Success = Vision + Motivation

Lean is Part of the Change Management Equation

Elizabeth Alley MD, Shelly Randazzo DNP(c), RN

Washington State Government

Lean Transformation Conference 2016
Virginia Mason™
OUR STRATEGIC PLAN

Patient
Vision
To be the Quality Leader and transform health care
Mission
To improve the health and well-being of the patients we serve
Values
Teamwork | Integrity | Excellence | Service

Strategies
People
We attract and develop the best team
Quality
We relentlessly pursue the highest quality outcomes of care
Service
We create an extraordinary patient experience
Innovation
We foster a culture of learning and innovation

Virginia Mason Team Medicine Foundational Elements
Strong Economics | Responsible Governance | Integrated Information Systems | Education | Research | Virginia Mason Foundation

Virginia Mason Production System
The History of TPS and VMPS

**VMPS Basics**

*We heard, “Wait! People are not cars!”*

*Let’s look at some commonalities…*

<table>
<thead>
<tr>
<th>Toyota or Virginia Mason?</th>
</tr>
</thead>
<tbody>
<tr>
<td>high quality is absolutely essential</td>
</tr>
<tr>
<td>there are highly intricate processes</td>
</tr>
<tr>
<td>there are a wide variety of products/services</td>
</tr>
<tr>
<td>worker safety is critical</td>
</tr>
<tr>
<td>there are complex supplier relationships</td>
</tr>
<tr>
<td>variability/unpredictability in demand</td>
</tr>
<tr>
<td>there is a need to keep costs low</td>
</tr>
<tr>
<td>there is waste</td>
</tr>
</tbody>
</table>
VMPS House

Virginia Mason Production System

To Make things in the Right Way

JUST IN TIME

People

Standard Work

Takt Time Production

Machines

Andon

Operational Availability

Pull System Production

Materials

Standard Work in Process

Kanban

One Piece Flow Production

Supermarket System

Jidoka

One by one confirmation to detect abnormalities
Stop and respond to every abnormality
Separate machine work from human work
Enable machines to detect abnormalities and stop autonomously

Leveled Production (Heijunka)

Cost Reduction Through The Elimination of Muda (Waste or Non-Value Added)
Federal Way Regional Medical Center
Outpatient Surgery Center
Tools – only the surface

Traditional Management
Success
Transformational Leadership
Kaizen
Success
Managers – ask how and when
Focus: systems/control

Leaders – ask what and why
Focus: people/trust
Transactional Leadership – “transaction or exchange of actions by followers” – results in rewards or punishment

Transformational Leadership – “leader and followers engage with each other, raise each other, and inspire each other”

Culture of Innovation

Playful

Disciplined
Leadership

Aim High
Foster Curiosity

Keep Team Focused
Leading with VMPS

Leader Standard Work

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Purpose</th>
<th>Transformational Leadership skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparency</td>
<td>Leaders sharing their work with the team</td>
<td>Inspiration and Vision</td>
</tr>
<tr>
<td>Sharing</td>
<td>Allows us to identify where standard work needs to be written for processes</td>
<td>Individual Consideration</td>
</tr>
<tr>
<td>Follow through</td>
<td>Allows tracking and trending of abnormalities, promotes follow up on issues</td>
<td>Intellectual Stimulation</td>
</tr>
<tr>
<td>Coaching/mentoring/training</td>
<td>Allows for smooth leader transitions when the work is clearly defined</td>
<td>Idealized Influence</td>
</tr>
<tr>
<td>Respect for People behaviors</td>
<td>Infusing these core principles throughout all of our interactions</td>
<td>Idealized Influence</td>
</tr>
<tr>
<td>Quality Improvement</td>
<td>Intentional checks of key process for deviations from the identified Standard Work</td>
<td>Intellectual Stimulation</td>
</tr>
</tbody>
</table>
Transformational Leaders: instill the value of commitments to the team
Lean & Leadership in Practice

The Development of a Wound Care Practice at VMMC
Chronic Wound Crisis

Ulcer > 12 weeks

5 million Americans

Variable co-morbidities
Virginia Mason Wound Care Center

FW RMC
2 weeks
0 Staff

FW RMC
Dedicated space
2 RNs, 2 MA
EMR
Culture of Innovation

Chaotic

Focused
# Leadership Style

<table>
<thead>
<tr>
<th>Authoritarian Leadership</th>
<th>Transformational Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frenzied Urgency</td>
<td>Measured urgency</td>
</tr>
<tr>
<td>Dictate policy and procedures</td>
<td>Team performing the work is improving the work</td>
</tr>
<tr>
<td>Dominating interaction</td>
<td>Team leads daily improvement</td>
</tr>
<tr>
<td>Rare opportunity for feedback</td>
<td>Coaching/mentoring/ training</td>
</tr>
<tr>
<td>Individually directed tasks</td>
<td>Daily Kaizen allowed team to respond to patient care needs</td>
</tr>
<tr>
<td>Necessity for silos in work to compensate for lack of resources</td>
<td>Data Driven, benchmarking and trending, cross training</td>
</tr>
</tbody>
</table>
Lessons Learned:

• Dedicated time for Lean Process
• Buy-in from Stakeholders
• Reflection
• Process Improvement
Kaizen is continuous

Without a standard, there can be no Kaizen (improvement):

1. Standards are the basis for comparison (before/after)
2. With no standard, can’t objectively tell what has changed or what has improved
Daily Kaizen

• Production Boards
• Daily Huddles
• “Dry Run”/simulation
• Flow Mapping Sessions
Psychological Safety

- Encourages speaking up
- Enables Clarity of Thought
- Supports Positive Conflict
- Increases Accountability
- Mitigates Failure
- Promotes Innovation
- Removes obstacles to success

Removes obstacles to success
Highlight performance gaps
Reduce variability
Actively employ countermeasures
Promotes Teaming
Production board

- Highlight performance gaps
- Reduce variability
- Actively employ countermeasures
- Promotes Teaming

<table>
<thead>
<tr>
<th>AM PM</th>
<th>RN's</th>
<th>Techs/MA's</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>Kim</td>
<td>Barb</td>
</tr>
<tr>
<td>AM</td>
<td>John</td>
<td>Erin</td>
</tr>
<tr>
<td>AM</td>
<td>Andrea</td>
<td>Tammy</td>
</tr>
<tr>
<td>PM</td>
<td>Allison</td>
<td>Josh</td>
</tr>
<tr>
<td>AM</td>
<td>Kelly</td>
<td>Linda</td>
</tr>
<tr>
<td>AM</td>
<td>Candy</td>
<td>Teresa</td>
</tr>
<tr>
<td>PM</td>
<td>Cindi</td>
<td>Lisa</td>
</tr>
<tr>
<td>AM</td>
<td>Jackie</td>
<td>Vann</td>
</tr>
<tr>
<td>PM</td>
<td>Janny</td>
<td>Iaia</td>
</tr>
<tr>
<td>PM</td>
<td>Susan</td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td>Teresa</td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Patty: OSE

* ELI / Kari: 03

* Happy

* Marilyn
VMPS Daily Kaizen

How do we do our work?

• Use the PDSA method
  
  Plan-Do-Study-Act

• Continuously test/refine ideas

• Focus on results

Example:

- Observe and develop a new vision
- Awareness - A Change In Thinking
- Rapid Implementation – Give it a try
- Study the results
## Visual Controls

### GRAFIX INVENTORY

<table>
<thead>
<tr>
<th>Size</th>
<th>Prime</th>
<th>Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>10mm</td>
<td>14mm</td>
<td>0</td>
</tr>
<tr>
<td>1.5x2</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>2x3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3x4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5x5</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

**Dermagraft**: exp 10/1

**Clinic Activity**
- Lifts 2
- Grafix - 1
- Newpts - 2
- Interpreter of Bari - 3

**Date**: 9/13/10
**NEM**: Established
**Nurse**: 2

**Staff Today**
- Stacy/Lara
- Jessica/Heather

**Flow**
- Phlebotomy
- Lab
- Surg
- F/N
- Discharge
- Flow in 1

---

We are committed to providing innovative and quality care for our patients.
Visual Controls

Transparency
Visual Controls

Quality Improvement

GrafFix Inventory

<table>
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<tr>
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<th>Core</th>
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<tbody>
<tr>
<td>1.5x2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2x3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3x4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>5x5</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Dermag</td>
<td>2X2</td>
<td>3</td>
</tr>
</tbody>
</table>

Clinic Activity

- Lifts 2
- GrafFix 1
- New pts. 2
- Interpreters
- Bart 3

We are committed to providing innovative and quality care for our patients.
# Leading with VMPS

## Visual Controls - Production Boards

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Purpose</th>
<th>Leadership Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence</td>
<td>Leaders ‘on the genba’ where the work happens</td>
<td>Individualized Consideration</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Allows the leaders to recognize and respond to abnormalities in real time</td>
<td>Idealized Influence</td>
</tr>
<tr>
<td>Transparency</td>
<td>Sharing information with the entire care team that traditionally was known only by leadership</td>
<td>Inspiration and Vision</td>
</tr>
<tr>
<td>Quality Improvement</td>
<td>When information is visible, it allows the team to recognize issues easier, therefore responding sooner</td>
<td>Intellectual Stimulation</td>
</tr>
<tr>
<td>Respect for People behaviors</td>
<td>Infusing these core principles throughout all of our interactions</td>
<td>Individual Consideration</td>
</tr>
</tbody>
</table>
Culture of Innovation

Experts

Broad Thinkers
AM Huddle

- MA Assignments
- Lift Patients
- Grafts
- Wound VACs
- Expected issues
- Staffing
- Open Appts.

What does this mean to the team?

AM Huddle

MA assignments - What MA is assigned to the providers and who is the flow coordinator
Lift Patients - How patients require extra staff
Grafts - Applying special dressing requires a nurse to spend more time with this patient
Wound VACs - This complex dressing requires more staff time
Expected issues - Making staff aware of times in the schedule that are expecting to be busy, this may require the staff altering their lunches and breaks
Staffing - Who is here today and what provider
Open Appts - When new patients and established patients get in next
Kanban

• Support Just-in-time system
• Improve/strengthen the system
• Purchase kanban
Original Kanban

- Identify item
- Number needed
- When to reorder
- How to order
Original Kanban

PDSA
- Original Kanban "generic" to system
- Kanban not pulled
- Kanban lost
- Unclear when order will be filled
- No point person

Even routine operations don’t hum along forever
<table>
<thead>
<tr>
<th>PDSA</th>
<th>PDSA 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Kanban “generic” to system</td>
<td>Add 2nd part to Kanban to identify Kanban has been pulled</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Kanbans not pulled</td>
<td>Identify what is on order</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Kanban lost</td>
<td>Assure team Kanban is not lost</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Unclear when order will be filled</td>
<td>Identify when order will be filled</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>No point person</td>
<td>Identify point person</td>
</tr>
<tr>
<td>PDSA</td>
<td>PDSA 2</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
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</tr>
<tr>
<td>Kanbans not pulled</td>
<td>Identify what is on order</td>
</tr>
<tr>
<td>Kanban lost</td>
<td>Clarify Kanban location</td>
</tr>
<tr>
<td>Unclear when order will be filled</td>
<td>Identify when order will be filled</td>
</tr>
<tr>
<td>No point person</td>
<td>Identify point person</td>
</tr>
</tbody>
</table>
Standard process
Standard process
Standard process
Wound care 2012
- One site
- 2 weeks
- 1 provider
- Limitations
- Staff
- Supplies
- Space

Wound care 2016
- Two sites
- 6 providers
- Limitations
- EMR

Wound care Future
- All RMC's
- Integrated
- Outcomes
- Care plan
- Television
Culture of Innovation

High Standards

Tolerates Failure
Sources of opiate RX
Opioid Addiction

• Drug overdose is the leading cause of accidental death in us >47,000 in 2014

• 21.5 million Americans substance use disorder 2014

• FWOSC increased number of patients with chronic opiate therapy
PCP
- Long term relationship
- Chronic therapy
- Long term relationship
- National Guidelines
- No standard communication with Surgeons

Surgeon
- Short term relationship
- Acute pain coverage
- Unclear guidelines
- Transition back to PCP?

Day of Surgery
- Acute care
- Plan in place for backup?

Safe
- Pain control
- Adequate medication

Quality
- Plan of care
- Handoff to PCP
Key Stakeholders

Patient

- GIM
- Surgeon
- Anesthesia
- RN
- Outside provider
Culture of Innovation

Experts

Broad Thinkers
Thank you for TRANSFORMING HEALTHCARE with us. By completing this questionnaire—YOU are helping us improve everyone’s experience at Virginia Mason.

<table>
<thead>
<tr>
<th>How do you feel about the information you received about pain management for your surgery?</th>
<th>Circle the BEST word that describes your feeling</th>
<th>Afraid</th>
<th>Safe</th>
<th>Okay</th>
<th>Depressed</th>
<th>Satisfied</th>
<th>Insecure</th>
<th>Confident</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do you feel about your care team’s understanding of your pain management plan?</td>
<td>Circle the BEST word that describes your feeling</td>
<td>Okay</td>
<td>Hopeless</td>
<td>Depressed</td>
<td>Hopeful</td>
<td>Resentful</td>
<td>Safe</td>
<td>Confident</td>
<td>Comments:</td>
</tr>
</tbody>
</table>
Electronic visual control
Pain Management FAQ: What You Need to Know Before and After Surgery

What level of pain should I expect for my surgery?

Your pain level depends on the type of procedure, and how your body responds to pain medication. Most patients with major surgeries should be able to be tapered to baseline or preoperative doses (or lower) within 6 weeks.

Who will take care of my pain medications after my surgery?

Your surgery team will manage all your pain medications during your hospital stay and up to 6 weeks after your procedure, after which your pain management will be transitioned back to your primary care provider. If you are taking chronic pain medication, your baseline medication should be reinstalled by your primary care provider. Prior to your procedure, your surgery team will conduct a thorough preoperative evaluation and review with your individualized care plan, including a timeline for tapering perioperative opioids.

What do I do if I need more pain medication after my surgery?

If you experience more pain than expected, you must contact your surgery team immediately. Do NOT change your dose without consulting with your care team. Your team may include a consultation to a pain specialist or a clinical pharmacist to further assist optimizing your pain management. Please follow up after your surgery as scheduled to avoid delays in getting your refill prescriptions.

What else can I use for pain other than opioids?

Other non-opioid medications such as acetaminophen, NSAIDs, gabapentin and local/topical pain control can provide additional pain relief when used in conjunction with your prescribed opioids. Please discuss with your care team about the benefits of these medications.

What do I do with my extra/left-over pain medications after my surgery?

It is important to safeguard your medications. Do not share your prescription opioids with others, as it is illegal. If you need to dispose of any left-over pain medications, please check with your care team or pharmacy for information about an approved take-back program/facility near you.

What can I do to minimize potential side effects?

It is important that you take your medications as prescribed and adhere to the established care plan. The increased doses of your pain medication during the perioperative period can contribute to opioid-induced bowel dysfunction (constipation). Don’t forget to talk with your care team about starting a bowel regimen as soon as possible, after your procedure.
Pain Management FAQ:
What You Need to Know Before and After Surgery

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Your pain level depends on the type of procedure, and how your body responds to pain medication. Most patients with major surgeries should be able to be tapered to baseline or preoperative doses (or lower) within 6 weeks.

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What do I do when I need more pain medication?

If you experience more pain than your medication is controlling, do not change your doses without consulting your pain specialist or a clinical pharmacist. Do not exceed the maximum dosing allowed in your pain plan. The pain specialist or a clinical pharmacist will be contacted if you need additional medication.

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FWOSC Surgery Scheduling

Surgeon

Scheduler

OSC
Culture of Innovation

Chaotic  Focused
Flow Mapping

waste

Information flow

Information vehicle

forms
<table>
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</thead>
<tbody>
<tr>
<td>Transparency</td>
<td>Move from working in silos to collaboration</td>
<td>Inspiration and Vision</td>
</tr>
<tr>
<td>Sharing</td>
<td>Transition from narrow focus to system-focus</td>
<td>Inspiration and Vision</td>
</tr>
<tr>
<td>Listening to understand</td>
<td>Assumption busting and increased knowledge for the team</td>
<td>Intellectual Stimulation</td>
</tr>
<tr>
<td>Coaching/mentoring/ training</td>
<td>Allows for all team members to share stories</td>
<td>Individualized Consideration</td>
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<tr>
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High Standards → Tolerates Failure
<table>
<thead>
<tr>
<th>Key Learnings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality is systematic</td>
<td>Empowered staff will drive daily Kaizen</td>
</tr>
<tr>
<td>Workers need to improve their work</td>
<td>It starts with the vision – Explaining the why is essential</td>
</tr>
<tr>
<td>Data Driven changes</td>
<td>Trust is key to successful change</td>
</tr>
<tr>
<td>Reduce variation</td>
<td>Innovation requires commitment</td>
</tr>
<tr>
<td>Failure can be a success story</td>
<td>Listen before you act</td>
</tr>
</tbody>
</table>
Chaos + Focus + Playful + Disciplined + Experts + Broad Thinkers + High Standards + Tolerates Failures = Culture of Possibility
Success

Chaos + Focus

Playful + Disciplined

Experts + Broad Minds

Tolerates Failures + Nord

Culture of Possibility
Great Barrier Reef

Continuous Daily Improvements
Recommended Reading


- Hu, Q et al. The connection between organizational learning and lean production. POLS 23rd Annual conference. Paper No. 025-0234

- [http://www2.warwick.ac.uk/fac/soc/economics/staff/eprot/workingpapers/happinessproductivity.p](http://www2.warwick.ac.uk/fac/soc/economics/staff/eprot/workingpapers/happinessproductivity.p)