of a series of chapters based on those principles. To highlight the leadership and involvement of clinicians, management,

and staff, the chapters would be written by people who had applied lean principles to improve their own processes, from 5S to load leveling to standard work....

So, two and a half years later, we're published. Most of the chapters that follow describe work at Seattle Children's, but to avoid an exclusive focus on any one organization and the possible concern that it is a "special" case several other healthcare organizations with whom Joan has worked have also provided chapters.

We hope that readers both beginning and well on their way on their lean journeys will find the stories within helpful as they seek to apply the philosophy and principles of continuous improvement to their work.

Joan Wellman

Pat Hagan

Howard Jeffries

Acknowledgments

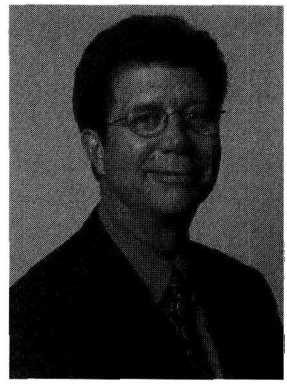
We would like to thank Tony Payauys, this book's tireless project manager, for his hard work keeping us organized, reminding us of deadlines, and helping us negotiate the world of book publishing. We couldn't have finished this book without him. We would also like to thank Jerry Zimmerman and Cara Bailey for their encouragement from the beginning of this endeavor and for helping us identify where to focus our efforts, and many thanks to Sue Cowan for her invaluable support throughout the project.

We acknowledge that this book represents not only our individual work, but also the hard work of many authors, writing about how dedicated, smart people with great ideas are changing how healthcare is delivered. We are privileged to present their stories in this book.

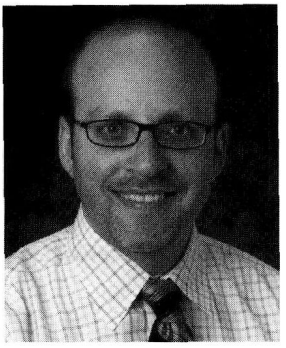
Finally, we thank Productivity Press for their willingness to publish our work.

About the Authors

Joan Wellman, founder and president of Joan Wellman & Associates (JWA), pioneered the application of Toyota principles to healthcare in 1995. Joan and her associates have provided lean consultation to Seattle Children's since 1997, and to other organizations featured in this book, including MemorialCare Health System, Children's Hospitals and Clinics of Minnesota, The Everett Clinic, and Jefferson Healthcare. Today, JWA supports healthcare organizations as they implement the methods, management systems, and mind-set required for sustained lean transformation. Before working in healthcare, Joan spent twenty years consulting to lean initiatives in the aerospace, telecommunications, computer, and energy industries.



Patrick Hagan joined Seattle Children's Hospital in 1996 and currently serves as its president and chief operating officer. Over the past twenty-five years, he has held executive positions at children's hospitals in Ohio, Arizona, and Seattle. Pat helped develop and lead Seattle Children's continuous performance improvement (CPI) strategy. This multidimensional approach has contributed to the hospital's success in improving its performance in service quality, clinical access, patient safety, staff engagement, and financial results. Pat has spoken at numerous national conferences about Seattle Children's successful application of its transformative CPI strategy.



Howard E. Jeffries, MD, MBA, is a cardiac intensive care physician and medical director of continuous performance improvement at Seattle Children's Hospital. He is a clinical associate professor of pediatrics at the University of Washington School of Medicine. He completed a residency in pediatrics at Children's Memorial Hospital and a fellowship in critical care at Childrens Hospital Los Angeles. He has published peer-reviewed articles and book chapters, with an emphasis on cardiac intensive care, informatics, and quality improvement. He sits on the advisory board for the Virtual PICU Performance System database and on the Washington State Healthcare Associated Infections Advisory Committee.

Contents

Chapter 1

Introduction

This book is about people who have the audacity to seek and implement desperately needed change in our healthcare system. Each chapter tells how determined men and women are studying, innovating, learning, and most of all leading their organizations forward by reducing waste in our healthcare system, a system that is rapidly approaching 20 percent of the U.S. gross domestic product (GDP).

Each of these stories begins with a healthcare leader being curious enough to read, attend training, and visit companies that have proven track records of dramatically reducing waste: lean manufacturing companies in the United States and Japan. Curiosity led these leaders to an understanding that much of what we do in healthcare is waste "cleverly disguised as real work." Curiosity also led to the understanding that quality, cost, patient access, and safety outcomes are not a set of "trade-offs" but characteristics that can be improved concurrently if we are willing to learn from the likes of Toyota.

You can't help but admire these healthcare professionals. At least we can't.

And if you read on, we think you'll agree. Indeed, you'll meet and get to know healthcare providers who are focused on easing patient pain, reducing medical mistakes, increasing accountability, enriching care, and eliminating waste wherever and whenever it surfaces.

We began this journey in 1996, when Pat Hagan invited Joan Wellman to Seattle Children's Hospital to talk with hospital leaders. Pat wanted hospital leaders to understand more about how companies like Toyota and, more recently, Boeing were addressing process speed, product quality, and cost concurrently rather than as separate initiatives. Joan, a lean consultant with experience in a number of industries, had pioneered the application of lean in healthcare starting in 1995. The field of "lean healthcare" was very young at that time, so the very idea that a company

like Toyota could provide lessons for improving healthcare was very new to Seattle Children's leaders.

These leaders were not "hooked." Far from it. In 1996, it was uncommon for healthcare executives to look for improvement models outside of healthcare, let alone look to manufacturing companies. Seattle Children's was no exception, and the feedback was "I sure wish that Joan would use more healthcare examples" and "I'm not so sure that we should be applying business models to healthcare."

But the Seattle Children's executive and faculty leadership group (the hospital steering committee) persisted. Pat continued to invite Joan back to facilitate discussions about lean manufacturing and conduct process improvement projects with Seattle Children's organization development staff, Barb Bouche and Margaret Dunphy. Eventually, a comprehensive plan emerged that embraced lean thinking and philosophy.

While there was some initial resistance, the approach began to make sense to people, that is, you can reduce costs and improve patient care at the same time. These outcomes cannot be separated. Our philosophy—and the approach articulated in this volume—makes it clear that patient well-being is critical; that supporting the people who work in our hospitals is essential; and that sustainable, long-term change that is broad and deep is the only answer.

The stories that follow come from Seattle Children's and other organizations that have engaged Joan Wellman & Associates as consultants over the last ten years: the Everett Clinic in Everett, Washington; MemorialCare Health System headquartered in Fountain Valley, California; Children's Hospitals and Clinics of Minnesota; and Jefferson Health System in Port Townsend, Washington. These organizations cover a large geographic territory and vary widely in size and complexity from a twenty-five-bed critical access hospital (Jefferson) to a very large, multihospital system (MemorialCare). These organizations also have very different physician models, including a primarily academic model (Seattle Children's), a primarily private practice–based physician model (MemorialCare), and a physician-owned model (the Everett Clinic). Each organization has "branded" its lean management system differently. Those "brands" include Seattle Children's continuous performance improvement (CPI), MemorialCare's management system (MC21), The Everett Clinic improvement system (TEC-15), and the list goes on.

These different organizational circumstances provide insight into how lean principles apply regardless of organization size, physician model, or words that are used to describe what they are doing. The common thread is an enduring philosophy and strategy that rally everyone in the healthcare enterprise around reducing waste to achieve common goals: improve Quality, decrease Cost, improve Delivery (patient access as an example), improve Safety, and increase Engagement of all organization members in continuous improvement. We refer to these goals as QCDSE.

As you read on, and read carefully, you'll come across some inspiring case studies that demonstrate improved quality, cost, delivery, safety, and staff and physician engagement (QCDSE). You'll learn, for example,

- How median nonoperating time in an operating room was cut from seventy-four to thirty-seven minutes
- How catheter-associated bloodstream infections were significantly reduced
- How the number of operating room documents was steadily sliced from twenty-one to fourteen to eight, freeing the staff to focus more intently on patients
- How a revamped and reorganized work flow in a lab trimmed overtime by 25 percent and boosted productivity by 5 percent
- How a 400-square-foot supply repository costing $4,000 per square foot went from a littered storage space to a seven-figure-generating operating room
- How a research review board cut its approval process down, from 86 days to 46.5 days, by eliminating thirty-five steps
- How a behavioral medicine department was able to overhaul its processes and procedures in order to see more patients
- How a newly thought out registration-to-cash value stream ended up saving millions of dollars
- How a new approach to total parenteral nutrition order writing dramatically reduced errors
- How supervising nurses, who were spending 90 percent of their time reading e-mails, transformed their jobs so they could spend 50 percent of their time on the floor working with staff and caring for patients
- How infections, overutilization, and confusion stemming from the use of peripherally inserted central catheter lines were addressed and reversed

Achieving results like these is anything but easy. Just listen to the people in this book as they struggle to solve entrenched problems. You don't have to read between the lines to realize how hard it is to wrestle with deeply ingrained behaviors that embed waste and foster a lack of sensitive care. And you'll immediately understand how difficult it is to build and maintain a consensus for change in most healthcare organizations.

While this book is filled with new vocabulary, new phrases, and new concepts, please do not be put off by this. It's simply the language of continuous change and continuous rethinking. And—whether it's the 5S's (sort, simplify, sweep, standardize, and sustain); plan, do, check, and act (PDCA); Rapid Process Improvement Workshops (RPIWs), QCDSE, CPI, lean, or value stream—just go with it. Our contributors do a good job explaining what these idioms of improvement mean, and how they work. If you're still confused, we've included a fairly comprehensive and, we think, cogent glossary of terms.

This book is not a "how to" improve healthcare book, or a recipe on how to run an operating room or intensive care unit more efficiently. It is a book about

curiosity, learning, and the courage to challenge deeply held assumptions about how we deliver healthcare in this country.

The most fundamental assumption that is challenged in this book is the belief that we need more money to operate an effective healthcare system. The reality is that what we need most is what we can't buy: great leaders. Leaders who, like the authors in this book, have the curiosity and tenacity to look critically at what they are doing and find better, less wasteful ways to deliver safe, high-quality care.

We hope you'll turn the pages and join us in this sometimes rough—but always rewarding—journey.

Patrick Hagan
President and Chief Operating Officer
Seattle Children's Hospital

Joan Wellman
President
Joan Wellman & Associates

Howard Jeffries, MD, MBA
Medical Director, Continuous Performance Improvement (CPI)
Pediatric Cardiac Intensivist
Seattle Children's Hospital

Chapter 2

The Continuous Performance Improvement (CPI) Journey: A Long and Winding Road

Patrick Hagan
President and Chief Operating Officer
Seattle Children's Hospital

Our continuous performance improvement (CPI) journey has been a long and winding road that has stretched out in front of us for more than a decade. We are always close to our destination, but we never quite get there. And that's how it should be. CPI keeps leading you down new paths that need attention, patching, and paving. It's an endless—but immensely satisfying—excursion that takes healthcare organizations and their people to new and never-before-imagined places that offer improved care, greater compassion, and heightened efficiencies that truly benefit patients, clinicians, and researchers.

We started down three separate trails in the late 1990s. The first one was cultural. We simply had to recognize and accept where we were in healthcare—and at Seattle Children's Hospital—ten to fifteen years ago. Our people were bright and uniformly well intentioned, and so was leadership. But our "systems" were

inefficient and at times unsafe. We simply weren't where we needed to be. Nowhere near where we needed to be. And that was OK—after all (with apologies to Tom Peters), we were no worse than anyone else. There were hundreds and hundreds of ways we could have been better as an organization, in the way we delivered patient care, and in the experience we offered our people—our doctors, nurses, and staff.

But we were generally complacent. We were a hospital where the sickest kids came for help, yet we were anything but welcoming for young patients and their families. At worst, our attitude was that people—patients and staff—were lucky to be here. But people had choices. They didn't have to come to Seattle Children's. So, if we wanted people to come to us for care, and if we wanted people to come to work, practice, teach, and study with us, we needed to change our culture.

We had traveled down the reengineering avenue, but it was an exclusively cost-focused and cold way to go, and it felt antithetical to our culture and values at Seattle Children's. In looking for other options, we started working with Joan Wellman, an organization change and process improvement consultant then with DeltaPoint. Joan challenged us with success stories of other organizations—stellar enterprises outside of healthcare. She told us we could learn from these companies and how they focused on customers and removed waste that got in the way of their people and their customers.

At first, we found it a bit off-putting to hear of Boeing and jet airplane manufacturing or Toyota and automobile production in the same breath as neonatal care or pediatric cancer. But that eventually led us to an even more important conversation in which we asked ourselves, "Why do we really want to improve?" We started talking about becoming the best children's hospital, not in an immodest way, but as the rationale for striving to continuously improve our performance. We began to talk about wanting to improve every year, continuously, so that we provided the best possible experience for our patients and the best possible environment for our faculty and staff to work and practice. We didn't want to be the "above average" children's hospital, and we certainly didn't want to be the "we're no worse than anyone else" children's hospital. We wanted to be the best children's hospital.

That meant we weren't interested in changing at the margins; we were determined to make fundamental, long-lasting, and long-term changes. But we also believed that a "big bang" approach would be counterproductive, and indeed the best way to generate resistance and opposition. Instead, we proceeded iteratively and incrementally, gradually improving our processes and how we functioned on behalf of the patients, clinicians, and researchers in our world. Using that approach, we gave ourselves time to "prove the concept"—and we did.

We learned from the companies we observed that to achieve this kind of change would require substantive and sustained leadership commitment. Leadership would have to go beyond talking the talk to walking the walk of performance improvement. What we've learned from our experience is that leaders need to be present with their people in observing and supporting their work, and in noting their performance improvement efforts. Leaders need to be trained and knowledgeable

in the principles, methods, and tools of CPI, and they need to participate in improvement events. And leaders need to be tenacious and patient: tenacious because there will be resistance to this effort and because that's what's required to keep CPI from becoming the next "flavor of the month," and patient because it will be hard, difficult work; some events will fail; and fundamental improvement takes time.

The second trail we found ourselves on was all about events and circumstances. In the late 1990s and early 2000s Joan, with Seattle Children's employees Barb Bouche and Margaret Dunphy, had led Rapid Process Improvement Workshops (RPIWs) to help us improve our emergency, pharmacy, and supply departments; our lab had employed this methodology as well, working with a different consultant. Initial results were enlightening. But, as we headed down this route, we were routinely, if infrequently, reminded that we really weren't all that great. Our errors and defects caused injury and even death in our hospital, and, worse, we came to the sobering conclusion that we weren't learning from our mistakes. We weren't seizing the opportunities to improve. We had serious systemic issues that absolutely had to be addressed in the name of patient safety.

After a particularly tragic error caused by communication failures between clinical teams, we decided to use the RPIW tool to improve our clinical care processes. Our approach was "simple"—give the clinical teams most affected by the mistakes the opportunity to improve the way they cared for patients. We pulled together the medical director, the chief of nursing, the chairman of pediatrics, and the clinical teams, and we began in earnest the process of continuously improving our performance by giving our people the tools and resources to do so. This was a seminal moment for us. It was the true beginning of directing "from the top"; and we would use this method, which enabled the real work of improvement to occur on the front line. It was 2002.

We asked members of the clinical teams (faculty, nurses, residents, coordinators, et al.) to participate in an RPIW to improve communication among the teams, and to consider changes in the way we were conducting patient rounds. The RPIW team identified multiple flaws in the rounding process, not least of which were a remarkable absence of reliable physician-to-nurse communication and a profound lack of involvement with patient families. The RPIW team pointed out that rounds had become an esoteric conference room process that needed to be redirected to the patient bedside. The team recommended changes in the way rounds are conducted, and this began a journey of continuous improvement in our rounding process that has endured to this day.

Over time, we labeled our work "continuous performance improvement." We framed our work as a CPI "house" representing the elements of quality, cost, delivery, safety, and engagement (see Figure 2.1). Patients and families would "come first" and be the roof of the house, the engagement of our people would be the foundation of the house and of our success, and quality, cost, delivery, and safety would be the pillars supporting the roof of the house, our patients.

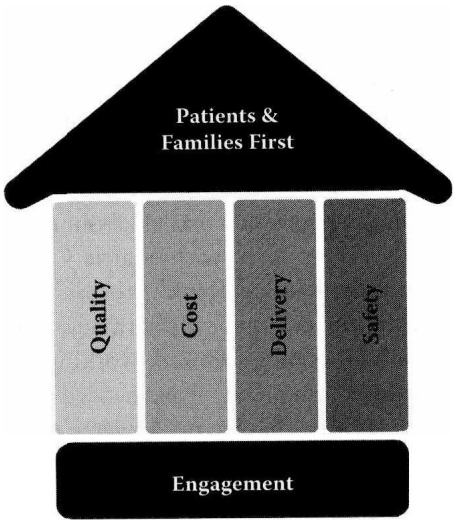


Figure 2.1 The Seattle Children's House. Seattle Children's uses a house to show how we think about evaluating and improving healthcare. Patients and families are our primary customer, as illustrated by the roof. Patients and families are supported by pillars that indicate areas where we strive for continuous improvement: quality, cost, delivery, and safety. The pillars rest on a foundation of engagement: employees, faculty, and referring physicians who are engaged and committed to the care or our patients.

We gradually expanded our CPI focus. In addition to the RPIWs we were running, we started using the Five S's of CPI: sorting, simplifying, sweeping, standardizing, and sustaining. Importantly, we decided to invest in our own process improvement infrastructure. We trained our own people (with Joan's able leadership) and hired others to form a cadre of internal process improvement consultants to help spread the methodology throughout the organization. Today, we have over thirty people in our CPI Department.

Our third trail—after the cultural and circumstantial ones—was intellectual. I finally sat down and read *The Toyota Way*. It was a definite capstone for my thinking about continuous improvement. It woke me up to the kind of overarching philosophy of leadership and management necessary for our hospital to become the best. It was now clear to me that it wasn't *what* Toyota did that was important; it was *how* they did it.

There were several other crystal clear learnings from Toyota: first, our prime focus should be on our customer, the patient; second, we always need to support our people in their work; and, third, we must take a long-term view and be relentless in performance improvement, never abandoning our goals of continuous improvement in response to short-term issues.