FOREWORD

INTRODUCTION

PART I: Problems

CHAPTER 1
Where We Started: *Symptoms of Sick Hospitals*

CHAPTER 2
The Biggest Challenge We Faced: *Complexity*

CHAPTER 3
The Most Surprising Challenge We Faced: *The Lost Patient*

CHAPTER 4
The Most Pervasive Challenge We Faced: *Waste*

CHAPTER 5
The Root of All-Evil: *Blame*

PART II: Solutions

CHAPTER 6
Systems Thinking and Continual Process Improvement

CHAPTER 7
Systems Thinking in Action
Systems thinking learning line at PRHI
Managing blood sugar levels of critically ill patients at SSM
SSM emergency room

CHAPTER 8
What We Learned From the Toyota Production System:
Focus on the Customer/Patient
Pharmacy Serving Nurse Customers
Half naked patients
Missing wound dressings and gowns

CHAPTER 9
Walking Around With New Eyes
Handwashing
Pharmacy problems
Searching for keys

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CHAPTER 10
How We Learned to Cooperate and Share Data
Improved cardiac by-pass operation mortality
The perfect patient discharge

CHAPTER 11
How We Became Systems Thinkers
Hidden wheelchairs
Efficiently changing shifts

CHAPTER 12
What Our Leadership Learned

PART III: The Path of Improvement

CHAPTER 13
Going For the Theoretical Limit

CHAPTER 14
Finding Root Causes of Problems
Reducing registration time at PRHI
The Five Why's
Medication Errors
Dangerous prescription abbreviations

CHAPTER 15
Using Protocols and Checklists

CHAPTER 16
Empowering Frontline Workers
Reducing Central Line Infections

CHAPTER 17
Removing Barriers Between Doctors and Hospitals

CHAPTER 18
Self-Assessment with the Baldrige Criteria

CHAPTER 19
Other Happy Results

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FOREWORD

"Once upon a time," may be the four most powerful words in the English language. They capture attention and introduce a story, which is the best way to explain a new and complicated idea, especially an idea that refutes conventional wisdom

This book reports such a story—told by doctors, nurses and hospital administrators—of how a new idea, called "systems thinking," helped to transform the way they understood and organized their work and allowed them to dramatically improve over sixty sick hospitals: saving lives and reducing costs and patient suffering.

Astounding and significant as that is, the story also offers a solution to America's biggest and most pressing domestic problem: healthcare. Every lawmaker, civic leader, employer and informed citizen knows four facts about healthcare: (1) healthcare is the biggest domestic problem they face; (2) healthcare financing costs are spiraling out of control; (3) many millions of Americans have no health insurance; and (4) these leaders do not agree or know how to fix these problems.

More and more Americans are aware of another four facts: (1) that personal and family healthcare costs are crippling; (2) that as hospital patients they are not the center of attention; (3) that hospitals are dangerous places because hospital-acquired infections are among the top five causes of death in the United States; and (4) that people feel helpless about this and have no idea what to do to improve the situation. Many hospital administrators, physicians, and nurses know four additional facts: (1) that most American hospitals are sick; (2) that they are crippled by inadequate and outdated management practices, unnecessary duplication of services and astounding waste; (3) that hospitals generate many avoidable, often deadly, mistakes—including countless "near misses," that is, mistakes that almost happened; and (4) that it is in hospitals where the turnaround in healthcare costs and safety must begin.

Like any great change, it begins with a new idea, one which we said defies conventional wisdom.

The compelling and urgent impetus behind our book and its companion PBS documentary is more than significantly increased patient safety and reduced healthcare costs, as important as they are. It is the story of an important new idea, systems thinking. It is a story of how systems thinking could be transported from the factory floor of an automobile plant and used to improve safety and costs. We believe it is crucially important for all Americans to understand systems thinking, realize its immediate practicality, and recognize that it is being successfully used in improving organizations from schools to hospitals to government offices, manufacturing plants and families. Many more urgently need it.

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Here is a summary of the story.

Once upon a time, there were two hospital systems, one run by a nun, the other led by a bureaucrat. Their doctors, nurses and administrators were well educated and deeply committed to healing the sick. They did their best and worked overtime trying to improve the healthcare services they provided. Yet things kept getting worse.

Every day, more and more patients acquired new infections at the hospitals. There were medical errors. Patients suffered and died unnecessarily. Enormous wastes of time and supplies and potential errors were hidden in traditions, habits and conflicting regulations. Costs kept spiraling upward, mistakes kept happening, and the healthcare professionals and administrators were ever more concerned and frustrated.

They knew they were not alone because they saw a steady stream of books, magazines and newspapers reporting that U.S. hospitals are expensive and dangerous, potentially deadly places.

Their situation seemed hopeless. However, the leaders were open to new ideas.

Administrators at one Midwest hospital system in the late l980s found out about systems thinking and began to use it. It worked. Deaths, suffering, waste and errors were reduced. In the late l990s a group of hospitals in Pittsburgh joined with insurance companies and employers to try to improve their services, while they still competed for patients.

How they did it is one of the most fascinating parts of the story. They found an auto manufacturer who taught them systems thinking and its new way of looking at their work. Patient safety began to improve dramatically. Doctors and nurses in both hospital systems reported they found their work more rewarding.

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Systems Thinking

The term "systems thinking" may sound complicated and technical, as if only scientists or mathematicians could grasp it. However, you don't need a college degree to understand systems thinking.

When applied to a complex organization such as a hospital, systems thinking simply means focusing on the organization as a whole—and transforming it as a whole—rather than paying attention only to its various parts or departments. This is what the doctors, nurses, and administrators in our story learned to do. Instead of just concentrating on their own job, typical of people in most organizations, they began looking at how all of the different people and technological devices in their hospitals worked together on behalf of the patient. Once these people learned systems thinking, they applied it to heal sickness, reduce failure and mistakes, and eliminate waste at every level in their hospitals.

In this book, doctors, nurses, administrators, aides—regular people—tell in their own words how they overcame doubts that they could provide "perfect patient care," identify errors, reorganize how they worked together, learn a new systems way of thinking, develop "new eyes" to design better and better methods, and get to the roots of problems.

Systems thinking is not a panacea that can erase every mistake, but it is a tool for seeing a world that can be improved and solving many organizational problems. In this way, it helps create a society better able—than it has been—to deal with the constant changes and growing complexity in our 21st Century world.

Uncertain World

One hundred years ago, most people accepted that the world was an uncertain place in which extreme weather, disease, and political events unexpectedly disrupted lives. People were upset but not surprised that bad things happened.

Today with technology that helps us predict a good deal of the weather, prevents many diseases, air-conditions our homes and cars, takes us to the moon, etc., many of us have come to believe we can create a certain world and control it.

Unconsciously, we like to believe that technology can forestall bad events and when it doesn't, it's only because someone failed to take appropriate measures. We

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believe we can get back into control as soon as we discover whom to blame—and get rid of them. However, that doesn't work.

Paradoxically the great advances in technology, communications, transportation and growth of organizations have not improved our ability to predict outcomes. Often these advances create unintended and unwelcome consequences more difficult to foresee or to control. Simple examples of this increased complexity are more deadly terrorists, huge multi-national companies that no single government can regulate, a bacterium resistant to antibiotics, infants with special needs who would not have survived 20 years ago, and older, sicker patients who would have died in the hospitals of the l980s, etc.

Unintended Consequences

All these changes demand new thinking to cope with these unintended consequences of complexity and new inventions occurring throughout society. Hospitals are the frontlines of this paradoxical change where good and bad effects need to be sorted, managed and improved. Systems thinking can do that.

The stories in this book are about managing —not controlling—an uncertain world and learning to predict outcomes and to produce what you intend.

Authors

I am a journalist, and my co-author is a scholar. I, the journalist, produced an NBC documentary in l980, *"If Japan Can, Why Can't We?"* It introduced systems thinking to the West and described how an American statistician, W. Edwards Deming, taught the Japanese to use it and work smarter not harder to produce continually improving automobiles and electronic goods. (*"If Japan Can..."* was named by The Washington Times as the second most influential documentary in the history of motion pictures and television in 2005.)

It took me ten years to begin to understand this new mindset Dr. Deming was described. That was in spite of the advantage of working with him the last 13 years of his life to explain these ideas in the 32-volume Deming Video Library. I gradually understood the many pieces of his philosophy, e.g. continual improvement, no blame or fear, cooperation rather than competition, etc. But even after I saw how groups or organizations of people working together with these rules and good leadership could be greater than the sum of their parts, it was difficult to explain. My breakthrough came when I videotaped a conversation between Dr. Deming and Dr. Russell Ackoff, Professor Emeritus at the University of Pennsylvania and author of seminal books on systems thinking. I finally understood that theirs was a different worldview of how to organize people and work to be more effective, efficient and personally rewarding.

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In the late 1990s, I began to work with Dr. Louis M. Savary, a statistician, theologian and author, to study the systems mindset and how to teach it, particularly in the workplace. We concluded it can be most effectively communicated experientially, which is why we have written this book featuring the personal experiences of medical professionals as they learned systems thinking and began to apply it every day in hospitals.

Western Difficulties

Systems thinking can be difficult for Americans and other Westerners. Western scientific thinking, which asks questions about the truth of the world and mounts experiments to test its theories, provides an essential element of systems thinking. However, it is only one element in the foundation or infrastructure of this revolutionary mindset.

Unlike the limited individualistic, single-focused, pragmatic, direct cause-and-effect approach of the scientific method, the systems mindset is about relatedness, interdependencies, and deep-seated causes. Instead of focusing on actions, it focuses on interactions—what happens between individuals and between teams, groups, and departments.

A system cannot be grasped by analysis, the backbone of scientific thinking. Analysis takes wholes, e.g., a machine, a piano, etc. apart and looks at the actions of the parts—how things work. In analysis the whole is equal to the sum of the parts. On the other hand, synthesis studies the interactions—why things happen. Systems thinking requires analysis and synthesis and the ability to appreciate a system's intangible and beyond-linear qualities, its greater whole, as well as the larger system of which it is a part. In synthesis, the whole is the product of the interactions of its parts. An easy example is a champion sports team, which is greater than the sum of its parts. Sadly most teams and organizations, even families or people, add up to less than the sum of their parts.

Experts have observed that this new way of thinking, the ability to grasp and appreciate a system, appears more attuned to Eastern philosophies of long-term cooperation, flow-of-life thinking and life-long learning than to Western principles of individualism, competition, quick fixes, and short-term results. Dr. Ackoff, America's leading system's teacher, says the East is learning scientific thinking more rapidly than the West is learning systems thinking. We think he is correct and that this is a serious problem for the West. Scientific thinking is easier for a systems thinker to learn than vice-versa.

This book is our effort to explain and help Americans reap the benefits of systems thinking as well as dramatically improve hospitals. When combined with scientific thinking, we believe it can produce an evolutionary leap in human consciousness and consequent effectiveness. That is beginning to happen in Pacific nations, which have a long history of appreciation for systems.

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The West has been working with these ideas for more than 25 years. They have not been easy to explain or hold onto. For instance, the American automobile industry seemed to "get" them briefly in the early 1990s but soon lost them to a new generation of short-term-thinking managers and executives more interested in profit than pleasing customers.

Don't Blame Hospitals

It must be noted at the outset that not every hospital in the United States can be labeled "sick and dangerous." A number of American healthcare facilities have remarkably improved their organizational health. We are telling the particular how-to stories of these two large hospital groups. (And not incidentally, these hospitals are becoming more profitable as they improve services and reduce waste.)

Furthermore, we do not blame healthcare workers, hospitals or the people running them for the sorry state of healthcare delivery today. Today's hospital problems are the result of a nationwide healthcare management and delivery system that may have worked well enough in earlier times but is now overwhelmed by a complexity bordering on chaos. This complexity is intensified by a continuing avalanche of breakthroughs in technology, healthcare equipment and methods, a plethora of new drugs, sicker patients, a labyrinth of insurance reimbursement regulations, people living longer, reduced hospital stays, and a dramatic rise in chronic illnesses that hospitals are unprepared to treat. And this list does not factor in the millions of Americans without health insurance, many of whom could be served if health costs were reduced.

Learning to Work Smarter not Harder

This health system failure cannot be fixed by blaming individuals. Seeing and improving the system, rather than blaming individuals is a basic tenet of systems thinking.

At first glance, systems thinking sounds un-American. This is because many of the ideas and practices that made America great in simpler times not only don't work anymore, but now actually sabotage complex organizations like hospitals and schools.

For example, " doing your best", unless you understand how your work fits into the whole hospital, can make things worse. Nurses, who used to hide wheelchairs in a bathroom to save them for their patients, were doing their best to help make things better for those under their care. In a previous era, such nurses might have been seen as outstanding, caring employees with initiative. However, a story in the book explains how today in a large hospital complex, caring nurses stashing wheelchairs in bathrooms can help defeat the system. For example, such practices can spread diseases if the hidden chairs are not properly sanitized, cause a shortage of available wheelchairs, require new wheelchairs to be purchased, and delay many patients from getting the care they need.

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Systems thinking also does away with blame and the American truism, "If it ain't broke, don't fix it." Systems' foundation is cooperation, not competition. Its outlook is long-term, not short-term. Its focus is pleasing the customer/patient and finding effectiveness and joy in work. Systems thinking has also shown that, when used to focus on satisfying customers, company profits will take care of themselves.

In typical American linear logic, 2 + 2 always equals 4. In systems thinking, however, 2 + 2 may not only add up to four, but to 3 in a bad system, or to 22 in a great system. Any system can generate effects that are more—or less—than the sum of its parts. Showing people how to create a greater whole is the underlying purpose of systems thinking, i.e., getting more for less effort, working smarter not harder.

For a systems thinker, there is never a "best" way to do a job. Every process can always be improved. A systems thinker never stops learning and seeking ways to make something better.

One More Thing

By the end of this book, you will know how a hospital or any organization can begin the process of transforming itself as well as how to identify a continually improving one. One American CEO of a major automobile corporation found the ideas of "never ending improvement" exhausting and depressing. We "can-do' Americans like to be finished with jobs and problems. That's not possible in continual improvement.

The readers we have in mind include healthcare consumers or potential patients, relatives of patients, hospital administrators, healthcare policy makers, hospital staff, physicians, healthcare insurers, employers paying for employee healthcare insurance, state and federal lawmakers, concerned taxpayers and people seeking to improve any organization.

Moreover, since everyone is a potential hospital patient, the issue of improving patient safety and care in our hospitals is vital to us all. Any one of us could be among those 200,000 patients who die each year in American hospitals, but don't have to.

Clare Crawford-Mason *Louis M. Savary*

Washington, D.C.
April 2005

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The only consistent in health care is the anxious anticipation of change that never actually occurs.

J. D. Kleinke

INTRODUCTION

A Good-News Story

A Google search of the topic "American hospitals + dangerous" produced a million and a half hits. More than five thousand books and published articles spell out how sick and dangerous many of today's hospitals really are. It's a bad-news story.

This book is different, for a number of reasons. Mostly, it's a good-news story.

- First, doctors, nurses and hospital administrators from two hospital groups freely talk about how sick their hospitals were, why they got sick, and how they learned to heal them.
- Second, these two healthcare systems healed themselves by using management principles taken from a most unlikely source—an auto manufacturer that uses systems thinking and quality methods.
- Third, while most efforts at organizational transformation fail after a short period, these two healthcare systems have achieved the transformation to organizational health and are maintaining it—one of them for over a decade—continually getting better and better.
- Fourth, they continue to maintain this transformation without outside help—they do it locally—without government assistance, expert consultants, new resources, new hires, or added expenses.
- Fifth, they continue to make improvements in patient satisfaction, employee satisfaction, significant reduction of waste in time and money, and, most importantly, reduction of hospital-induced patient infections, suffering, and death.
- Sixth, these healthcare systems are totally patient-focused, not doctor-focused or hospital-focused. Their nurses, doctors, administrators, and other employees are committed to delivering perfect patient care.
- Seventh, this book is different because we let these savvy healthcare people tell their story in their own words.

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Not All Auto Manufacturers Are the Same

We said that these two healthcare systems healed themselves by using management principles taken from an auto manufacturer, but not all automakers are not the same. Many American auto manufacturers view their organizations as huge machines, and see their employees, in many ways, as replaceable parts. This view is not helpful.

Toyota, the automaker whose principles were adopted by the healthcare systems we studied, views its organizations as complex social systems, where each employee learns to continually improve his or her work. Employees see making improvements as an integral part of their jobs.

G. Kenneth Turnbull, Ph.D., Executive Vice President of Alcoa, commenting on the application of Toyota principles to health care, explains why its systems were transferable to hospitals. The reason is that Toyota principles teach people how to improve work of any kind.

> The fact is that a patient is not a car, and never will be. So, if that were the problem we were trying to solve, we'd be stopped. However, the Toyota system is set up to identify customer needs in very clear ways, and to meet those needs in explicit, efficient, rapid supplier-building methods. They're quite superior in the world of work, so if you said there was no work in health care, then we've got a gap. But as long as you confess that work's there, then I've got a solution.

What these hospital personnel gained from Toyota was the knowledge, training, and scientific tools to develop teams of people who could:

- become greater than the sum of their parts
- work together more effectively and efficiently
- continually improve the processes involved in their jobs
- see how their individual work contributes to the aim of the whole system.

In this way, all employees in these hospitals become scientists, that is, they use scientific methods of experiment and testing to continually improve the work they do.

Any modern hospital can begin the process of self-healing if its doctors, nurses, aides, and administrators are universally committed to doing so. Once everyone is pledged to the singular purpose of achieving perfect patient care, they need to learn how to put on the new mindset—systems thinking—that will help them do the job. Meet our two healthcare systems that have been succeeding.

SSM Health Care

SSM Health Care, headquartered in St. Louis, Missouri, is one of the largest Catholic healthcare systems in the United States. It owns, operates, and manages 23 facilities, including 20 acute care hospitals, in four states: Missouri, Wisconsin,

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Illinois and Oklahoma. SSM Health Care employs nearly 22,000 people and affiliates with approximately 5,000 physicians working in direct care facilities and related businesses.

During the 1980s like many other organizations and industries at the time, SSM Health Care developed a mission statement, identified its principles, and listed its key values. Part of that mission statement announced that they were committed to continually enhancing quality. They used a variety of conventional means to convey their mission, principles, and values. But for all their efforts and best intentions, as admitted in CQI and the Renovation of an American Health Care System, a book that tells the SSM story in great detail, they had "no operational structures or consistent management processes to ensure that their values were being acted on" daily in each facility. They wondered, in the words of their CEO, Sister Mary Jean Ryan, "What would it take to have the continual enhancement of quality simply be the way we work here?"

By 1989, SSM Health Care leadership had discovered the surprising link between quality theories used in manufacturing and how quality methods might be applied in health care. After all, Sister Mary Jean explains, "it does seem odd to refer to health care as a "product," the work of doctors and nurses as a "repeatable process," and patients as "customers."

But in making that connection, they began their process of self-healing. They hired the Process Management Institute to guide their executives through the principles and methods of quality theory and systems thinking, a version they called Continual Quality Improvement (CQI, for short). Within the year, they invited the entire SSM Health Care System to commit to a cultural revolution based on CQI principles.

During the mid-1990s, they began pursuing the prized Malcolm Baldrige National Quality Award. Studying the Baldrige criteria helped them to improve their processes and self-healing even more.

Senior Vice President in charge of strategic planning for SSM Health Care, William P. Thompson, described the early days this way:

> We started going through the Baldrige, using the Baldrige criteria as a framework for improvement. People said, "Sister, we don't have time to do the self-assessments. We don't have time to write the applications. We don't have time to do this. We have other crises, we have other problems, fires to fight, and everything else." And Sister has always listened to that input but has always relied on her own internal compass. She would say, "No, we are committed to this. I see enough improvement. It resonates with my personal values. I believe that this will help us become a better organization." And she has been the constant driver of this throughout the last 16 years at SSM Health Care.

In 2002, SSM Health Care was the first healthcare organization to receive the Malcolm Baldrige National Quality Award. Today, they continue to improve all their processes and systems in their unending desire to provide perfect patient care.

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The Pittsburgh Regional Healthcare Initiative (PRHI)

Our second good news story is about the Pittsburgh Regional Healthcare Initiative (PRHI), a collaborative effort including hundreds of clinicians, forty hospitals that compete for patients but cooperate to discover best practices, four major health insurers, dozens of major and small-business healthcare purchasers, corporate and civic leaders, and Pennsylvania's attorney general. It forms a unique collaborative effort of individuals and institutions that provide, purchase, insure and support healthcare services throughout Southwestern Pennsylvania.

PRHI Chair and Founder, Karen Wolk Feinstein, explains its origins and inspiration.

> The issue at the time was the cost of health care. We wanted to draw attention to the fact that we thought regions didn't have to wait for a national solution to the increasing costs of health care but could fashion a solution locally within their own region.

It should be noted that healthcare delivery is that region's largest single industry and shapes the life of each member of the community, as of course it does in other communities.

Raymond LeBoeuf, CEO of PPG Industries, a major employer in the Pittsburgh area, added, "We discovered as a community, both public and private, that health care was chewing into to our total level of resources. Our pie is only so big, and if the health care piece of that pie gets greater and greater, other things will shrink and that does not auger well for Pittsburgh."

The members of PRHI are working together to achieve "the world's best patient outcomes" by continually improving health system performance by identifying and solving problems at the point of patient care. They believe that the many challenges facing health care today—rising costs, overcapacity, frustration among clinicians, shortage of workers, financial distress, malpractice crisis, and lack of access to care—are all symptoms of the same root problem: failure of the system to focus solely on patient needs.

Like SSM Health Care in St. Louis, the Pittsburgh Regional Healthcare Initiative used systems-thinking principles and continual quality improvement methods in order to achieve their needed transformation. PRHI turned to the Toyota Production System.

Paul O'Neill, former U.S. Treasury Secretary and former CEO of PRHI, was previously CEO of Alcoa, where he used Toyota methods to deliver an 800 percent increase in market capitalization while making it one of the safest companies in the world to work for. He emphasized the pioneering quality of PRHI's efforts:

> For me, this is a really an important step, one of many we need to take in Pittsburgh, to demonstrate to the rest of the country and the rest of the world that we don't have to take what we have as a given and accept medication errors and infections that are acquired in the hospital that you didn't bring with you and in being given incorrect procedures that stem from a lack of knowledge or training.

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In light of healthcare statistics across the country, some of their patient-centered goals—zero medication errors, zero hospital-acquired infections, and perfect clinical results as measured by complications, readmissions and other patient outcomes—seem impossible to attain. But they are committed to work toward these goals. This book explains why this pursuit of perfection in health care is inspiring and effective. And, meanwhile, within three months of real-time problem solving in one area of the intensive care unit, the number of hospital-acquired infections was reduced to zero and has remained at zero.

A Spirit of Hope and Optimism

In the following pages, doctors, nurses, aides, and administrators tell how and why these two healthcare systems are getting better at making patients safer and safer.

They talk about their amazement at seeing their own work with new eyes, the satisfaction of learning how to organize things more effectively, their delight at improved medical outcomes and happier patients, and their surprise at how much more they are enjoying their work.

Physicians tell how being fully involved in their hospital's self-healing can give new life to their medical careers. Nurses testify that their hospital's self-healing gives them the chance to be truly nurses again.

Administrators tell how they learned to manage healthcare facilities that are growing healthier and more patient-centered every day.

Instead of describing only the sickness of hospitals and how dangerous they continue to be, this book is meant to inspire hope and optimism. In its chapters the personnel describe in their own words the organizational cure and how hospitals can become patient-centered.

The book is divided into three parts. People from SSM Health Care and PRHI tell, first, about the problems they faced, second, the solutions they found and, third, the path of their improvement.

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It's seeing things differently, seeing through new eyes. I worked here many years, and walking down the hallway I see things today that I didn't see 5, 10, 14 years ago. I think it's because I'm looking at things differently. I'm looking at problems, and when they come up, I have the staff or the nurse find the answer to the problem…. We're now asking the staff to identify the problem and then to come up with the solution.

Tina Danzuso, RN, Ward Director, General Surgery, Shadyside Hospital

CHAPTER 9

WALKING AROUND WITH NEW EYES

Because systems thinking brings about a radical inner transformation, we use metaphors to describe how a person changes as he or she develop these new abilities.

"I (author Clare Crawford-Mason) was a nearsighted little girl. I could read words in a book quite easily, but when the teacher wrote words on the chalkboard, they were a blur. I would get the right answers to the problems I copied off the chalkboard, but I had coped the wrong numbers. Finally, at age eleven I got eyeglasses. I felt like I had received new eyes. And that everything was cleaner and sharper. I could see leaves on trees and read license numbers on cars! Nothing was blurry or fuzzy anymore!"

Learning systems thinking is like getting a new pair of glasses after having been nearsighted all your life.

We keep saying that systems thinking is a new mindset because you learn to use your mind in a way completely different from the ways you have been using it. And this new mindset also changes your eyes—the very way you see and perceive things. It shifts your vision so that you begin to see clearly things that had always been fuzzy, out of focus or you couldn't see before.

It Takes Time

While Clare's eyeglasses changed her vision instantly, developing systems-thinking eyes takes time and training. It's more like learning to read musical notation or to decipher letters in a language like Greek, Hebrew or Russian that doesn't use our familiar alphabet. After guidance and practice, those little dots and squiggles begin to make sense and reveal their meaning. One day you realize you can read music or a foreign language. What had been impossible before has become easy and natural.

That's what happened to the people at PRHI and SSM Health Care when they say they have "new eyes." After training and practice, they learned to recognize

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things that had always been there in the hospital unit but that they could never identify clearly before. The essential act here is to see how work gets done and the patient is cared for through a series of processes. These processes can be described and mapped, which makes improvement possible. This chapter is their story about getting new eyes and being able to see "the leaves on trees."

Later in the chapter, in a section called "Learning How to Use New Eyes," hospital staff explains how they learned to ask questions they never asked before and how those questions helped open their new eyes even wider.

In a story about the necessity for hand washing in hospitals, we see how nurses learned to collect data that, when presented clearly, could bring about major changes in behavior.

The chapter ends with a story about a daily search for missing keys that was solved in a few moments when some new eyes looked at the problem. The new answer saved time, money and helped the patients.

Trying to Explain What Happened to Them

Of the images the doctors and nurses at SSM and PRHI used to describe the new mindset and inner transformation they developed from studying systems thinking, quality management principles, and the Toyota Production System, the easiest to grasp is getting "new eyes." The new mindset had given them, not simply better eyeglasses to see through old eyes, but truly new eyes. While new eyeglasses may help you to see better what you are used to seeing, new eyes help you to see things you never saw before. So, doctors and nurses and even administrators were walking around the hospital with new eyes. Instead of merely seeing how things are done, they began to see how things could be done differently and better. They even began to predict problems that hadn't occurred because they could see them with their new eyes.

Things like "work-arounds" and useless steps that used to be carried out automatically as an expected requirement of their jobs were now seen as errors or problems that needed to be eliminated or at least improved.

> Just getting people to think, "Oh, this could be an error," and looking at any situation with open eyes, and not just adapting to it as they had grown accustomed to in the past. ...Stopping to think, "You know, this could...cause a problem though it's not now."
>
> *Elaine Hatfield, MPM, Clinical Operations Officer*
> *LifeCare Hospitals of Pittsburgh*

> To have eyes that see differently and eyes that see each problem as an opportunity to be solved, and to understand how we can literally solve specific problems and make specific improvements quickly.
>
> *Kenneth Segel, Executive Director'*
> *PRHI*

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That one skill, all in itself, will change the way you think about your work.

Tami Merryman, RN,
Vice President of Patient Care Services, Shadyside Hospital

I see my work environment differently now than I saw it several years ago. And I think it is important for us to understand how our work is being done. It's really the prime consideration, because once we understand that—that the way we do our work affects the outcomes that we have, affects our patients—then we understand that we can measure how well we do our work so that we can make a change in it, then see whether it's better or worse. This is a very powerful concept.

Michael H. Culig, MD, Cardiothoracic Surgeon
West Penn Hospital

Learning How to Recognize Problems

Over the past twenty years here, I have been a direct front-line traditional head nurse, supervisor, and clinical director. I've had hundreds of nurses who have worked for me, and I always thought I did a really good job. I cared about the work environment in which they worked, I understood their problems, and I cared about my patients.

But, you know what? During the past five years, you learn a lot actually working in the shoes of your employee—working beside the person who passes out the linens in the morning, seeing how difficult it is for a nurse when they need to go and get a syringe for a patient out of the medication door and it's not there, or how difficult it may be for the fellow who brings up the supplies who has to get five separate keys to put away dressings. That stuff doesn't make any sense.

But I just assumed that was very normal. I think you kind of get used to it. Until I went and observed minute by minute and followed those different disciplines—who all provide care to the patient, maybe not directly but indirectly—I became more learned, I would say, in understanding. Sometimes we have difficult processes to work in.

Susan Christie Martin, RN, Director,
Nursing Support Services, Shadyside Hospital

There is a sense that part of our work is to work around problems so one of the very early difficulties we had on the learning line was that nurses didn't recognize their problems—that they're the ones who are supposed to say this isn't working or I'm having a problem with that. They had a hard time recognizing a problem because they dealt with it every day by working around it. It

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turned out that what they had to do—the heroic effort to actually get through their day with many work-arounds—they considered that the work of health care.

David Sharbaugh, Director of Quality Improvement,
Shadyside Hospital

Learning How to Use "New Eyes"

Doing observations, measuring and collecting data are all important "new eyes" skills. And they must be learned and practiced. So, developing "new eyes" requires training.

I think that the most important aspect of this way of thinking is to be able to sit back and watch analytically—to *learn* how to watch analytically and to spend the time doing it. That is a skill that, certainly, every physician can develop.

Michael H. Culig, MD, Cardiothoracic Surgeon
West Penn Hospital

It's all about looking. Does the patient get the medicine when they need it? Do they have the right medicine at the closest time? I've been involved in looking at: How do we insure supplies are there? How do we insure that we have time to do the right things for patients?

Deborah Thompson, RN, Quality Trainer,
PRHI

Waste is everywhere. To see it requires a trained eye that is developed over time. But I firmly believe, if there's no other message that gets out to healthcare leadership than this, "Get out of your chair. Get out to your departments and watch what's happening. Because you will be amazed at what you think is happening versus what's really happening." And so, it's the trained eye. Waste is everywhere but you have to know how to look for it.

Tami Merryman, RN, Vice President of Patient Care Services,
Shadyside Hospital

How "New Eyes" help Effect Change

First, with any of these initiatives, you have to go in and understand a current condition—what is actually occurring today. So, we spend a lot of time doing what we call observations—going around, observing nurses, nurse aides, and others—to really understand the work that's being performed on this unit.

Deborah Ruckert, Quality Improvement Director,
Allegheny General Hospital

One of the things that were talked about was improving our hand washing compliance. It's sad to say but in health care today people

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don't wash their hands like they should. I can remember sitting in this room and having several of my esteemed physician colleagues swear up and down, "We all wash our hands. We never not do that. I can't believe anyone would accuse us of such inappropriate behavior." I just sat there and I listened and I said to myself, "Okay. Yeah. Sure. All right." Then we went out and trained the infection-control nurses how to do observations on hand washing. And our first report was that 32 percent of the physicians wash their hands.

It's a different tone in a meeting when you have your esteemed leader saying, "You're all crazy," and when you go back and you say, "Well, you know we just happened to go out and look. We observed 18 physicians and six of them wash their hands." And they can't refute it. They can't say, "Well you know…" Then they get all stammering and stuttering about the real facts as if to say, "Just don't confuse my perceptions with facts, you're screwing me up here."

So, did I ever know the magnitude of those issues without looking? If someone were to say to me, "Do you think everybody in your hospital washes your hands?" I'd say, "No, I don't. I'm not stupid. I wasn't born yesterday." But if they asked me, "How many did wash their hands?" Oh, I'd be guessing.

Now, I don't guess. It's the difference between thinking you know what goes on and really knowing, and knowing where to go to address it.

Tami Merryman, RN, Vice President of Patient Care Services, Shadyside Hospital

Just two weeks ago, we all ended up swarming the lab and swarming the emergency department to say, "What can we do in these areas to make things better? And help them learn the eye." So, it's reinforcement. It's a process of working with them side by side.

Tami Merryman, RN, Vice President of Patient Care Services, Shadyside Hospital

Nurses didn't recognize their problems because they dealt with them every day. And it turned out that what they had to do--the heroic effort to actually get through their day--they considered that the work of health care.

David Sharbaugh, Director of Quality Improvement, Shadyside Hospital

For example, if a nurse goes to get a medication for a patient and the medication isn't there but she knows Mr. Smith in the next bed has that medication, she'll take it from Mr. Smith and give it

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to Mr. Jones and then she'll go call the pharmacy and replace Mr. Smith's medication. We call that a work around.

JoAnn V. Narduzzi, MD, Ph.D., VP of Academic Affairs, Pittsburgh Mercy Health System

Identifying Errors

You have to see the errors before you can eliminate them. You have to accept that they are, in fact, errors. Business as usual has no place in systems thinking.

The pharmacist had about 150 prescriptions that he received during the day, and all but two of them needed follow-up before he could fill them.

In common practice the pharmacist doesn't see that as an error. He sees it as work.

Most people would say the error occurs when the patient gets the wrong medication.

In systems thinking, when a pharmacist has to go back to find out what the intended communication was, that's an error.

Paul O'Neill, Former U.S. Treasury Secretary, Former CEO, PRHI

Ph.D. pharmacists who man phone lines to intervene with the physicians. This is a significant waste of time.

Those pharmacists could be interacting with patients, doing evaluations and histories, doing education, doing those kinds things that enhance patient safety.

So many of the things that happen in a hospital are absolutely pitfalls for medication errors, real medication errors to occur. We just work around them because we've gotten very good at it.

JoAnn V. Narduzzi, MD, Ph.D., VP of Academic Affairs, Pittsburgh Mercy Health System

Unnoticed Errors

Error occurs everywhere, unnoticed, until someone using new eyes notices it. The error could be as simple as a lock and key. We followed nurses minute by minute, shift by shift, for several days and we found a nurse was wasting time looking for a key. And so today each nurse, when he or she comes on the shift, gets her own set of keys. So there's no waste, there's no one running around looking for a key. But most important, the patient is getting what he or she needs right away.

Tina Danzuso, RN, Ward Director, General Surgery, Shadyside Hospital

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Unexpected Savings

The keys save 15 minutes each shift, three shifts a day. Over a year, the hospital saves more than 11 days of nurse time on one ward because of one observation.

> How you learn is simply going, looking and seeing, solving the problem, trying a solution, changing that solution. And if it doesn't work, trying another solution.
>
> *Deborah Thompson, RN, Quality Trainer, PRHI*

It is important to remember that people do not acquire "new eyes" by willing it or wishing it or by reading about it. New vision requires training and reinforcement. You can't simply invite a group of people into a room and ask them to redesign a certain process. Such a group, if they are to succeed in truly improving a process, must have proficiency in several systems-thinking skills, such as how to do observations, how to collect data, how to measure and record results, how to make flowcharts, and how to carry out the Plan-Do-Check-Act (PDCA) cycle.

Also, the people at PRHI and SSM Health Care discovered that "new eyes" were best used in teams and that teams were most successful when they shared data and discoveries, which is the theme of the next chapter.

SOME THINGS TO REMEMBER FROM THIS CHAPTER

- New eyes emerge from seeing the hospital as a system and a new belief that improvements can be made by redesigning how work is done.
- New eyes see the workplace from a different perspective, e.g. Does this help the patient? Could it be simpler?
- New eyes continually see new problems and possibilities for improvement.
- New eyes see formerly unnoticed interactions among people and formerly ignored connections between events.
- When new eyes look at the workplace culture and processes, it provokes questions about tradition and habits.
- New eyes see latent errors.

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