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## Lean in 2010: Are Healthcare Systems There Yet?

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Best known as the driving force beyond car manufacturer Toyota's success, Lean production practices "consider the expenditure of resources for any goal other than the creation of value for the end customer to be wasteful, and thus a target for elimination." (Wikipedia) In healthcare organizations, using a car manufacturer's method, however successful, to address operational issues may have once seemed like trying to fit a square peg in a round hole. That's no longer the case.

When you apply Lean practices to healthcare, the patient is the end customer. So, any resource expenditure not creating value for the patient is wasteful. Furthermore,

improving quality saves not only dollars, but helps prevent harm to patients. Following are examples of how healthcare organizations are putting the elimination of waste at the heart of their approach to quality and patient care.

### **Making Change Palatable**

Change is a challenge in any situation, especially when what most employees hear when you say, "improve processes" is "more work." For Portland, Oregon-based Legacy Health System, however, a longtime culture of CQI (Continuous Quality Improvement) helped ease the way for Lean practices. Sonja Steves, Legacy's Senior Vice President of Human Resources, explained, "Having that cultural foundation helped pave the way for Lean. The organization wanted to focus on more employee-engaged problem solving, which Lean methods support."

Dr. Richard Mandsager, Chief Executive at Providence Alaska Medical Center in Anchorage, said that the Providence system's decision to go with Lean methods several years ago stemmed from the desire to have the same improvement philosophy across an entire system. "We wanted to use the same tools, handling deployments one way instead of just applying the flavor of the year."

He added that there was a natural inclination toward standardization, given that headquarters is in Seattle, where standardized process methodologies are prevalent at companies such as Boeing and Microsoft.

Virginia Mason took the bull by the horns some years ago, adapting Lean's production methods into what they've named the Virginia Mason Production System (VMPS). Dr. Kim Pittenger, Section Head and Medical Director at Virginia Mason Kirkland, said it grew from an organizational desire to make working on quality the method to improve the overall system. He explained, "Over seven years ago, like many other medical groups, we were without a method to cope with an adverse reimbursement environment, plus concerned with errors within the system. We wanted something that could be used across an entire system." Finding a lack of consistency, they rejected tools other groups had used, instead turning to the manufacturing environment, taking a page from the transformational Lean production success of Boeing's 757 line.

### **Creating Success from the Front Line**

The most sustainable changes have buy-in from the front line. Knowing this, Legacy System involved

Legacy Emanuel Medical Center staff at the outset of its Lean-inspired efforts. Once care givers realized that the message truly was about adding capacity, not adding tasks, negative connotations disappeared. As Steves said, “Our (front line) staff has the best ideas on how to make things better in their daily work.”

“We began with a patient flow initiative to analyze the entire process,” Steves continued. “From entry to the ED, admission to the unit, all the way to discharge, we looked for waste.” They involved nurses, doctors and all support services to improve the movement of patients from one part of the process to the next. The team wanted to broaden capacity, reduce wait times and increase patient satisfaction.

The project eliminated operational waste through rapid, low cost, incremental changes and improvements. For instance, it examined everything involved in the process of turning a room, from where supplies were located in relation to the care area to how far the nurse had to walk to locate an item. “Overall, we were able to make significant strides,” Steves enthused. The campus saw:

- 90% reduction in overall Divert hours over the last 12 months
- Improved clinical team time with patients
- Main Adult Emergency Department at zero hours for the last six months of 2009

### **Transforming Care at the Bedside**

Providence Alaska Medical Center worked under the premise that the project would be staff driven. Training brought greater understanding of the change processes

and rapid cycle improvement. Janet Hagensieker, RN and clinical



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**Sonja Steves**  
*SVP, Human Resources  
Legacy Health System*



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**Richard Mandsager, MD**  
*Chief Executive Officer  
Providence Alaska Medical Center*

manager of their Medical-Surgical Unit, said the atmosphere was pos-

itive and accepting. “The majority felt the changes were coming from within rather than from above.”

Mandsager further clarified that improved clinical diagnostic processes weren’t the primary goal. “We were aiming for patient satisfaction through the improvement in the percentage of nurses’ time spent at the bedside. The project was to be experience-focused.”

They decided on a Unit-specific project (Medical-Surgical Unit and Pediatrics) that would both improve communications between the nurse, the patient and the family, and improve care giver workflow. “The goals had to be meaningful to the staff – and they wanted more patient time; to feel like they were giving ever better care,” Hagensieker explained.

The team kicked off the project in January 2009, and by April saw noticeable changes. As the summer progressed, so did improvements. Physically, linens and supplies were closer – every action taken with the intent to bring care to the bedside as much as possible. The “hunt and gather” that nurses traditionally dealt with decreased, and the patient received more actual care time.

In a Unit of traditionally high turnover, where nurses moved on to other specialty areas, Mandsager and Hagensieker proudly pointed to some of the improvement measures:

- 100% retention rate for the past year on the Medical-Surgical Unit
- 17% improvement (2009) on the ProvVoice employee satisfaction survey for the question “My ideas and suggestions count”

- Increase from between the 50th and 70th percentile range to between the 75th and 90th in 2009 for the nursing job enjoyment scale (National Database for Nursing Quality Indicators)

### Value-driven, Not Cost-driven

System-wide, Virginia Mason employed VMPS consistently and with strong positive results. “Everyone in the whole institution approaches improvements the same way,” stated Pittenger. “We look at all care processes as a value stream, not a cost, trusting that if we reduce the number of steps and time something takes, then it will save us money as time goes by.”

Example: Virginia Mason Kirkland conducted rapid process improvement around what they called the clinical “junk drawer” of emails, phone calls, lab results and pharmacy issues that accumulate over a typical clinic day. As Pittenger explained, “For a doctor, any time not spent with a patient is junk time.” Habitually, doctors left the junk drawer (indirect care) until the end of the day, inevitably spending several hours plugging through the batched administrative work. It delayed information to patients and resulted in late nights. He continued, “You’re calling a patient at 6:30 p.m. whose potassium was known to be off at 10:30 a.m. Also, the patient called twice that day to find out results, so there’s a voice-mail build-up.”

The flow production experiment looked at a single provider’s day and calculated the ratio of indirect care pieces (60) to the number of patients seen (20). The calculations showed that completing three pieces between each patient would theoretically take care of

the work.

After two days of participation,



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**Kim Pittenger, MD**  
Section Head and  
Medical Director  
Virginia Mason Kirkland

the doctor was enthusiastic. She was leaving at the end of the day, on time, with all tasks completed, while her colleagues slogged through their junk drawers. She’s since seen an increase of up to 30 patients per day and boasted a 92% patient satisfaction rating on Virginia Mason scales, while continuing to go home at a reasonable time. “It’s better quality care. Waiting until the end of the day meant details were lost. And issues get addressed in a more timely manner, so patients are safer,” said Pittenger.

Virginia Mason Kirkland then tackled each process within that process with several notable results:

- Patient survey showed Phone Access up from 40% Very Good to 80% in one year
- Overall patient satisfaction hit

a top grade of 92%

- Center went from a \$300K per year loss (2003) to a \$700K margin (2009)

### System-wide Sustainable Success

Each organization wanted a system-wide change with employee buy-in. All recognized the necessity of involving front-line staff, physicians and nurses, medical assistants and business offices, from the outset. Working to develop the solution with the people who are actually going to implement the change has created an environment of sustainable success.

In 2009, Legacy Health System officially adopted Lean as their process improvement method, and has since trained over 300 motivated, excited employees. Providence Alaska Medical Center has continued to raise clinical performance and has moved on to business applications. The Virginia Mason system continues to live and breathe VMPS, much to the benefit of patients, providers and care givers.

Lean in 2010? Definitely well underway.

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*Washington Healthcare News thanks Sonja Steves (Legacy Health System, Portland), Dr. Richard Mandsager (Providence Alaska Medical Center) and Dr. Kim Pittenger (Virginia Mason Kirkland), for sharing their valuable time and organizational success stories. For more on each healthcare organization, please visit their respective web sites at [www.legacyhealth.org](http://www.legacyhealth.org), [www.providence.org](http://www.providence.org) or [www.virginiamason.org](http://www.virginiamason.org).*

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