LEADERSHIP INTERVIEW SERIES

Interview with Gary Kaplan

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Gary Kaplan became Chairman and CEO of Virginia Mason Medical Center (VMMC) in February 2000, which he describes as a “challenging time for the organization”. Finances were rocky, and physicians and staff were uneasy about the organization’s future. Six years later VMMC is financially stable, on the cutting edge of clinical innovation, and is often cited as a national leader in quality and safety (see table 1 for a snapshot of results).

INTERVIEW

JR: As you look back at your 6 years at the helm of VM, what are you most proud of?

GK: I think I’m most proud of the work of our teams every day to execute our strategic plan. That plan is all about putting the patient first and quality is the cornerstone of our entire strategic plan, not just one part of the plan. I’m proud that we’ve adopted a clear, simple vision—to be the quality leader—and, furthermore, that we’ve embraced a powerful method for getting to that vision—Lean Production, or the Toyota Production System. We call our method the Virginia Mason Production System (VMPS).

JR: When I talk with other healthcare leaders they often express amazement at the complete commitment you appear to have made to Lean. How did you come to bet the farm on this method?

GK: As we developed our vision and strategic plan, it became clear that our vision, goals, and organizational aspirations were very challenging. It was particularly daunting given the magnitude of change necessary to truly make a substantive difference for our patients in terms of quality and safety while simultaneously re-establishing economic stability. We looked around in health care and didn’t see anyone who seemed to have the answers and specifically a management method that was working. As Mike Rona (VMMC President) and I were beginning to develop our possible approaches to moving forward, Mike happened to sit next to John Black (Lean consultant who led this work at Boeing for many years) on an airplane and listened to John talk about the power of the Toyota Production System. Mike returned and said: “We’ve got to look into this”, and so we did. We read some books that John Black recommended, visited with Boeing, and arranged an all day retreat with our executive team. Leaders from several manufacturing companies that had undergone so-called Lean transformations joined us by audio conference. We then took our executive team to spend some time at the Wiremold Company in Hartford, Connecticut. We liked what we saw and learned and it seemed to have direct applicability to our issues in health care. And so, after some dialogue, learning, and reflection, we simply jumped in. It was clear that there were no easy answers and that no organization or individual seemed to have a better idea.

In June 2002 we made our first trip to Japan—35 of us including members of our Board and our entire senior leadership team—for 2 weeks of improvement work on the factory floor, learning hands-on about the Toyota Production System. We told our executive team including our

Department Chairs and Vice Presidents: “If you want to be a leader at VMMC you have to come on this trip”. Not only did we expect executives to take that first trip with us, we also expected them to go on learning and to become certified at a very high level of knowledge about Lean and its application at VMMC via the VMPS. Each executive is expected to teach and lead this work and this has become very much the way we manage our organization. This has taken some of our leaders well out of their “comfort zones” and has meant that there have been some changes in leadership and management at all levels of the organization.

Over the subsequent 4 years we’ve taken approximately 150 to Japan including leadership, management, physicians, nurses, and frontline staff. All of our staff are required to take the introduction to the VMPS course and over 1200 staff members have participated in rapid process improvement workshops and other hands-on learning about Lean Production.

JR: Is “Lean” the key?

GK: Lean is a powerful method and speaks to us, but I think as important as the method is seriously adopting and committing to a method. We have applied this method with rigor, and worked hard to ensure alignment throughout our organization. This has required in-depth training and leadership constancy over several years. All too often the tendency has been to dabble in different methods such as a little Lean, a little Six Sigma, or whatever the flavor of the month might be.

And while Lean is really good stuff, and very intellectually appealing, it’s not enough for us to make the intellectual case. To really make lasting change we also have to appeal to their hearts, and so we’ve needed to combine the logic and intellectual power of Lean with a compelling vision, conveyed with real passion for our patients. Our best leaders can reach both the hearts and minds of our people.

Table 1 A sample of Virginia Mason Medical Center (VMMC) quality and safety results

	Baseline	Results at January 2006
Patient safety alerts (3583 total)	3 per month	251 per month
Avoidable codes	45% of codes	14% of codes
AMI perfect care score	83%	96%
Central line perfect care score	0%	61%
Safe medication ordering	33%	3%
defect rate		
Ventilator pneumonias per year	40	2
Added cost of ventilator associated pneumonias	\$1.6 million	\$0.1 million
GI endoscopy flow		
Net margin per room	\$620 000	\$916 375
Patient access		Improved 50%
Added rooms		Zero (\$2 million capital avoidance)
Net increase in margin		\$2.1 million

See Appendix for operational definitions of measures.

JR: You said that quality and safety form the cornerstone of your strategy. Do you have specific strategic aims? If so, who sets them? Who is responsible for achieving them?

GK: Our Board has adopted a specific set of aims around safety and holds our executive leadership and me accountable for achieving these aims. We are expected by our Board to “ensure the safety of our patients” and to “prevent avoidable death and injury”. But they didn’t stop with those overarching headlines. The Board expects us to achieve specific goals in some 15 areas in four major categories (see box 1).

JR: Aims and plans are great, but how do you execute them?

GK: We manage our safety initiatives with the same process that we use for our financial and other business aims. We map out detailed project management plans for each of the safety initiatives and assign responsibility for each initiative to key members of the executive team. We review the progress every month using detailed measures. Mike Rona our President and I go over the initiatives in our 1:1 meetings with senior executives. They’re part of our performance evaluation and variable incentive compensation targets as well.

In other words, we watch the progress on each of these initiatives very closely. If we aren’t tracking with the project management timetable on any of them, we have a very serious discussion right away and revise our approach or improve our execution, or both.

JR: You clearly pay close attention to these quality and safety numbers. What other numbers do you watch closely?

GK: Naturally, we watch financial indicators such as volume, LOS, clinic visits, revenue, labor costs, etc. But an increasingly important operational and quality indicator for us is “lead time”—for a hospital admission, for example, this is the total time between the decision to admit the patient and the time when the payment for the admission is posted. It turns out to be one of the keys to everything else—financial performance,

customer satisfaction, and quality of care. We reduce lead time by taking out the waste, by eliminating non-value added variation. The result is better quality, safety and efficiency.

JR: When you started down this road, you must have had a lot of sceptics inside the organization. How did you send the signal that you really meant it?

GK: Well, one signal was the communication to our managers, Board, and physician leaders where we said: “This is the way we’re going to run this organization. You will get an opportunity to learn these methods, participate in this important work and help us lead. You will also have choices to make and we recognize that some will choose to no longer be a leader in the organization.” That was a very serious signal. Of course, it continues to be a work in progress.

Another kind of signal has been in the day-to-day implementation of the method. Let me give you an example. We liked Toyota’s practice of allowing workers to “stop the line” when they noticed a quality defect that would otherwise be passed on down to later stages of production. We translated that into something we call “Patient Safety Alerts” or PSAs. Anyone can call a PSA if they notice a safety defect or a potential defect—and it triggers an immediate root cause analysis and response by senior management. I, as CEO, and Mike Rona our President are immediately notified of every PSA and are ultimately accountable to make sure that the response is quick and real.

JR: Describe a typical Patient Safety Alert.

GK: For instance, let’s say a physician dismisses a nurse’s concerns when she calls him in the middle of the night about a patient problem. The nurse feels that the patient’s care is being jeopardized. She can call a PSA right then, at 2 a.m. A management response team will immediately classify the alert into one of two categories of severity, will do an analysis of the alert, and will take action to mitigate the problem in real time. I will be notified of the alert and, if it isn’t resolved promptly (i.e. it remains “open”), we might need to take some additional action.

JR: So the sceptics know you’re serious but they might still be sceptical about the method. I mean, this is an *industrial* quality approach—

GK: Yes, we’ve been constantly tested over 5 years on issues like “standard work” (a core principle of the Toyota Production System). We do a fair amount of graduate medical education here, and a common objection to Lean is framed this way: “Our residents think that standard work is all about decreasing their creativity”. But we’ve persisted, and have been able to show time and time again that standard work improves quality, reduces safety hazards, and frees up time for the house staff to take better care of their patients and actually use their creativity. The results are starting to speak for themselves.

JR: We’re facing a cost crisis in health care, in part because of what Jack Wennberg and Elliot Fisher have termed “supply driven demand” or “overuse”. Are you using Lean to take on overuse as a form of *muda*? If so, what do you say to hospital leaders whose hospitals are making most of their margins on overused services?

GK: We’re taking a two-tracked approach to the serious problem of overuse. Internally, we’re chartering teams to go out and remove overuse—services that cannot possibly be helpful and simply add cost and risk. For example, 80–90% of people in many parts of the country who have back pain for more than 10 days get an MRI! We have said to ourselves, “Let’s be honest about this. These MRIs are just not helpful, might lead to harm, and while they increase our margins, they add enormous cost to the customer.” So we have a team working on making dramatic reductions in the use of MRI for routine low back pain, as well as many other similar examples of overuse.

Box 1 VMMC organizational goals, 2006

Ensure the Safety of our Patients Eliminate Avoidable Death and Injury

- Zero avoidable deaths.
- Zero failures to follow specified critical safety policies:
 - Patient ID;
 - Procedural pause;
 - Solutions/medication labeling;
 - MD response to calls;
 - Patient summary list;
 - Critical results reporting;
 - Clinical hand-off communication.
- 100% performance with clinical care “bundles”:
 - Acute myocardial infarction (heart attack) (“AMI”);
 - Congestive heart failure (“CHF”);
 - Stroke;
 - Central line (“CL”);
 - Ventilator associated pneumonia (“VAP”);
 - Surgical site infection (“SSI”).
- Zero adverse drug events:
 - Medication reconciliation.

The other track we're taking on this is external. We are asking the payers to help us make these changes. In the case of MRI, for example, we've asked that the payers give us a significant increase in the rates of payment for physical therapy, and we'll return that investment many-fold by eliminating the *muda* of unnecessary MRIs.

What do I say to healthcare leaders who just want this unpleasant problem of overuse to go away? I tell them that the public is wising up on this issue, and that it *won't* go away. I suggest that they tell themselves the truth. Our healthcare system is full of waste and overuse. If they lower the water level, they will see the waste that has been covered up by payment models that have rewarded us for providing useless services—*muda*. And once they see the *muda*, and if they're honest with themselves, responsible leaders have to do something about it. The present system is unsustainable.

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APPENDIX

OPERATIONAL DEFINITIONS OF MEASURES

An avoidable code: Inpatient code (code: Patients requiring cardiopulmonary resuscitation or intubation) which, after

review by physician, was determined to be potentially avoidable with earlier intervention (e.g. MET team call).

AMI bundle: Percentage of patients with acute myocardial infarction (AMI) who receive all seven evidence based interventions as defined by the IHI and JCAHO.

Central line bundle: Eligible patients for whom all elements of the central line bundle are documented and in place. The central line bundle elements include: (1) hand hygiene; (2) maximal barrier precautions upon insertion; (3) chlorhexidine skin antisepsis; (4) optimal catheter site selection with the subclavian vein as the preferred site for non-tunneled catheters in patients 18 years and older; (5) daily review of line necessity with prompt removal of unnecessary lines; (6) ultrasound guidance of line insertion. Note: This is an "all or nothing" indicator. If any of the elements are not documented, do not count the patient in the numerator. If a bundle element is contraindicated for a particular patient and this is documented appropriately on the checklist, then the bundle can still be considered compliant with regard to that element.

Safe medication ordering: Orders with one or more defects divided by the total numbers of orders in a sample of 70. Defects include: (1) date and time the order was written; (2) the medication's full name, dose, route of administration and frequency; (3) prescriber's signature and pager number; (4) trailing/leading zeros; (5) 2s and 7s; (6) PRNs; (7) abbrev/QD order; (8) range order.