Seeking Perfection in Healthcare

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If you are dreaming about it, you can do it.
– Sensei Chihiro Nakao

We have a dream at Virginia Mason: to transform our organization and, in the process, contribute to the transformation of the healthcare industry. Our dream, and the title of this chapter, "Seeking Perfection in Healthcare," are audacious statements, I realize. There is no perfection in human affairs, after all. And to declare that we think we can play a vital role in the transformation of the entire industry, well, it sounds very bold, to say the least.

But boldness is necessary. The need for transformational change in healthcare is abundantly clear. The time is now. At Virginia Mason, we are very much engaged in this work. But it is a work in progress. In this article, I want to share some of what I've learned as a leader on that journey.

About Virginia Mason

Virginia Mason is one of a small group of clinics that was formed between approximately 1916 and 1925. Our founders came from the Mayo Clinic and the University of Virginia

to Seattle and formed the first group practice in the Pacific Northwest. Our roots in the physician group practice model have informed everything we do.

The founders soon built a hospital, and the organization has grown steadily ever since. Today we are a not-for-profit, integrated healthcare system. We have a 336-bed hospital and nine locations including the main campus and regional centers, more than 450 physicians and over 5,000 employees.

We are a teaching institution with a robust graduate medical education program and a world-class research center. Many of our physicians came from university settings and from institutions such as the National Institutes of Health. They want to take care of patients – first and foremost – but they also want to continue to teach and do research. We have about 110 of our own residents, and we have a basic science and clinical research program as well.

The situation in healthcare when I became chief executive officer (CEO) in 2000 was much the same as it is today: too many defects and errors, too expensive and unavailable to too many. The healthcare industry has a defect rate of 3% or more, a rate unacceptable in any other industry. Defects range from appointment scheduling errors to wrong-site surgery. Of course, when a defect happens to me or a family member, the defect rate climbs to 100%. We don't care that the other 97% of patients got defect-free care. Zero is the only acceptable rate of defects. Perfect care must be our goal.

Defects have a high human cost (more on this later), and they also have a huge business cost. For example, a study in 2000 showed that six preventable inpatient complications cost $9 billion annually. That's just the tip of the iceberg.

In general, the cost of our healthcare system is an embarrassment, and it's unsustainable. There is enough money in the system already; it is just being used poorly. If we improve quality and eliminate defects, we will be able to provide healthcare to everyone in the United States.

Another issue driving the need for the transformation of healthcare is that doctors, nurses and others are tired of working in a system that is unreliable and makes it hard to do the best for their patients. Physicians are retiring in their 50s. The average age of inpatient nurses in our community is 48. These are workforce supply problems just waiting to happen. We have to change what it means to work in healthcare, and reduce the burden on our people.

Who Is the Customer?

I report to the Virginia Mason Health System Board that holds Virginia Mason in trust for the community. In 2000 and 2001, the board led a strategic planning process for

the organization. The first thing they asked was, "Who's the customer?" Well, of course, our answer was, "It's the patient." The board told us to take a closer look.

So we did. We performed a deep dive on our processes, and we found out that most of them were designed around us, not the patient. If you think about it, what are waiting rooms but places for patients to hurry up, be on time and then wait for us? What happens in most hospitals on Saturdays and Sundays? Patients wait for Monday so that things can get done.

The more we probed, the more we realized that the patient did not come first. I emphasize this point, because it is our true north and basic to everything we have done in the years since.

The result of the planning process was the "strategic plan pyramid" pictured in Figure 1. The patient is at the top, and we've declared that our vision is to be the *quality leader* and to transform healthcare. We realized that if we could prove we are the quality leader – which we cannot, yet – why would anybody want to go anywhere else or work anywhere else in our community?

The original plan had no unified base to help us execute our vision. And that is the point where we learned from our friends at Boeing about the Toyota Production System. Boeing had been using it for seven years by that time. We were intrigued. Could this approach possibly be applied to healthcare? After a great deal of discussion and consultation, we decided it could. Our version of Toyota's system – the Virginia Mason Production System – became our management system and foundation of all our improvement work and of our strategic plan.

We Change or We Die

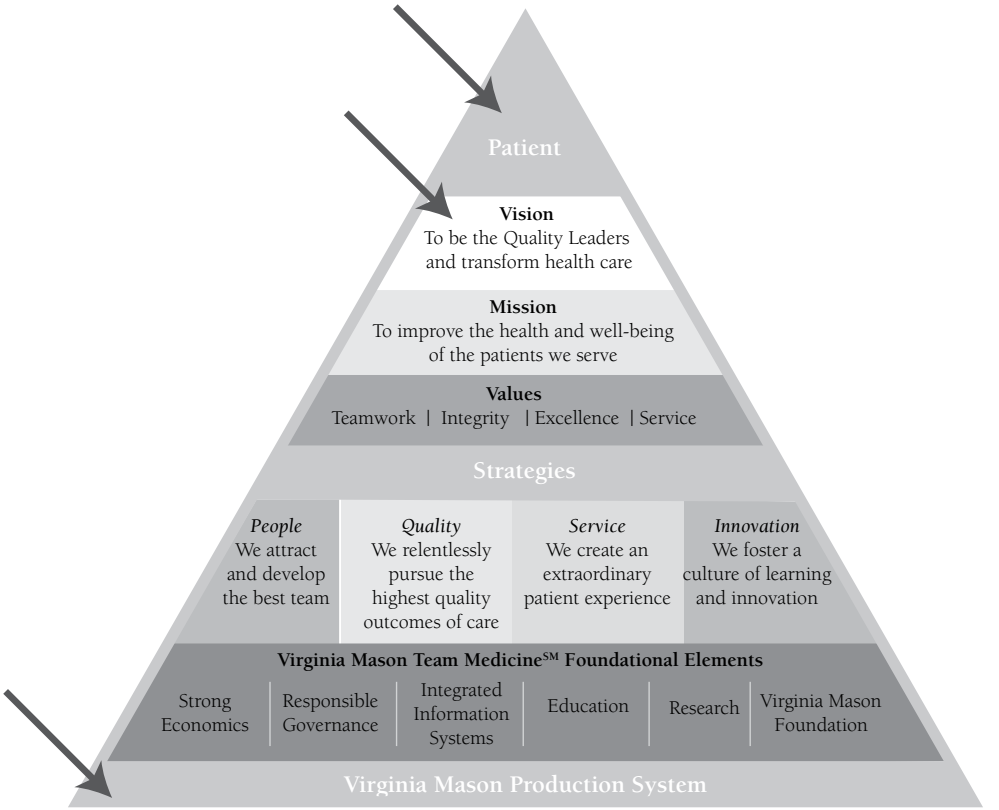
About seven months after I was elected chairman, I stood up at a professional staff meeting and said, "We change or we die." I had been in leadership for quite a while and knew that we had a thin balance sheet, that we did not have a billion-dollar endowment and that the future was not particularly bright for this storied, very prestigious healthcare system. My statement got the attention of the physicians in attendance. Some reacted with, "Oh my God, what's happening?"" A few said, "Finally, somebody who's willing to tell us the truth."

That was the beginning of major change at Virginia Mason, of a journey now almost eight years in the making. The lesson for me has been that leadership is all about leading change. But even when change is crucial, it isn't easy. Several factors contribute to the complexity:

- The culture of healthcare doesn't foster teamwork and collaboration. The doctor culture and, to a lesser extent, the nurse culture encourage independent decision-

making and action, tendencies that make collaboration and standard work much more difficult. The culture is entrenched.
- We lack a shared vision. We should be a symphony and not a collection of solo performers. Have we taken the time to actually agree on where we're going together?
- Often, misaligned expectations are a problem. A doctor or nurse or other staff member realizes that the organization, the culture, the work, is not what they signed up for. There is, thus, a disconnect.
- There is a lack of urgency. Leaders must feel a keen sense of urgency … if you don't have it, how can you possibly lead change? Wedded to a sense of urgency, of course, must be competence and effectiveness as leaders.

Figure 1. The strategic plan pyramid



Retracing Our Steps with John Kotter

I have become a student of John Kotter. His books, *Leading Change* (Kotter 1996) and *The Heart of Change* (Kotter and Cohen 2002), are among the best books about leading change that I know. Our entire leadership team has read Kotter, but we didn't go out and try to "do" Kotter. Instead, as I look back, I see that much of what we've done

fits nicely into the framework he defines. Kotter's eight steps for successful large-scale change are as follows:

1. Increase urgency.
2. Build the guiding team.
3. Get the vision right.
4. Communicate for buy-in.
5. Empower action.
6. Create short-term wins.
7. Don't let up.
8. Make change stick.

Increase Urgency

The Institute of Medicine report of 1999, *To Err Is Human*, revealed the astounding number of preventable errors in our system and was a huge, early accelerant to our feeling that change was urgently needed. My personal sense of urgency was heightened one day in 2003 when I picked up the *New York Times Magazine* and the cover said, "Half of What Doctors Know Is Wrong" (Burton 2003). That didn't feel very good. It felt even worse when patients brought it with them to their clinic appointments the next day and asked me which half I knew.

When we were two and a half years into this journey, a patient named Mary McClinton came to us for a tertiary procedure, one we do every single day at Virginia Mason. We failed her. She died of a preventable error. It was the deepest, darkest time in my career and in our organization's history. As soon as we found out what happened, we told our staff and then went public with the news. We received the kind of furious criticism you would expect, which we deserved. In addition to the Seattle-area media, the story was carried by Good Morning America and Reuters picked it up. I got e-mails from people in France.

Interestingly, we learned that two years earlier, the same mistake had occurred in another hospital in the Seattle community, but it had been kept quiet. That made it clear to us that we had done the right thing by admitting our mistake publicly.

Build the Guiding Team

After we had learned some details about the Toyota Production System from Boeing, done some reading and engaged in some workshops around a few simple things – things we *thought* were simple, such as standardizing laparoscopic cholecystectomy trays – we believed we'd found something valuable. Leaders from Boeing advised us to go to Japan. We decided that all our senior leaders at Virginia Mason would be required to come with us. All senior physician leaders and every vice-president participated in that very first journey to Japan.

Even though I hadn't been to Japan before, I had an idea about what we were going to see and felt fairly confident it would be a worthwhile experience. Still, it was a bit of a gamble. The risks became clear when, a week before we were to leave, the *Seattle Times* front page said something like, "Doctors Lead Boondoggle to Japan." Some of our doctors stood up in large meetings and asked, "Are you out of your mind? We take care of people; we don't build cars." We went anyway.

An important part of building the guiding team took place during that trip. The chairman of our board's Finance Committee (later to become board chair) was on the trip, and that really helped us begin to ensure alignment with the board. This was crucial because as a not-for-profit organization, we are held in trust for the community by our community board members. We needed the board's enthusiastic support to make meaningful change.

When we came home from that trip, we were convinced that this was the management system – not the quality improvement system, but the management system – for Virginia Mason. We realized that even though we are in a very special industry, we do actually build and make things. We make office visits; we make surgical procedures; we make inpatient stays. We understood that making things is an aggregation of processes that constitute our products and our services.

Get the Vision Right

Our vision is to be the *quality leader*. Well, what do we actually mean by quality?

$$Q = A \times \frac{(O + S)}{W}$$

where Q = quality, A = appropriateness, O = outcomes, S = service and W = waste. This is our Virginia Mason quality equation, and it describes our broad concept of quality at Virginia Mason.

We previously had what we could call our value equation, and the W in the denominator was a C for cost. We have come to realize that if we focus just on eliminating cost, more often than not, we're reducing quality. What we've learned is that if we reduce cost by reducing waste, which is what the Virginia Mason Production System is all about, we actually improve quality.

Another critical component of the equation is appropriateness. We can do the best surgical procedure, we can have a great outcome, we can delight the patient and the family with great service and we can even do it efficiently with no waste. But if the patient didn't need the procedure to begin with, there is no quality. We know that this happens all too often.

Communicate for Buy-In

Long before we began our work with the Toyota system, we knew we needed to change the way we communicate. The most important change was that we needed to actually tell the truth and shine a bright light on quality, safety, our processes, economics, costs and behavior. We needed to have honest conversations and really understand what transparency means, not just pay lip service to the concept. We began to figure out how to do that.

A large part of communicating for buy-in is making expectations explicit, both for the organization and the staff. Jack Silversin, co-founder of Amicus, a group that helps lead physicians through change, helped us get a clear understanding and articulation of what the deal had been between physicians and Virginia Mason. (Jack Silversin, DMD, DrPH, holds a doctorate in public health from Harvard University and serves as a member of the Faculty of Medicine in the School of Dental Medicine. He is a nationally recognized speaker on physician culture and change in physician organizations, and is a frequent speaker at Institute for Healthcare Improvement, American Medical Group Association and Medical Group Management Association meetings.) The arrangement was quite typical of most group practices, and it was a really sweet deal. It was the agreement I appreciated when I joined Virginia Mason and that most physicians have sought for a long time.

This compact provided protection, autonomy, entitlement and a physician-centered world view at work. The organization has contracts with insurance companies, and it has patients for physicians to care for. Administrators and business managers shield the physicians from the business side of medicine, and we physicians have been autonomous professionals: "I'm a doctor. I can do whatever I want, whenever I want as I know what's best for my patients." It is a sweet deal, but it no longer works. It doesn't fit with evidence-based practice, guidelines and pathways, collaboration, teamwork or eliminating defects.

We knew the compact had to change. We had a physician retreat in the fall of 2000, and I appointed a group of front-line physicians, led by a front-line physician, not a leader, and we came out of this retreat saying we want and need a new arrangement. Developing a new compact was an 18-month process. There were in-depth, honest conversations with every specialty group and every section in the entire institution. And what emerged was a new compact, the Virginia Mason Physician Compact.

A compact is not an employment contract. It's not a job description for doctors. A compact is a reciprocal agreement. What does every physician have every right to expect from the organization, and what does the organization have every right to expect from its doctors? Every doctor should expect opportunities for constructive dialogue, information regarding strategic intent and opportunities for input. They can expect support for research and education. On the other hand, the organization can expect doctors to treat all members of the team with respect. Some felt this was a no-brainer and didn't need to be in the compact, but examples of actual behavior made it clear that it had to be included. Another impor-

tant expectation: that doctors will implement Virginia Mason–accepted clinical standards of care. That is, if we've agreed as a physician group that this is the best practice, we're going to deliver it every time to every patient. This is foundational to our system.

We made the compact part of physician orientation. We put it into our job descriptions. We included it in our performance management system. When physicians express interest in a job at Virginia Mason, they get a letter from me and a copy of our compact. We want them to know what is expected of the organization and of them.

Not long after we had agreed to the physician compact, our leaders and our community board asked to have compacts as well. So now we have a compact for everybody who supervises people, from the CEO down to the front-line supervisor, including physician department chairs and section heads. We now also have a board compact that defines reciprocal expectations.

Empower Action

At the core of making change is taking action. One of the main methods we use to empower action under the Virginia Mason Production System is one of the basic tools of the Toyota system: the rapid cycle workshop. We call them rapid process improvement workshops, or RPIWs. They are four-and-a-half-day events in which the people closest to the work redesign the work. There is a process owner and an executive sponsor who makes sure the work is aligned to support our organizational goals, but the redesign, testing and implementation are powered by the people who actually do the work. This often includes receptionists, medical assistants, nurses and doctors.

Some departments felt they didn't need to participate in the Virginia Mason Production System because they already knew how to do their work efficiently and didn't take care of patients. I said, "Wrong." All areas of the organization are involved in this change work, and we have now conducted more than 500 RPIWs.

Probably the most powerful tool we brought back from Japan is pictured in Figure 2. This photo shows a Prius on an assembly line at a plant where they manufacture 1,050 cars a day. Every 58 seconds a car is driven off the assembly line, and every 58 seconds a car enters this worker's workstation and he does whatever it is he does. But if he can't get his task done because a part's missing, something's loose or there's a defect, he pulls the cord marked with arrows, and the line slows down. If he still can't do it, he pulls the cord again and the whole assembly line stops. Think about that – 350 workers, every single one of whom is empowered to stop the assembly line and shut down the factory. Then all the supervisors converge on the site and fix the problem before it's passed on downstream. In conventional manufacturing, they keep the line going and inspect the products afterward. If there's a problem, they send it upstream and fix it; but how many defective products are made in the meantime?

Figure 2. Stopping the line

The way we do it in healthcare is even worse. We have retrospective quality assurance. We even call it that. Two months after the fact we will do a retrospective quality audit or chart review, for example, and find that we should have done something differently – two months ago. Meanwhile, how many more people have been harmed?

We wanted to have real-time quality assurance at Virginia Mason, so we put in place our patient safety alert system. We said that every single staff member is a patient safety inspector and is empowered to stop any process or situation that might cause harm to a patient. To date, we've had more than 11,600 patient safety alerts. The commitment is that senior leadership will respond 24 hours a day, seven days a week, to begin the root-cause analysis and decide if we should take people or a process off line in order to stabilize the process. This is very powerful, and empowers action.

Create Short-Term Wins

We have achieved significant results over the past eight years in terms of quality, safety and economic improvement. However, since this book is about leadership, I will continue to focus on that and not delineate in detail our results that have impacted our entire medical center.

Don't Let Up

We know that the hardest part of making sustainable changes is perseverance because there is resistance, both overt and passive, and even periods where you seem to be going backward. At many junctures, it takes managerial courage to keep at it. We are constantly tested, even today, but we're way past the tipping point in our organization.

Patients and staff are counting on us now. If we were to falter, slow down or go backwards, it would be seen as a huge failure by our own people.

Skeptics can become champions. I invited a surgeon who headed one of our residency programs to join us in Japan. He said no, twice. He heard other physicians' candid views of their experiences in Japan and, finally, he came to me in 2005 and asked to go. Now he's one of our biggest champions. He's out there talking about how great things can be if we follow this system.

One very instructive example of not letting up – and a test of our commitment to put the patient first – was mandatory influenza vaccination for all of our staff. This came out of an RPIW where a medical assistant asked why we didn't require flu vaccinations when it is known that 50% of people with flu have no symptoms and are shedding the virus. Employees are thus almost certainly exposing very ill patients to influenza. She was right, and we decided that anyone who works at Virginia Mason must be vaccinated against the flu.

This was easier said than done. Many employees protested the requirement. The nursing union took us to court, maintaining that we had to bargain the requirement, and we lost. We responded that those who didn't get a vaccination had to wear a mask during flu season. The union took us to court again, and we won. The judge said the institution's priority was protecting patients. Today, we have a 99%+ flu vaccination rate, although a few represented nurses wear masks and a few people have had to leave the organization because of their unwillingness to get a flu shot.

Make Changes Stick

This journey is not about my tenure or the tenure of our senior team at Virginia Mason. It's about building deep organizational capacity for change and leadership, and managing through the Virginia Mason Production System. Every single one of our staff – all 5,000 people – is trained in the fundamentals of the system.

Toyota's employees come up with 600,000 improvement ideas a year, and they implement 95% of them. Toyota pays $5–$2,000 an idea, depending on its impact. We established a similar program and are now getting 300–400 ideas a year. This program is not just a "suggestion box." These ideas are fully worked up before they are submitted.

We offer management courses focused on the Virginia Mason Production System for leaders. We train and certify or send to Japan more than 100 leaders a year. We select the cream of the crop, future senior leaders, to undertake a rigorous 18-month program – in addition to their day jobs – to earn a Kaizen fellowship. As part of their work, they do additional in-depth learning at Virginia Mason, they return to Japan and they study at leading Lean companies around the world.

Additionally, we have approximately 150 certified leaders in the Virginia Mason Production System who head up workshops. They are in every unit so that it doesn't require an organizationally sanctioned improvement event to make the Virginia Mason Production System part of daily work life.

We also have 40 people working full time in our Kaizen Promotion Office. This is 40 people whose sole job is to support line management in implementing Kaizen and the Virginia Mason Production System. World-class Lean companies have between 1 and 5% of their workforce in such activities, so we should have between 50 and 250.

Nothing continues for long without alignment. Every Tuesday morning, the leaders of the Kaizen Promotion Office report to me on the previous week's work, this week's work and the barriers they have encountered. As you can see from the photograph in Figure 3, we literally just stand up in a hallway. The entire meeting lasts 30 minutes. All executives and all department chairs are required to be there from 7:00 to 7:30 a.m., and we use the last five minutes for constructive, educational or aligning discussion. This really helps us stay in tune with the organizational goals and with each other.

Accountability is a crucial part of making the changes stick. We have linked our goals to a portion of compensation for executives, physicians, administrators and middle managers. We have created team-based incentives and interwoven them with these accountabilities.

The most common cause of leadership failure is treating an adaptive problem with a technical fix.
– Ronald Heifetz, *Leadership without Easy Answers*

Figure 3. Tuesday morning meetings with the leaders of the Kaizen Promotion Office

The Virginia Mason Production System is a set of tools, but it's also a way of life and of thinking. You have to keep in mind that Lean is a toolbox – it's a technical fix. But without transforming the way you think, you can't really make changes stick.

Heifetz (1994) says that technical changes are well defined and can be implemented, and you can look up the answer. But usually that isn't enough. All changes involve people, and to adapt behavior you need to change the way people think, transform habits and begin to adjust culture. You have to recognize that loss is part of change and that giving up something from the past is part of moving forward. We have approached our transformational work as both an adaptive and a technical change.

A good example of this is the computerized provider order entry system we put in place five years ago. This system was a great advance, but we recognized that there was also a huge adaptive behavioral component. You can teach people to use the new order entry system; but unless they integrate it into their work flows, efficiency will deteriorate and quality will go down as well.

Heifetz also teaches us to recognize that there is a productive range of distress that leaders can create. Some leaders are uncomfortable with any distress, but without it, you will not get change. People have to be uncomfortable (you could call it a sense of urgency) before they are willing to make important changes. Helping people to see the waste in their work makes them uncomfortable. Sometimes to do that you have to turn up the heat, but you have to make adjustments too because there is only so much change that any individual or any team can tolerate. So one of the things I've learned over time, and that I'm still learning, is knowing when to turn the heat up or down to keep people in the productive zone.

> *Leadership now is the ability to step outside the culture that created the leader to start the evolutionary change.*
> – Edgar Schein, *Organizational Culture and Leadership*

As I look back over the past nine years, I realize that I have stepped out of my culture, although I didn't know I was doing it at the time. I had to step outside the culture that, in a sense, created me. I grew up in the Virginia Mason system. I've been at Virginia Mason for 31 years. I was an intern there, and so I was heavily enculturated and my mentors and faculty were often the people whom I needed to help me change Virginia Mason. Seeing things from an outside vantage point is crucial to success as a leader.

Fair Process

Fair process is critical to success in leading change. You must engage people fully in making changes that affect them, but that does not mean handing over control or decision-making authority. We are clear that making decisions will:

- *not* be an endless process,
- *not* mean decision by consensus and
- *not* mean getting agreement through compromise.

Everyone involved and affected should understand the rationale for any final decision, and when a decision means new "rules of the game," they should be clearly articulated.

Fair process is based on the idea that people will do things they previously didn't want to do if they feel that there has been fairness in arriving at the decisions.

Effective Sponsorship

As senior leaders, we have to understand what success looks like and have a vision. We have to set stretch goals. We have to make sure we're providing resources and tearing down the barriers to success. We have to get comfortable with failing forward fast. Failing is good; it means you are trying things. If one thing doesn't work, we try something else. And we have to celebrate the wins.

Genchi Genbutsu

Genchi genbutsu means "go and see for yourself." Traditionally, leaders spend most of their time in their offices, meetings and conference rooms, looking at spreadsheets. I now spend 20 minutes in my office with my direct reports, and then I go somewhere – to the laboratory, the operating room, the critical care unit, the clinic – because that's where it's happening. Go and see for yourself. And don't go out there as the boss who knows everything. Because you don't. It's okay to be vulnerable. It's okay to show you don't know something. It's okay to express emotion. Using the concept of genchi genbutsu, we are able to truly change the way we manage.

Leading change is a long journey. Figure 4 show the stages of the journey from point to line to plane to spatial improvements. We've been on this road over eight years, but world-class Lean companies say it takes 20 years to transform.

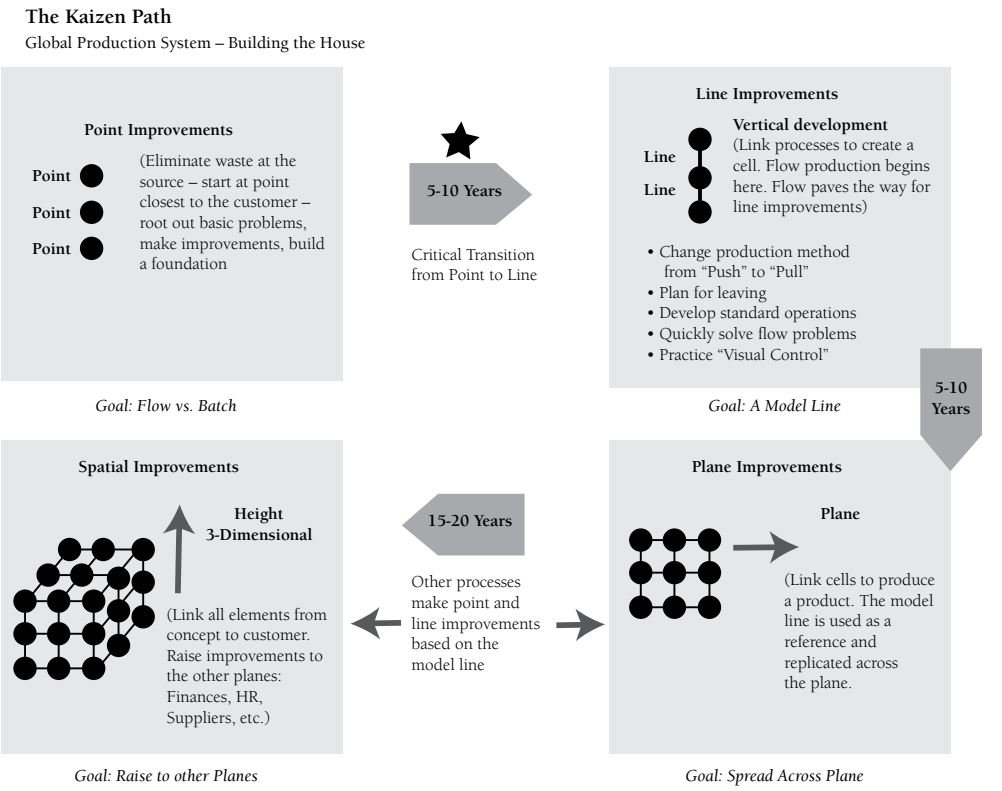
Requirements for Transformation

Figure 5 illustrates a model that I have worked on with Jack Sliversin and Mary Jane Kornacki at Amicus. Executives need a method to address the technical and adaptive or human dimensions of change. The Toyota production system has been such a model for us. To make meaningful changes you need a critical mass of people. This doesn't mean 51%, but it does means enough of the *right* people – the opinion leaders. You need physician leaders who can change from being advocates to sponsors. You need a shared vision and clear expectations set out in a compact.

Many times over the past eight years, I have been asked why we are using the Toyota system. After all, people say, Virginia Mason doesn't make cars. In 2005, one of our

senior surgeons and I were walking out of Toyota when he said: "I didn't want to come on this trip. You told me I had to if I wanted to be a leader. You know what? People are not cars … they're just 85% like cars. And if we can be 10% as good as Toyota, we'll be the best in the world."

Figure 4. The long journey of leading change

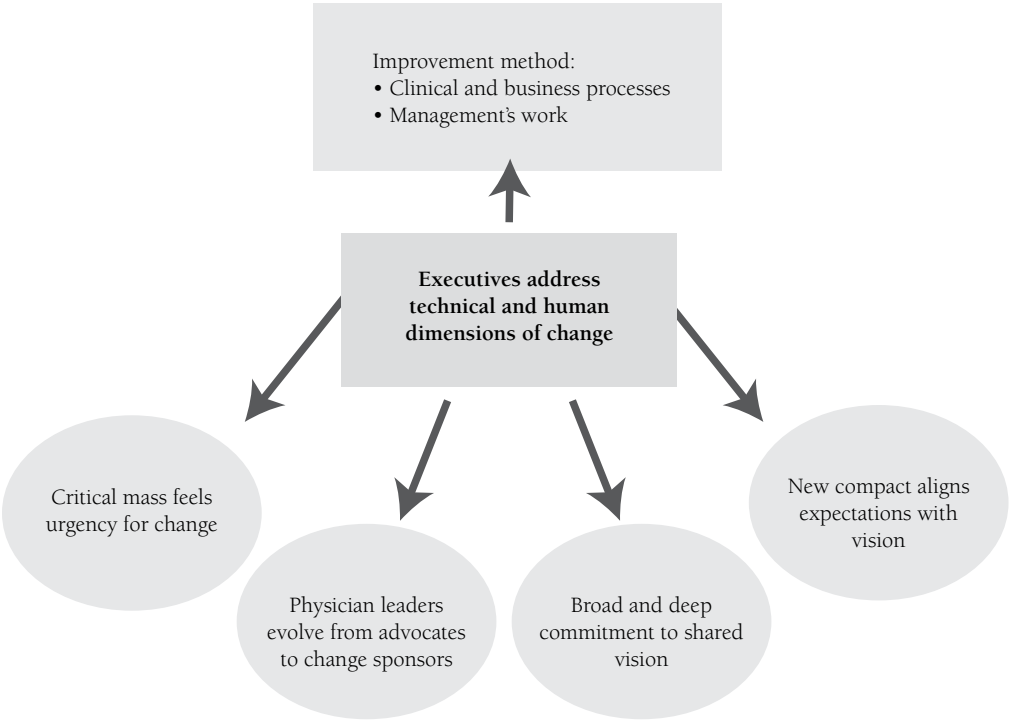


HR = human resources.
Source: Reproduced with permission from John Black and Associates LLC.

When we remove waste, we're not making people walk faster and work faster. Taking out waste is about giving people time to do the kind of work that brought them into healthcare in the first place. If you eliminate all of the non-value-added variation, a.k.a. waste, you create more time. More time for patients, more time with family, more time with colleagues for academic pursuits. That's what this work has been about.

For me, as a leader, this work has also been about hope. As Napoleon said, "Leaders are dealers in hope."

Figure 5. Model for addressing technical and human dimensions of change



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Kotter, J. and D.S. Cohen. 2002. *The Heart of Change.* Watertown, MA: Harvard Business School Press.

Gary S. Kaplan *is prepared as an internist. He has led the members of his organization in the development of a new way of thinking about their work and their relationships with each other as they do the work and hold one another accountable. We invited him to present because he has been able to open up a new way of thinking and working at Virginia Mason in Seattle.*