Virginia Mason™

INSTITUTE

Using a Management System to Drive and Sustain Quality Results

Gary S. Kaplan, MD, President/CEO
Virginia Mason Medical Center
Seattle, Washington

© 2019 Virginia Mason Institute

Declaration of Conflict of Interest or Relationship

- Speaker: Gary S. Kaplan, M.D.

- I have no conflict of interest to disclose with regard to this presentation

© 2019 Virginia Mason Institute

Key Messages

- Delivering reliable, high quality care requires having an improvement system and a management method.
- A world class management system is dependent on leadership behaviors and standard work to create reliability and continuous improvement.
- Share how the improvement method and management system support creating flow using inpatient nursing and outpatient care as examples.

© 2019 Virginia Mason Institute

“Safety and quality efforts applied on a project by project basis may produce results but is rarely sustainable and never leads to zero harm.”

Mark Chassin, MD
President and CEO,
Joint Commission

“System Science and innovation is the next massive major opportunity to advance human well-being and health.”

Atul Gwande, MD

© 2019 Virginia Mason Institute

Virginia Mason Health System

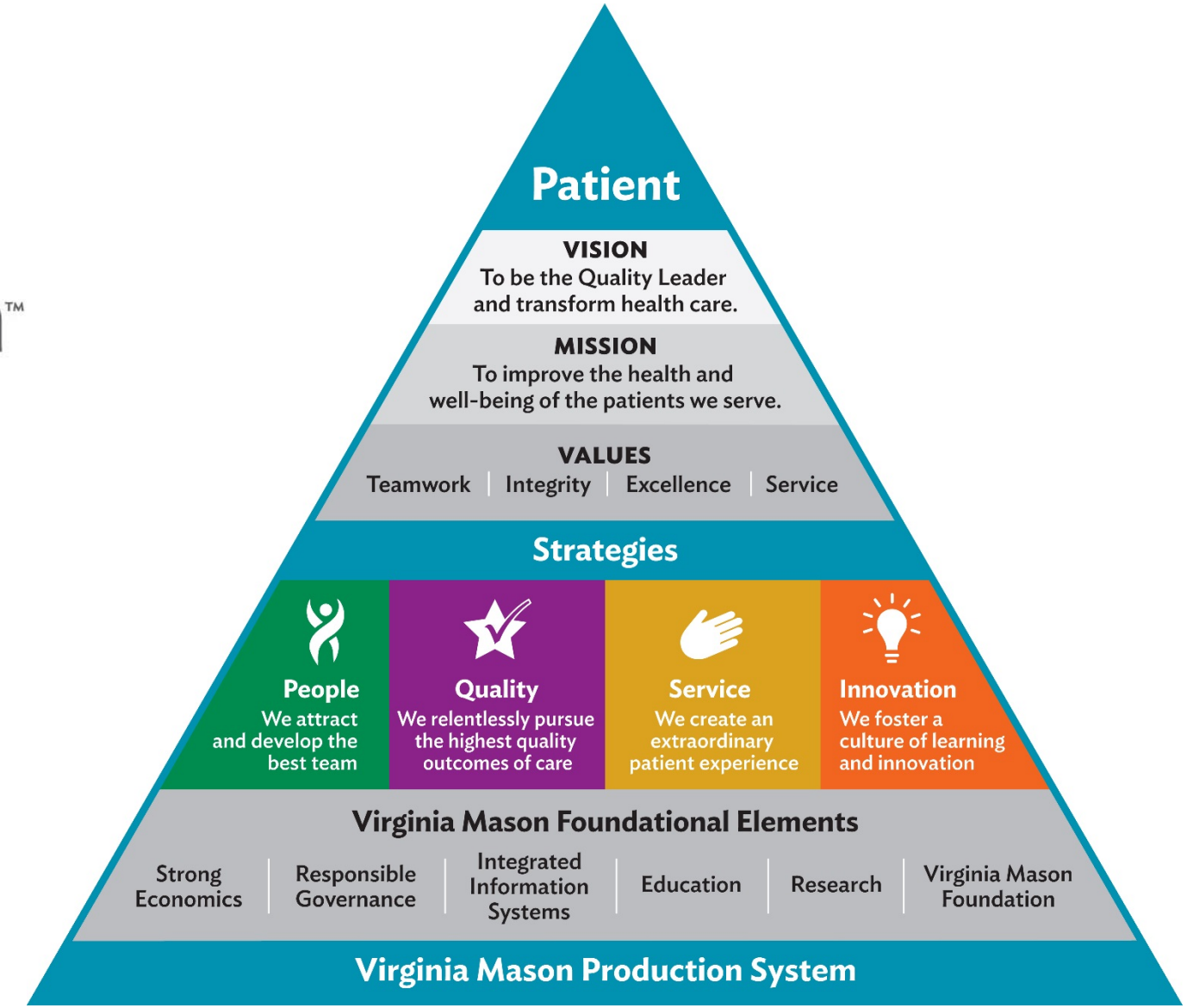
- Integrated health care system
- 501(c)3 not-for-profit
- Two hospitals
  - Virginia Mason Medical Center, Seattle
  - Virginia Mason Memorial, Yakima
- 40+ medical clinics
- Graduate Medical Education

- 1,100+ physicians
- 8,400+ employees
- Benaroya Research Institute
- Virginia Mason Institute
- Strategic Affiliation and Clinical Partnership with CHI Franciscan

© 2019 Virginia Mason Institute

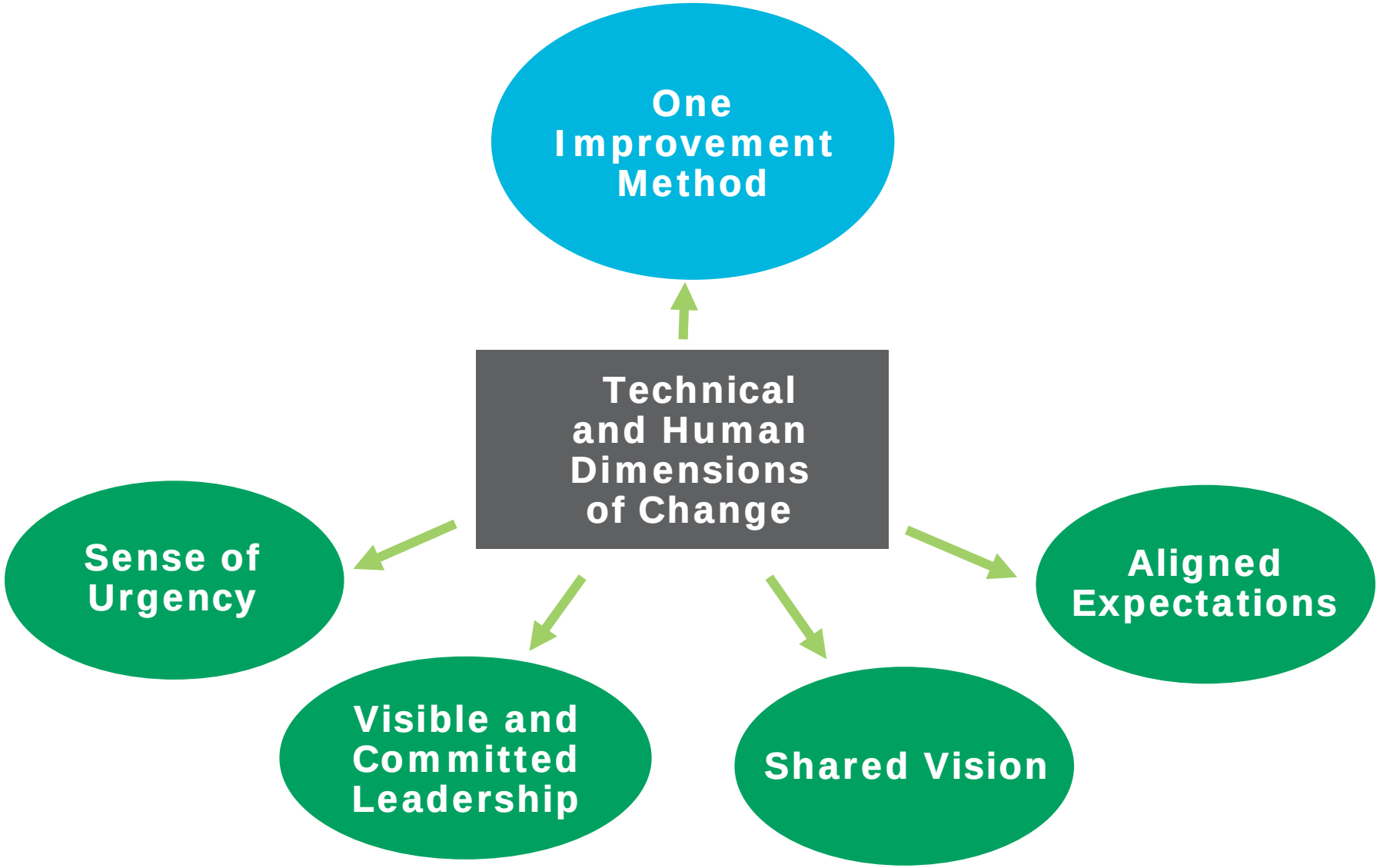
Virginia Mason™

OUR STRATEGIC PLAN



© 2019 Virginia Mason Medical Center

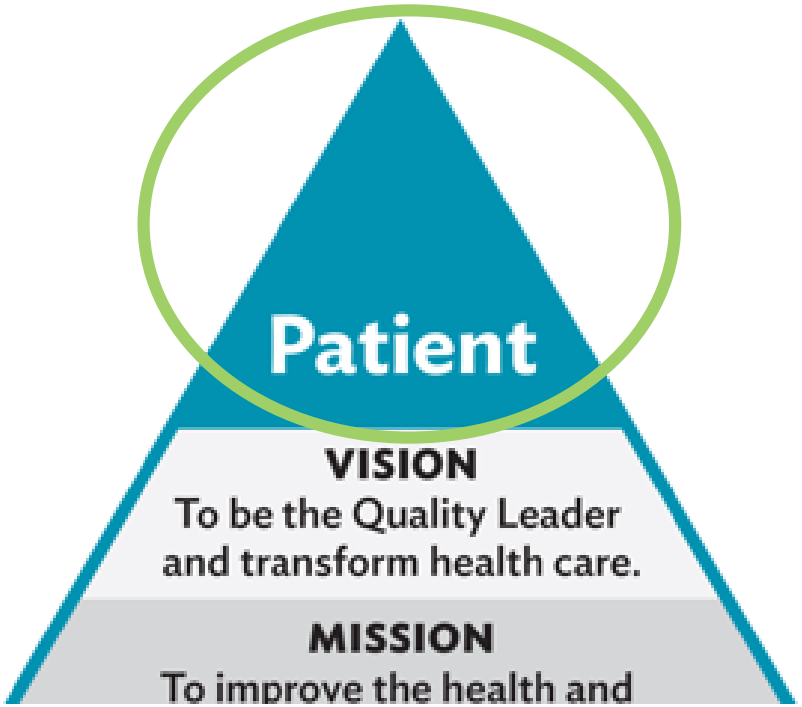
Requirements for Transformation



© 2019 Virginia Mason Institute

The Virginia Mason Production System

We adopted the Toyota Production System key philosophies and applied them to healthcare



1. The patient is ***always*** first
2. Focus on quality and safety
3. Engage all employees
4. Strive for the highest satisfaction
5. Maintain a successful economic enterprise

© 2019 Virginia Mason Institute

VMPS Evolution: Virginia Mason House

Make it our own, for our patients, team members and communities

Virginia Mason Production System

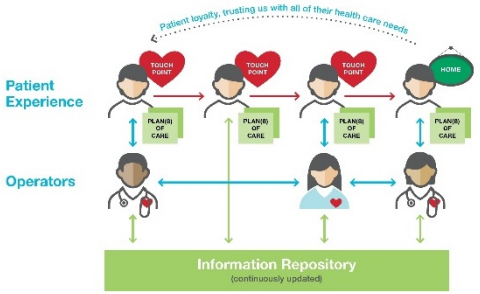
Respect for People

Safe and Respectful Environment

Patients as Partners
- Patient/family partners
- Experience Based Design
- Co-design

Engage Individuals and Teams
- Organizational compacts
- Personal growth & recognition
- Leader competencies

Improving the Flows of Health Care



Continuous Improvement

Increase Reliability and Effectiveness

Quality Leader
- Q = A * (O+S) / W

  Q: Quality
  A: Appropriateness
  O: Outcomes
  S: Service
  W: Waste
- Patient Safety Alert System

Accelerate the Impact
- Speed and agility
- Innovation
- Plan-Do-Study-Act (continuously evaluate and improve)

Master the basics

BUILD A STRONG FOUNDATION

World Class Management

Management by Policy, Cross Functional Management, Daily Management

VMPS Principles, Tools and Methods

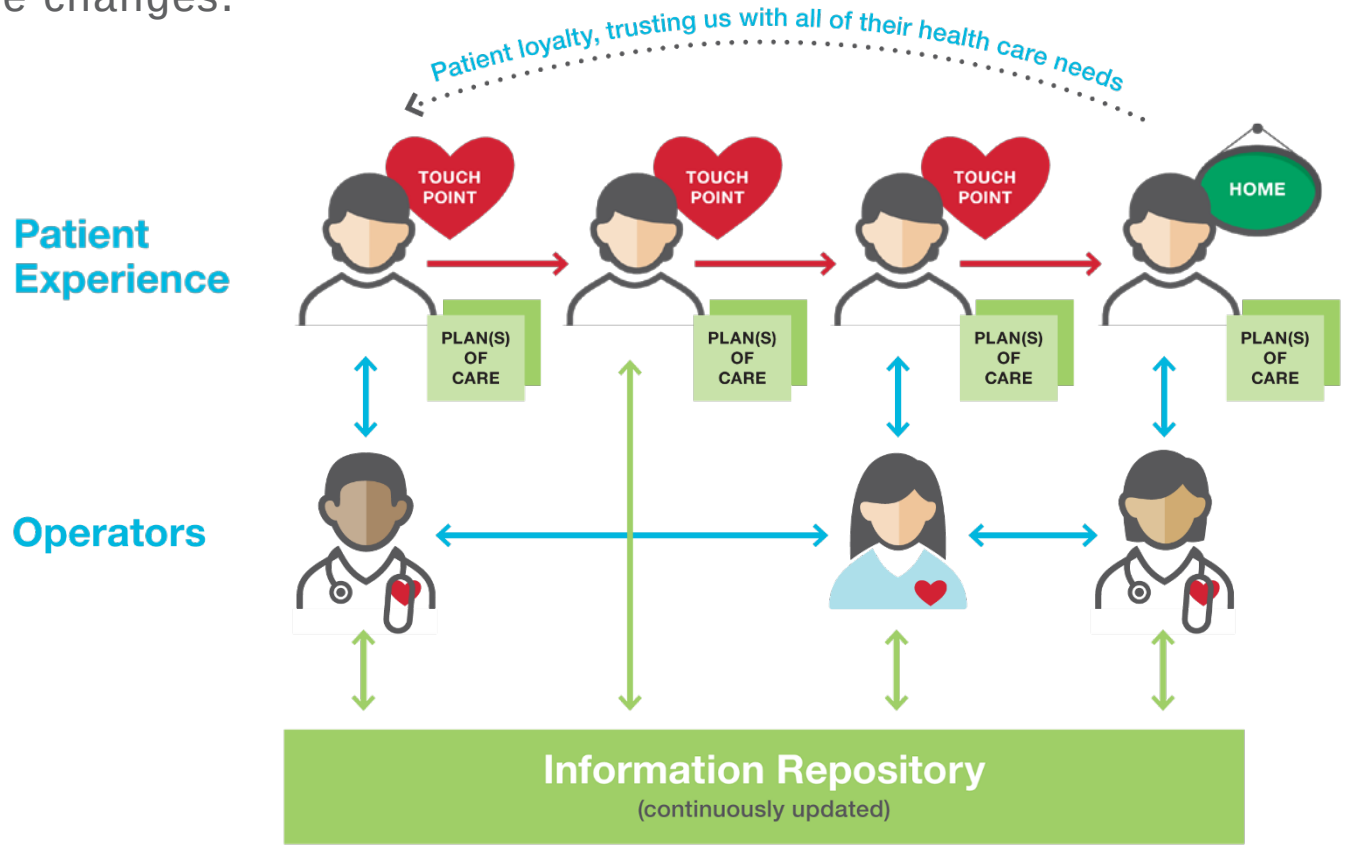
5S, Standard Work, Visual Control, PDSA, Innovation, Just in Time, Mistake Proof (Jidoka), Leveled Production (Heijunka)

© 2019 Virginia Mason Institute

Flows of Health Care

People are not cars… what makes health care unique?

- People caring for people to improve their health and well-being.
- Patients have individual emotions and values and are an equal partner in designing their care processes.
- Plans of care can change at each step in the journey as the information available changes.



© 2019 Virginia Mason Institute

In a World Class Management System

Leaders have two jobs:

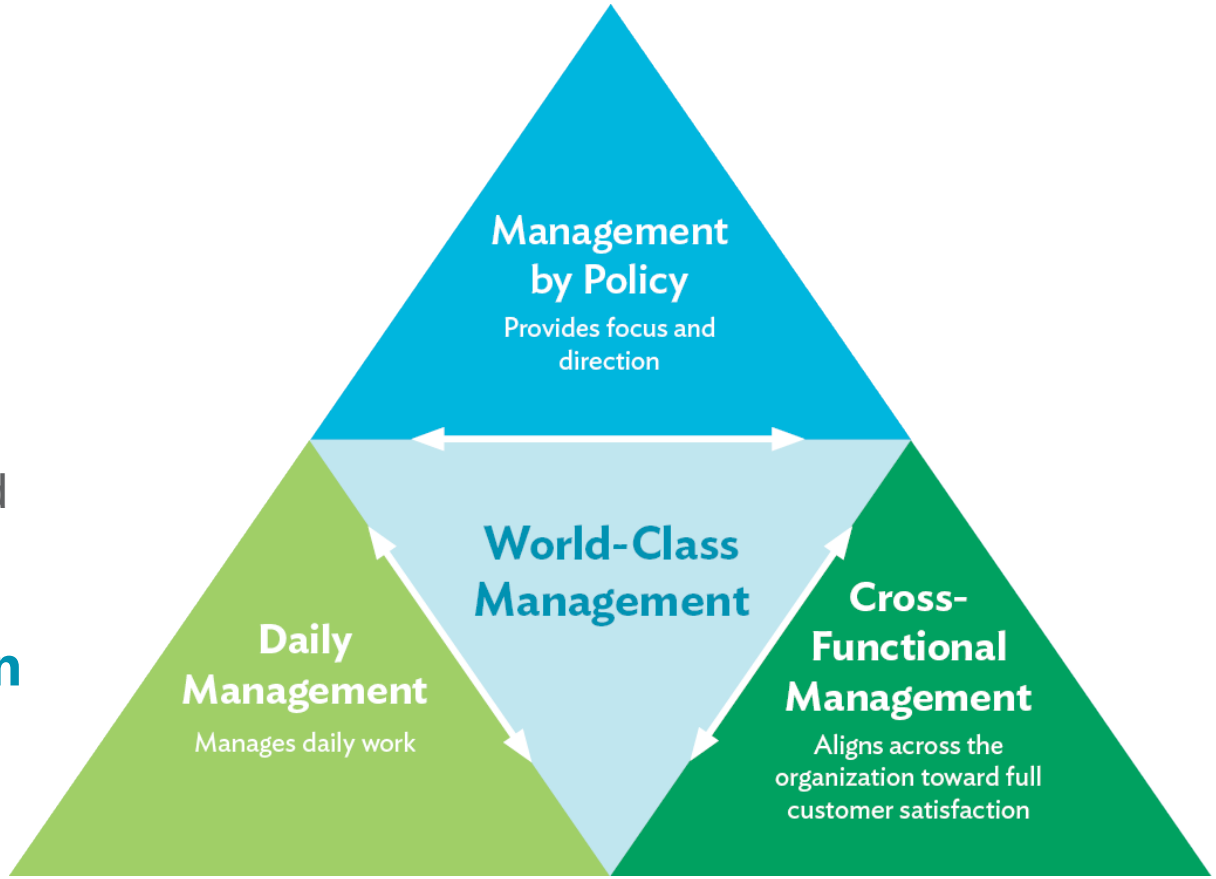
1. Run your business
2. Improve your business

Creating stability and reliability

Leaders engage in daily activities and behaviors to identify abnormal conditions and ensure customer demand is met.

Leading improvement and innovation

Leaders create kaizen plans, lead improvement and innovation events and activities, and coach everyday lean ideas.

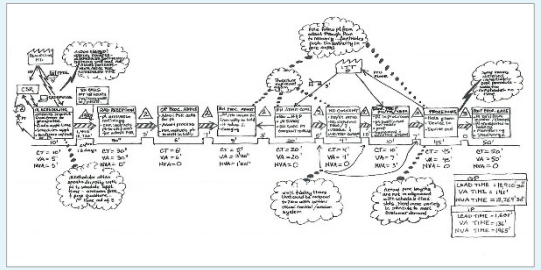


© 2019 Virginia Mason Institute

Superhero Leadership Doesn't Work

© 2019 Virginia Mason Institute

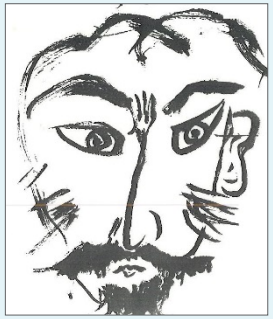
The New Leaders



System thinker

Coach

Problem framer



“Go and see”

Learner

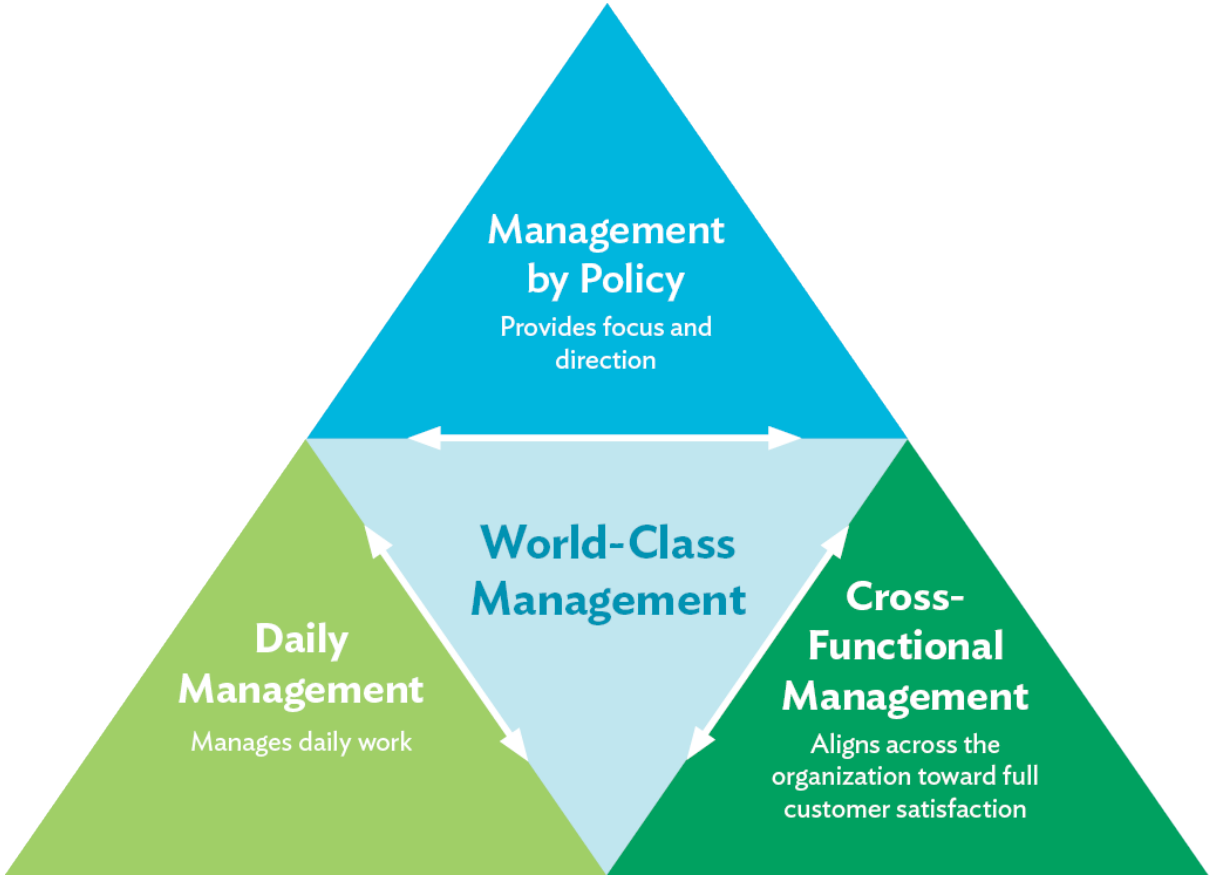
	GENBA	Follow-Up
	AM	Review Issues Board for items in ORANGE status
	Mid-Day	These items are:
	PM	• New Issues
	Complete Rounding Form	• Have Updates/Changes
	Quality Check- (Did they fill out EPB?)	• Require Assistance
	Applause	
NOTES:		
		Transparent Management Questions
		• What is working well for you?
		• Are there any barriers I can remove?
		• What is not working well for you?
		• Is there anyone I should recognize for good work?
		• How are your ELI's coming?
		• May I help you with your ELI's?

Follows leader standard work

© 2019 Virginia Mason Institute

World-Class Management

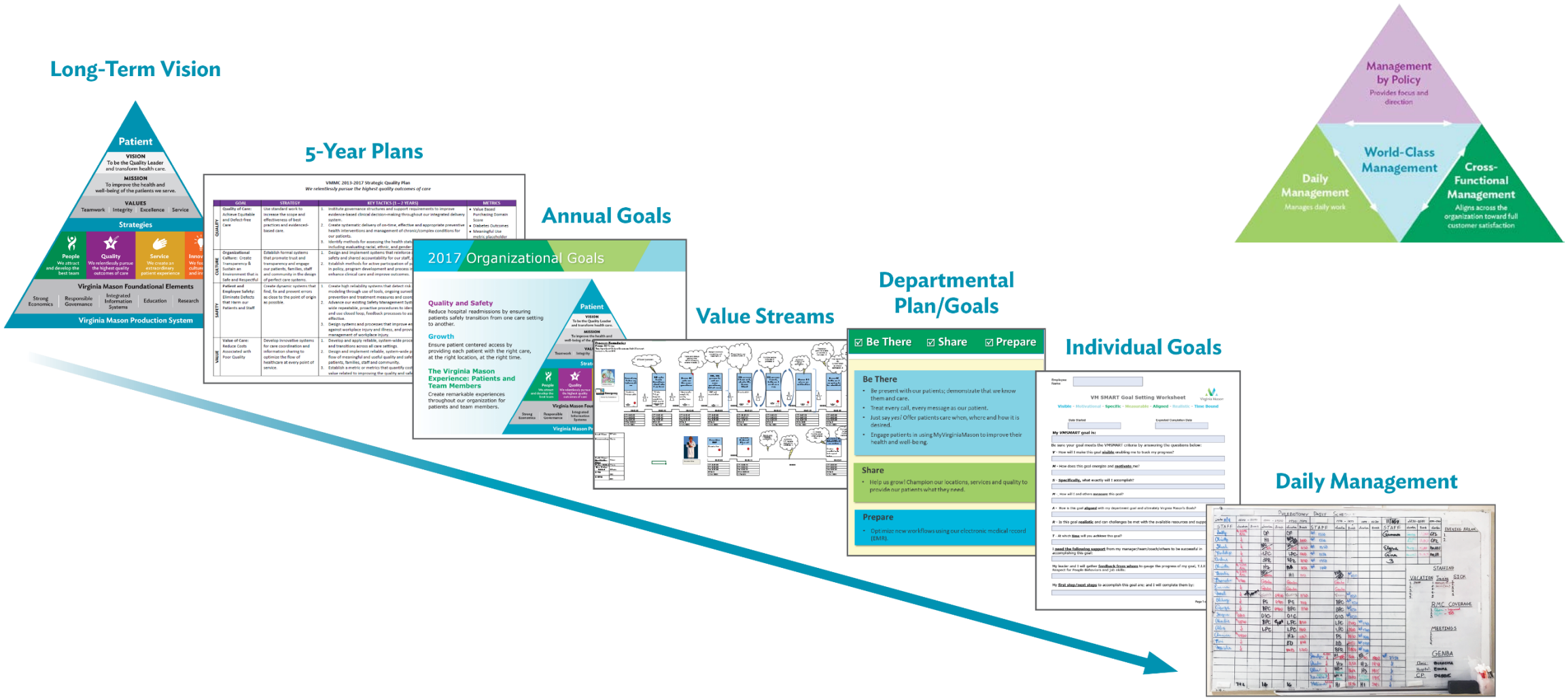
The world-class management system is a leadership system that provides focus, direction, alignment, and a method of management for daily work.



© 2019 Virginia Mason Institute

Management by Policy

Aligning vision and strategy from the boardroom to the front line



© 2019 Virginia Mason Institute

Creating Accountability: Tier Reporting

Tier 1 Reporting:
Senior executive leadership reports updates on key metrics to the board of directors

"Stand Up" Tier 2 Reporting:
Vice presidents, KPO and administrative directors report updates on key metrics to the chief executive officer

PeopleLink Tier 3 Reporting:
Managers report to department staff and administrative directors

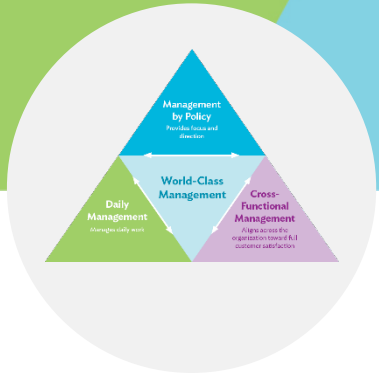
© 2019 Virginia Mason Institute

How well does your organization do at communicating its most important work?

© 2019 Virginia Mason Institute

Cross-Functional Management

Creating accountability across a value stream



Orthopedic Value Stream

Home → **Clinic** → **Hospital and/or Emergency Department** → **Home**

Throughout the patient's experience we will improve

Home → Access to Clinic → Clinic Day of Visit → ED Length of Stay → Acute Length of Stay → Home

Quality of Care
- Surgical variability (smoothing patient flow)
- Falls with injury
- Readmissions
- Hospital-induced delirium
- Glycemic control
- Sepsis
- Hypertension

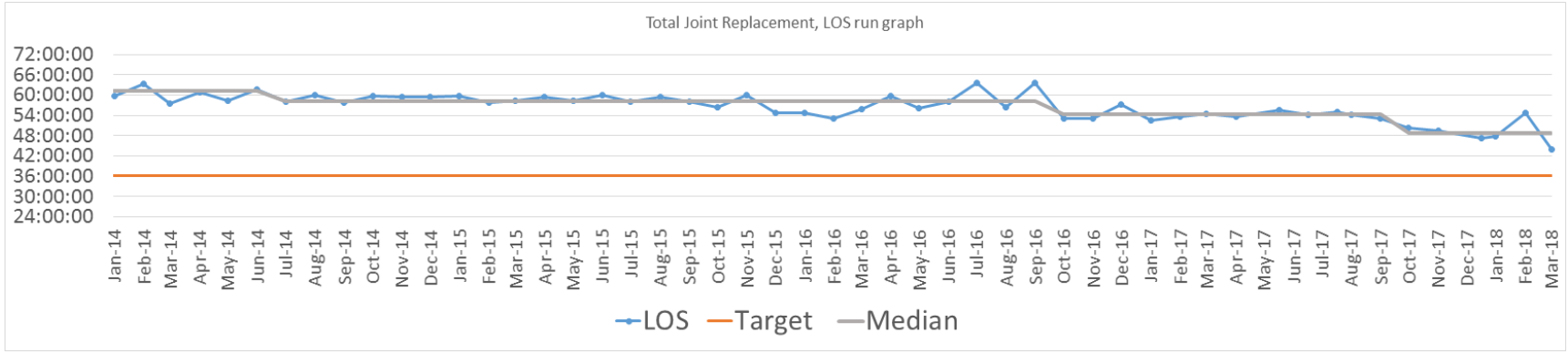
Supply Chain
- The right supplies are available when and where they are needed – just-in-time (JIT).

Daily Management
- The system we use to perform daily activities – standardize operations and identify and eliminate waste with root-cause analysis. Our system uses data to ensure we are continuously improving our business.

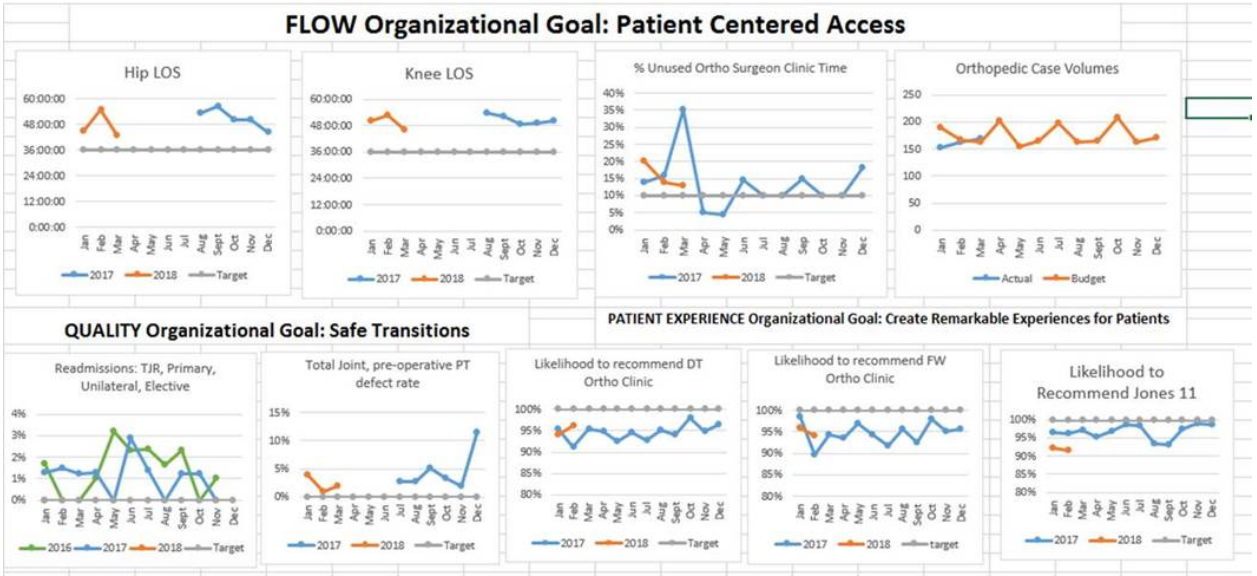
© 2019 Virginia Mason Institute

Cross-Functional Management

Orthopedic Value Stream Targets – Weekly, Monthly, Yearly



Length of stay over 3-year period



Tied to Goals:

- Access
- Quality
- Patient Experience
- Financials

© 2019 Virginia Mason Institute

Daily Management

Daily or weekly team huddles

Share information on improvement activity, status of work, update on goal work, and countermeasures required.

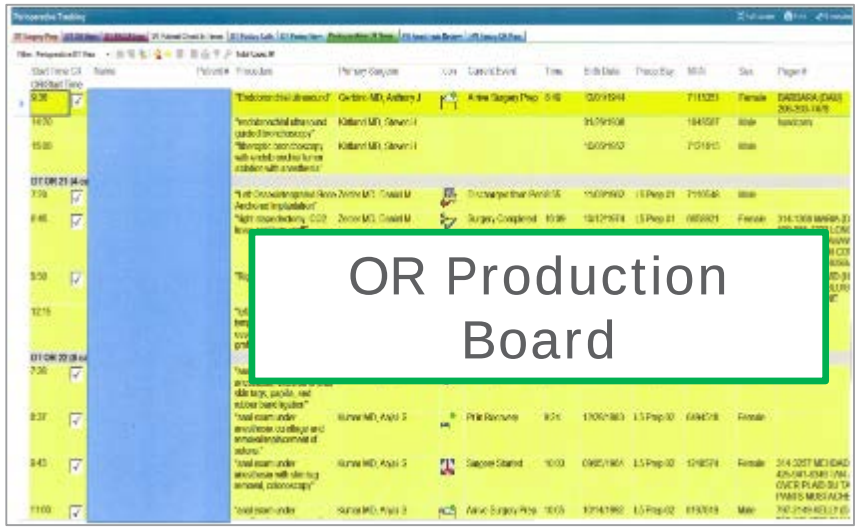
Example: Laboratory

Example: Health Information Services

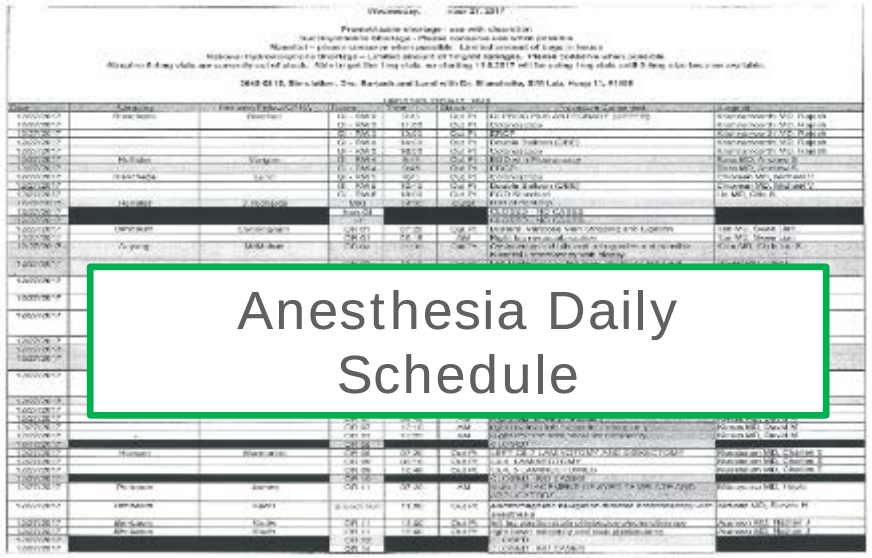
© 2019 Virginia Mason Institute

Daily Management

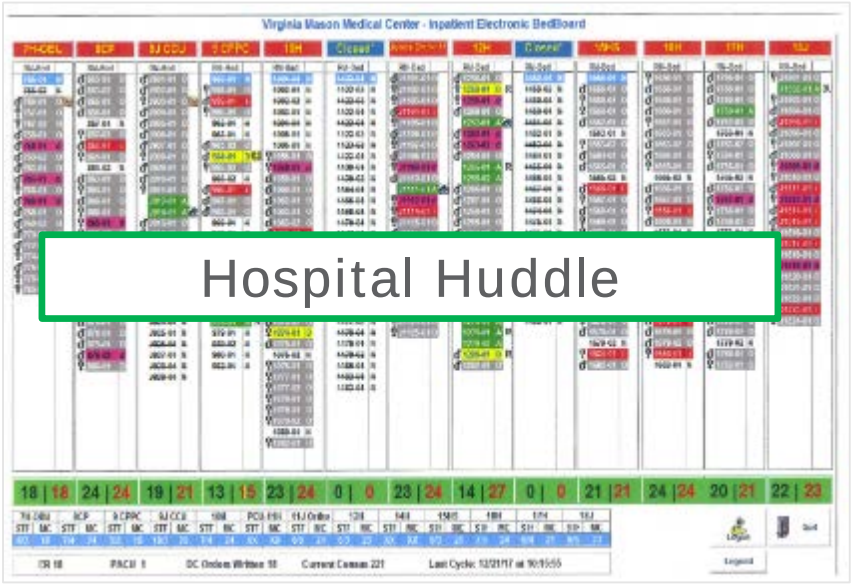
Daily: flow, demand, capacity



OR Production Board



Anesthesia Daily Schedule



Hospital Huddle

© 2019 Virginia Mason Institute

Daily Management

Genba rounds and checking standard work

AGENDA

Date: 08/14/13 **Time:** **Location:** **Meeting Length:** 30mins			**Purpose:** In a brief structured conversation, we will see the work, discuss issues and identify our commitments to improve our business. By doing this, we will strengthen accountability, allow for mutual learning and add clarity of expectations with the focus on results. To be completed by site leader & sent to Executive and AD prior to day of genba rounding.
	Agenda Item *Presenter*	C/T	**Comments/Suggestions/Action Items**
1	**Review: Introduction of roles within genba round and purpose of rounding.** *Executive*	1	
2	**Review status of commitments made in last rounding** *Operational D/AD*	2	
3	**Genba time:** - **People link (includes foundational elements- if appropriate)** - **Production board** - **Kaizen activity/plan** - **Genba observation** - **Visual Sweep** - **Flow** **Success to Highlight:**	20-25	
4	**Foundational Elements** o **Geographic Assignments** o **Daily Huddle** o **In Room Handoffs** o **RN/PCT Integration** o **Hourly rounding** o **Documentation Near the Patient** o **Daily Leader Rounds** o **Safe Medication Administration**		
5	**Offstage** *Site Leader(s)* **-Leader standard work** **-Debrief** • What did we see • What did we learn • What needs to move forward **-Commitments** • Clear and mutual expectations for follow-up *All*	5	

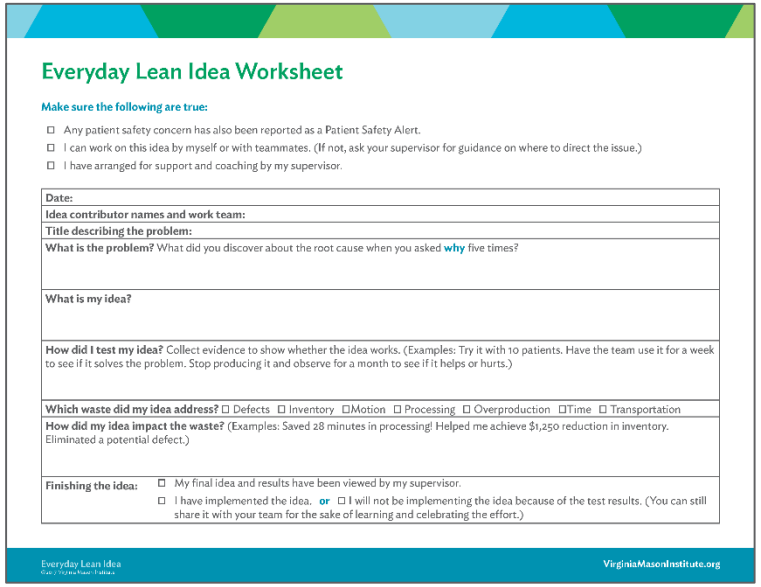
Go to the place, look at the process, talk with the people

© 2019 Virginia Mason Institute

Daily Management

Engaging employees daily in improvement

- Employees trained in the common method: VMPS
- Involve employees in improving their own work with everyday improvement ideas, rapid process improvement workshops, and kaizen events
- Participating in goal-related work



Everyday Lean Idea Worksheet

Make sure the following are true:

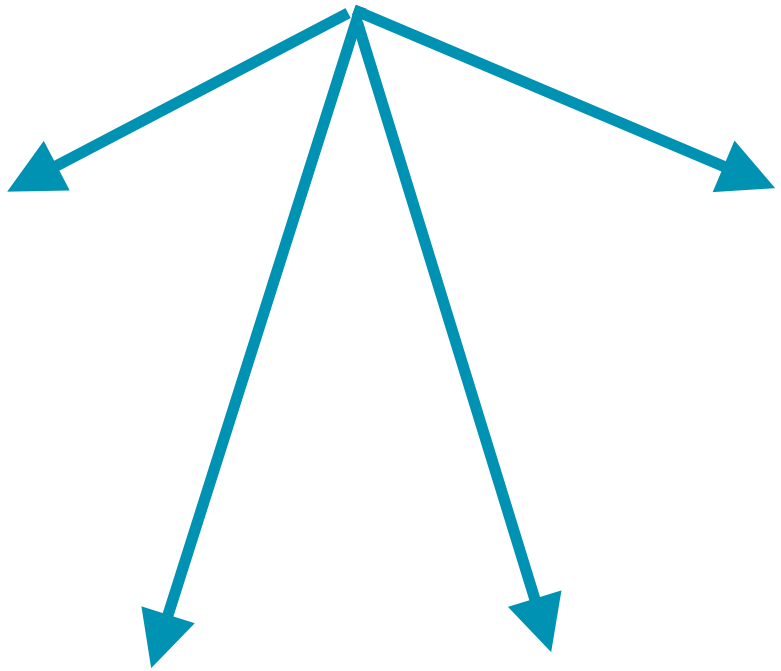
- ☐ Any patient safety concern has also been reported as a Patient Safety Alert.
- ☐ I can work on this idea by myself or with teammates. (If not, ask your supervisor for guidance on where to direct the issue.)
- ☐ I have arranged for support and coaching by my supervisor.

Date:
Idea contributor names and work team:
Title describing the problem:
What is the problem? What did you discover about the root cause when you asked **why** five times?
What is my idea?
How did I test my idea? Collect evidence to show whether the idea works. (Examples: Try it with 10 patients. Have the team use it for a week to see if it solves the problem. Stop producing it and observe for a month to see if it helps or hurts.)
Which waste did my idea address? ☐ Defects ☐ Inventory ☐Motion ☐ Processing ☐ Overproduction ☐Time ☐ Transportation
How did my idea impact the waste? (Examples: Saved 28 minutes in processing! Helped me achieve $1,250 reduction in inventory. Eliminated a potential defect.)
Finishing the idea: ☐ My final idea and results have been viewed by my supervisor. ☐ I have implemented the idea. **or** ☐ I will not be implementing the idea because of the test results. (You can still share it with your team for the sake of learning and celebrating the effort.)

Everyday Lean Idea — VirginiaMasonInstitute.org

© 2019 Virginia Mason Institute

Whole System Redesign



Redesign of Work Spaces

- Work Cells
- Acuity Adaptable
- Safety

Redesign of Work Culture

- Care driven by the needs of patients
- Trust
- Collaboration

Redesign of Work Processes

- Remove waste
- Value added time with patients

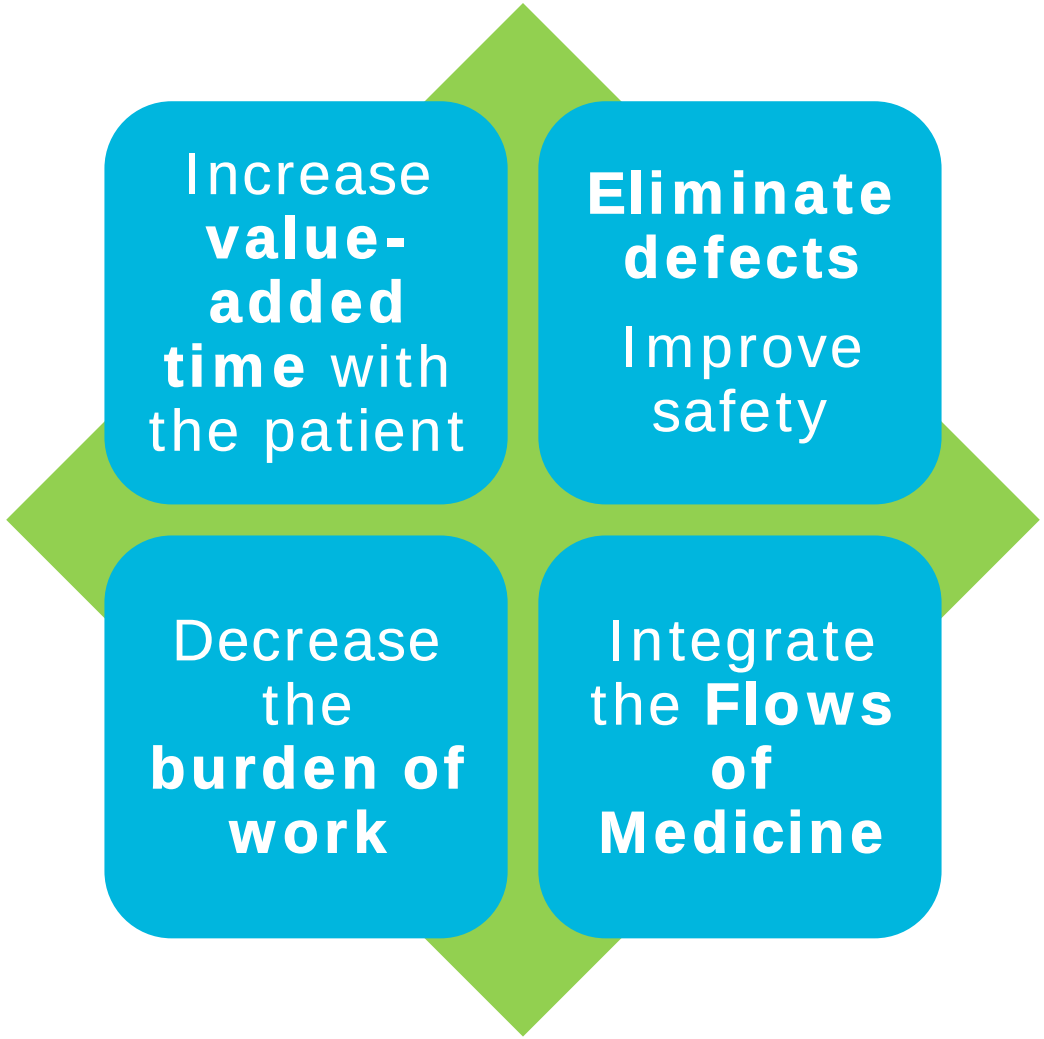
Redesign of Care Delivery Models

- Operators needed
- Skill task alignment

© 2019 Virginia Mason Institute

Virginia Mason Production System

Applications in nursing



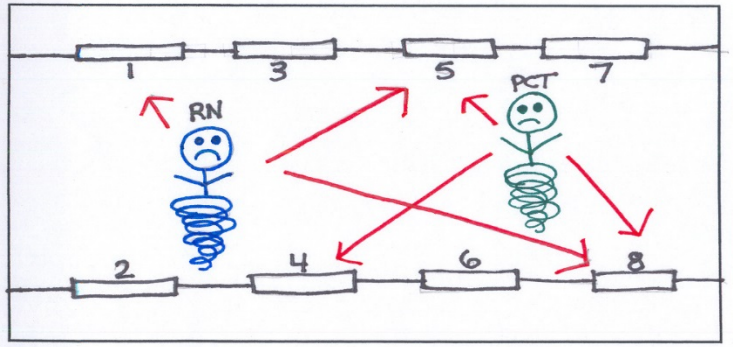
© 2019 Virginia Mason Institute

“Nursing Cells” – The Idea

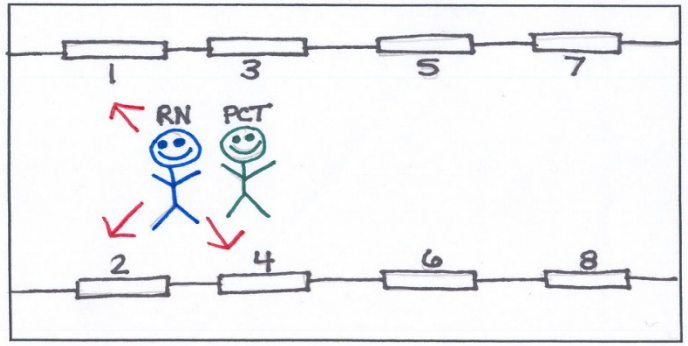
RAPID PROCESS IMPROVEMENT WORKSHOP IDEA FORM

Employee / Area	Problems	Measures Taken	Results
RN / PCT assignment patient room assignment	• RN works ē multiple PCT's + visaversa. • RN assignment spread throughout entire hallway due to pt. acuities • High risk patients clustered at nurse station • Geographical location of RN/PCT not of highest priority	• Create / diagram "cells" of rooms to be assigned to RN/PCT. • PCT's will work ē only 2 RN's in adjacent cells. • Cells will be rooms of close geographical proximity ē RN + PCT working in a more synchronized flow • High risk patients evenly spread over unit – not clustered.	• With RN + PCT both working in a cell, patient surveillance increased. • RN leaves cell less frequently • ↓ call lights • ↑ risk pts spread with level loading of cells • easier for RN/PCT to locate each other for assistance

Before Improvement



After Improvement



Remarks:

Name: Rowena

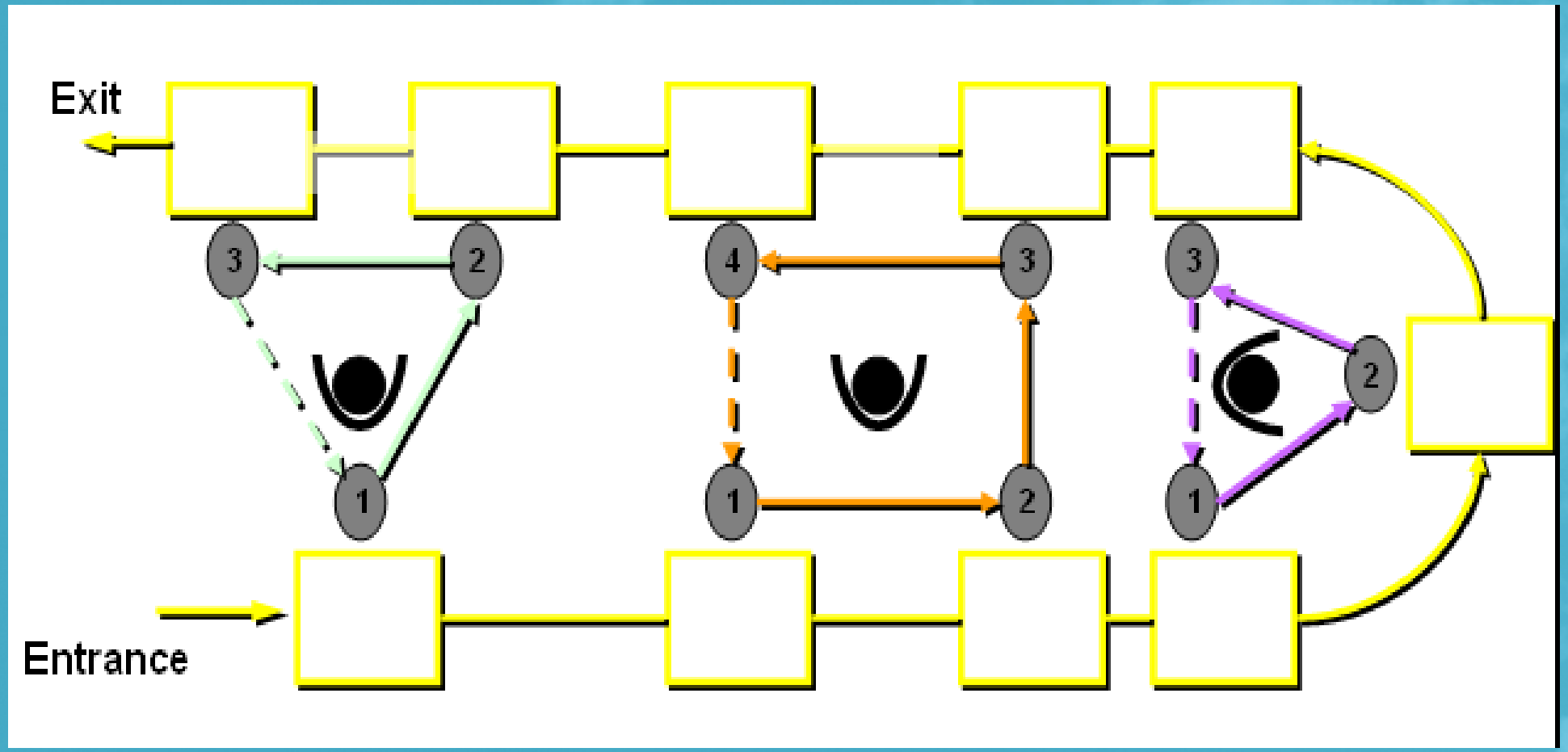
© 2019 Virginia Mason Institute

Application of Virginia Mason Production System Principles in Nursing

- Increase RN and PCT value added time with the patient
- Eliminate defects and improve safety
- Decrease “burden of work” for staff
- Integrate flow of patient, provider, medications, supplies, equipment and information
- Decrease lead time

© 2019 Virginia Mason Institute

The Best Arrangement is Often a “U” Shape



© 2019 Virginia Mason Institute

Foundational Elements Of Nursing Workflow

- Geographic assignments
- RN:PCT integration
- Documentation near the patient
- In-room handoffs
- Huddles every shift
- Hourly rounds by caregivers
- Daily Leader Rounds
- PeopleLink Boards

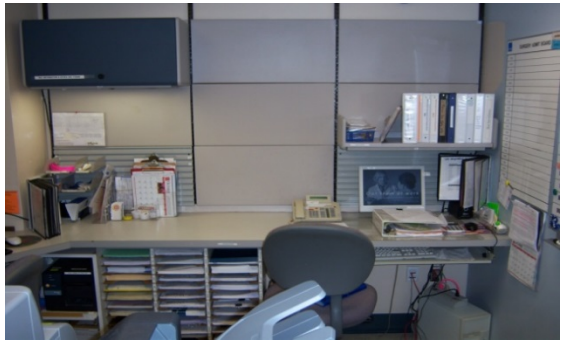
© 2019 Virginia Mason Institute

Space
5S

A place for everything and everything in its place.

- 5S is a **visually-oriented** system for **organizing the workplace** to minimize the waste of time.
- Enhances **quality and productivity**
- Make things easier to find and **problems or the abnormal more** visible.
- **Just in time** supplies and equipment increase time with the patient

Unit



Patient Room

© 2017 Virginia Mason Institute

Supermarket System

Enhancing staff workflows

Two bin system

Frequently used supplies at bedside

In-room linen supplied daily by housekeeper

© 2017 Virginia Mason Institute

Bedside Handoff Standard work

What

Bedside Handoff Checklist	
1	**Introduction**
	➢ Name of oncoming RN and assistant
	➢ Explains handoff process
	➢ Inquires how patient is feeling
2	**Background (Basics)**
	➢ Age, MD, reason for admission
	➢ Isolation
3	**Current status**
	➢ Brief history
	➢ Functioning prior to admission
	➢ Key medications
	➢ Tests for the day
4	**Assessment**
	➢ Patient identification
	➢ High risk meds
	➢ IV
	➢ Physical assessment
	➢ Precautions/Skin/Wound
	➢ Patient input
5	**Recommendations**
	➢ Plan of the Day
	➢ Safety concerns
	➢ Patient issues
6	**Closing**
	➢ "Is there anything you need at this time?"
	➢ Determine when will return

Why

- Introduction of oncoming caregivers
- Involve patient and family in the discussion
- Build in safety
- Adds time with patient

© 2019 Virginia Mason Institute

One-Piece Flow

Documentation in room or close to patients

© 2019 Virginia Mason Institute

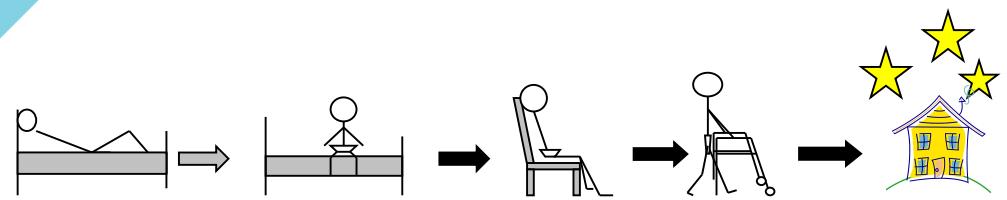
Skill Task Alignment

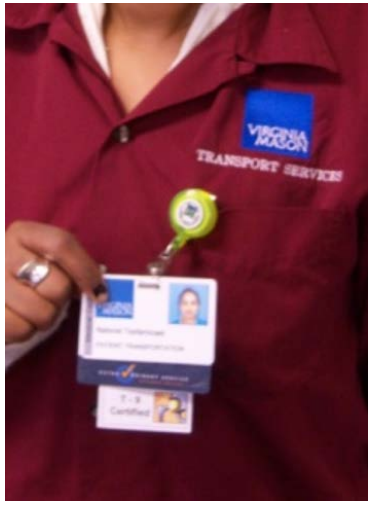
Flow at discharge

J • RIGHT OPERATOR

I • RIGHT WORK

T • RIGHT TIME



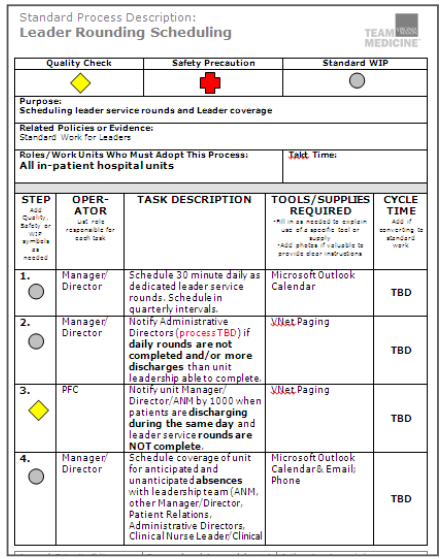


© 2017 Virginia Mason Institute

Daily Leader Rounding

Standard process so that every patient receives a service round from unit leader during their stay

- Visual Control
- Standard Work



Standard Process Description:
Leader Rounding Scheduling

Quality Check	Safety Precaution	Standard WIP
◆	✚	●

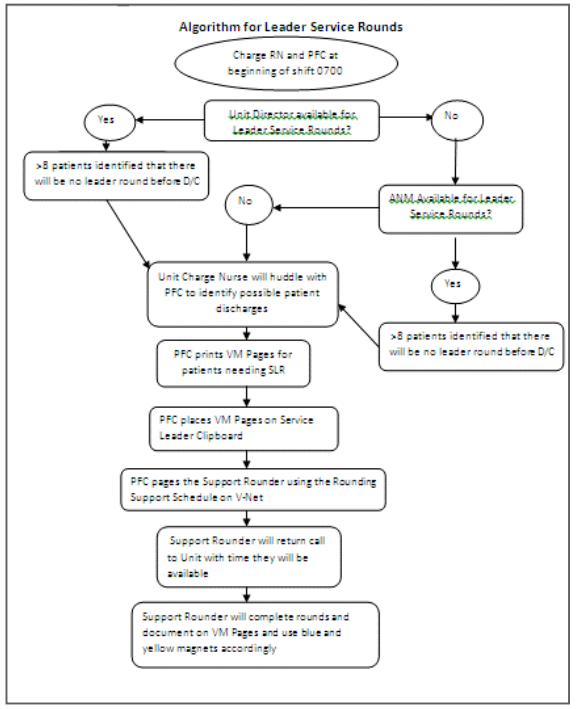
Purpose:
Scheduling leader service rounds and Leader coverage

Related Policies or Evidence:
Standard Work for Leaders

Roles/Work Units Who Must Adopt This Process:
All in-patient hospital units

Takt Time:

STEP	OPER-ATOR	TASK DESCRIPTION	TOOLS/SUPPLIES REQUIRED	CYCLE TIME
1. ●	Manager/ Director	Schedule 30 minute daily as dedicated leader service rounds. Schedule in quarterly intervals.	Microsoft Outlook Calendar	TBD
2. ●	Manager/ Director	Notify Administrative Directors (process TBD) if **daily rounds are not completed and/or more discharges** than unit leadership able to complete.	VNet Paging	TBD
3. ◆	PFC	Notify unit Manager/ Director/ANM by 1000 when **patients are discharging during the same day** and leader service **rounds are NOT complete.**	VNet Paging	TBD
4. ●	Manager/ Director	Schedule coverage of unit for anticipated and unanticipated **absences** with leadership team (ANM, other Manager/Director, Patient Relations, Administrative Directors, Clinical Nurse Leader/Clinical	Microsoft Outlook Calendar& Email; Phone	TBD



© 2019 Virginia Mason Institute

Leader Rounds

Executive/Frontline Leader Alignment and Sustainability

Foundational Elements Progress Report	
Unit:	Month: April 2010
Director:	
Director:	

Units	Geographic Assignments	RN/PCT Integration	In Room Handoff	Huddles Every Shift	Documentation near the Patient	Hourly Rounds by Caregiver	Daily Leader Rounds	People Link Board (PLB) Updated	Monthly Staff Huddles by PLB
Criteria	Visual Controls	Audit Tool	Observation	Observation	Observation	Audit Tool	Observation	Observation	Observation
CCU-7	NA	NA							
Level 7									
Level 8									
Level 9									
Level 10									
Level 11	NA								
Level 12	NA								
Level 14									
Level 15									
Level 16									
Level 17									
RHU									
ED									

Not Implemented
Implemented Plan with Progress
Fully Implemented

© 2010 Virginia Mason

© 2017 Virginia Mason Institute

People Link

	What Our Patients Say	**Our Focus**	**Target Sheet**
Our Focus and Purpose	**Purpose:** To remind staff that the focus of all our work is to ensure the best experience for our patients.	**Purpose:** To ensure that staff understand what are the important goals for Virginia Mason and the Department.	**Purpose:** To specify target metrics used to measure success toward department goals and the current status of those targets.
	Supporting Data		
Team Progress	**Purpose:** To provide specific data to support the department target sheet in the "Our Goals" section.		
	Our Patient's Experience (Value Stream Maps)		**Today's Work (Newspaper)**
Current Work	**Purpose:** To show the current state of a patient's experience, using the tools of VMPS.		**Purpose:** To ensure staff know the status of work currently identified to help archive department goals.
	We Need Your Ideas On…	**Everyday Lean Ideas**	**ELI Templates**
Turn Your Ideas into Action	**Purpose:** To help provide direction on which ideas are most needed by the team to help achieve goals.	**Purpose:** To highlight and celebrate ideas that the staff have submitted and tested with their manager.	**Purpose:** To ensure staff have easy access to the ELI template.

© 2019 Virginia Mason Institute

Outcomes

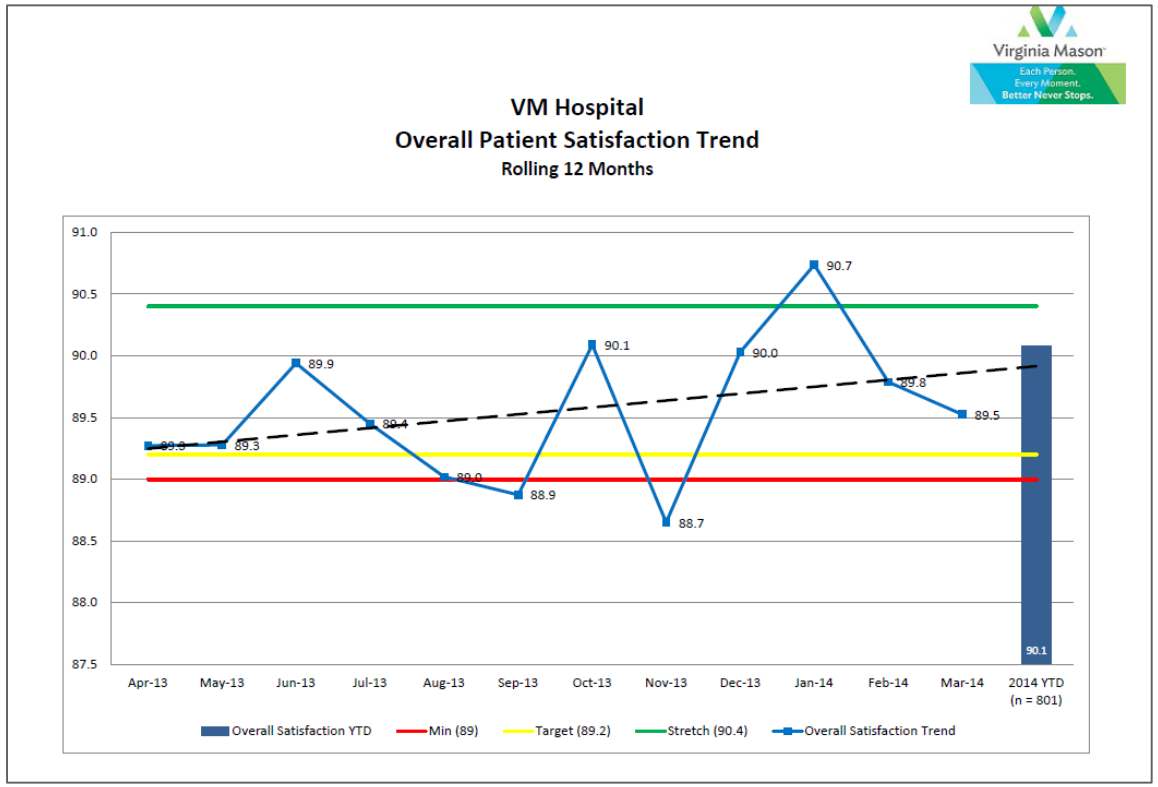
Before	After	Percent Change
RN # of steps = 5838	846	85.5%
PCT # of steps = 2664	1256	52.8%
Am cycle of work = 240 min	126 min	47.5%
Patient dissatisfaction = 21%	See next slide	
RN time spent in indirect care = 68%	10%	85.2%
PCT time spent in indirect care = 30%	16%	46.6%
Call light on from 7a-11a = 5.5%	0%	100%
Time spent gathering supplies = 20 min	11 min	45.0%

© 2019 Virginia Mason Institute

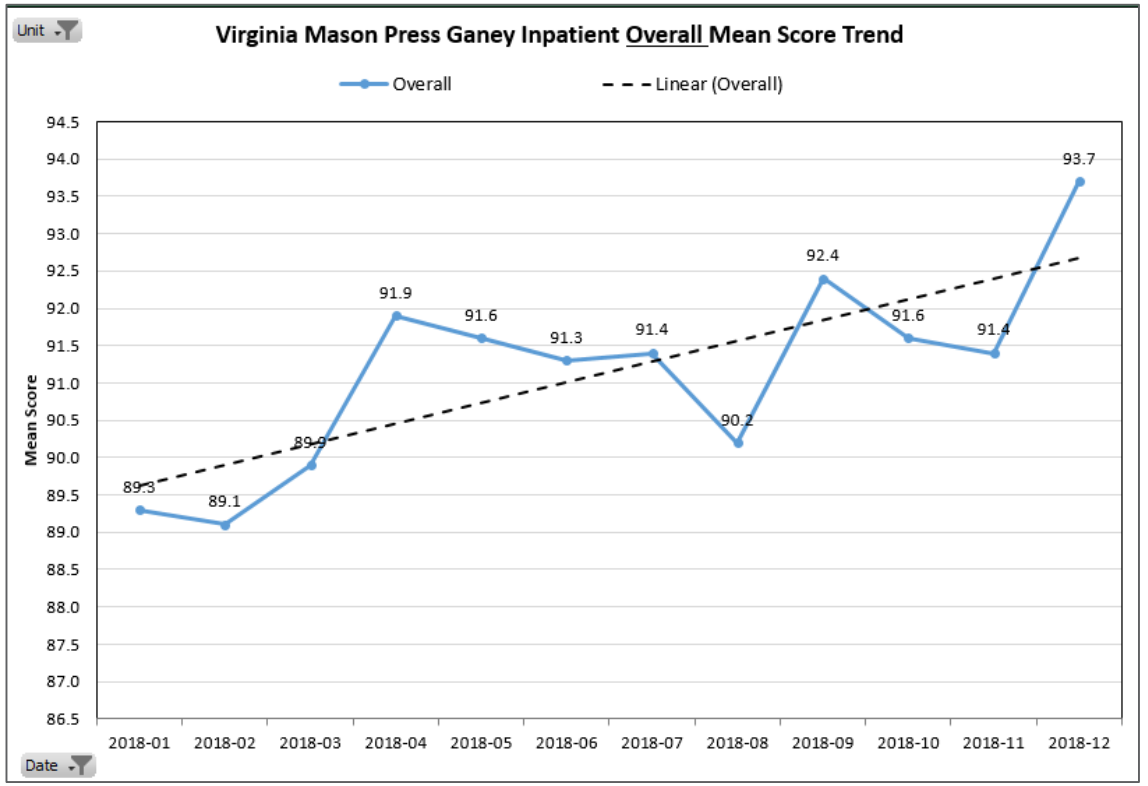
Quality Results

Kaizen: Continuous improvement

2013-2014



2018

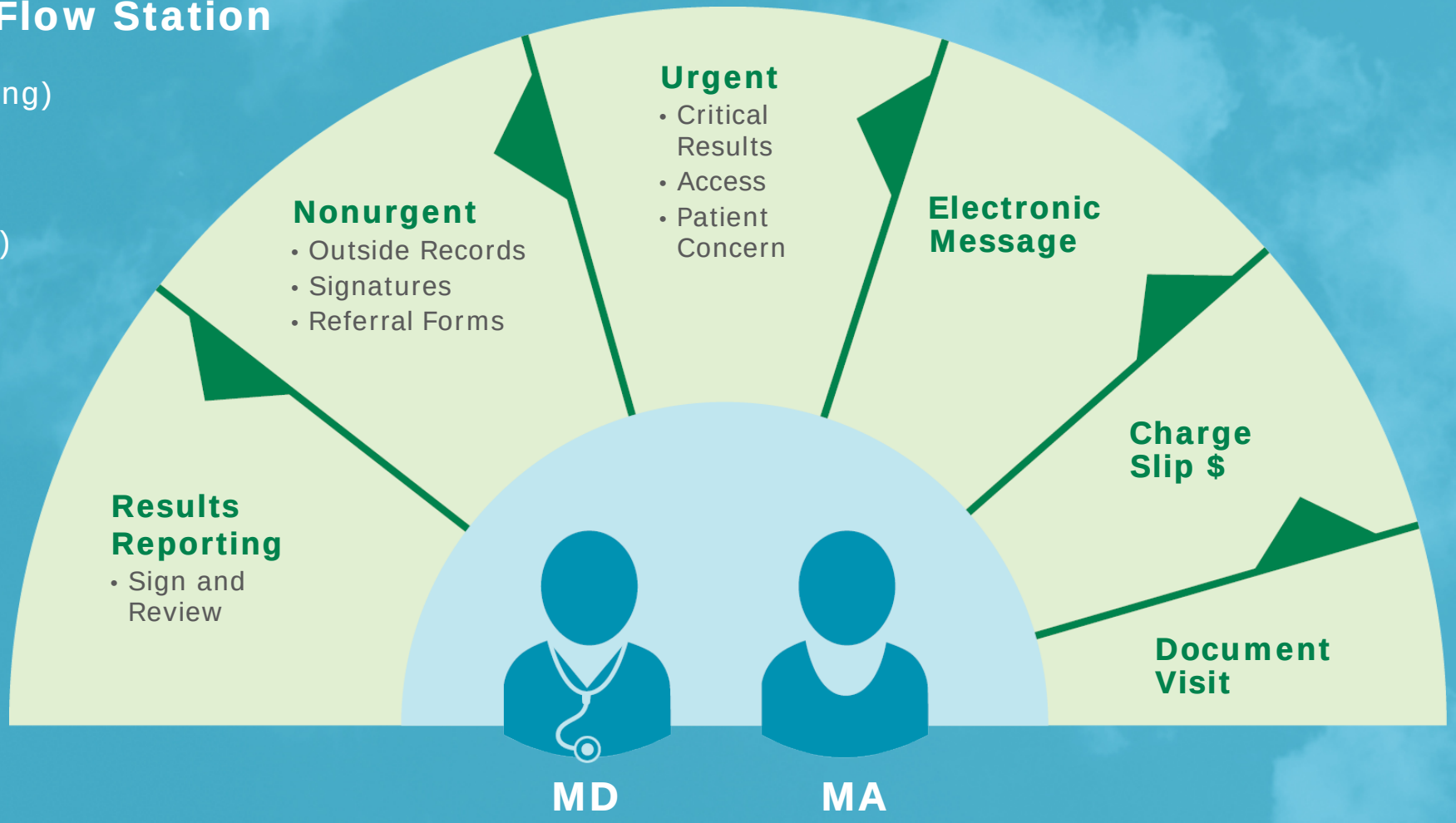


© 2019 Virginia Mason Institute

Ambulatory Care – Flow Stations

VMPS Concepts of a Flow Station

- Waste of motion (walking)
- Continuous flow
- Visual control (Kanbans)
- External setup
- Water strider
- U-Shaped Cell



© 2019 Virginia Mason Institute

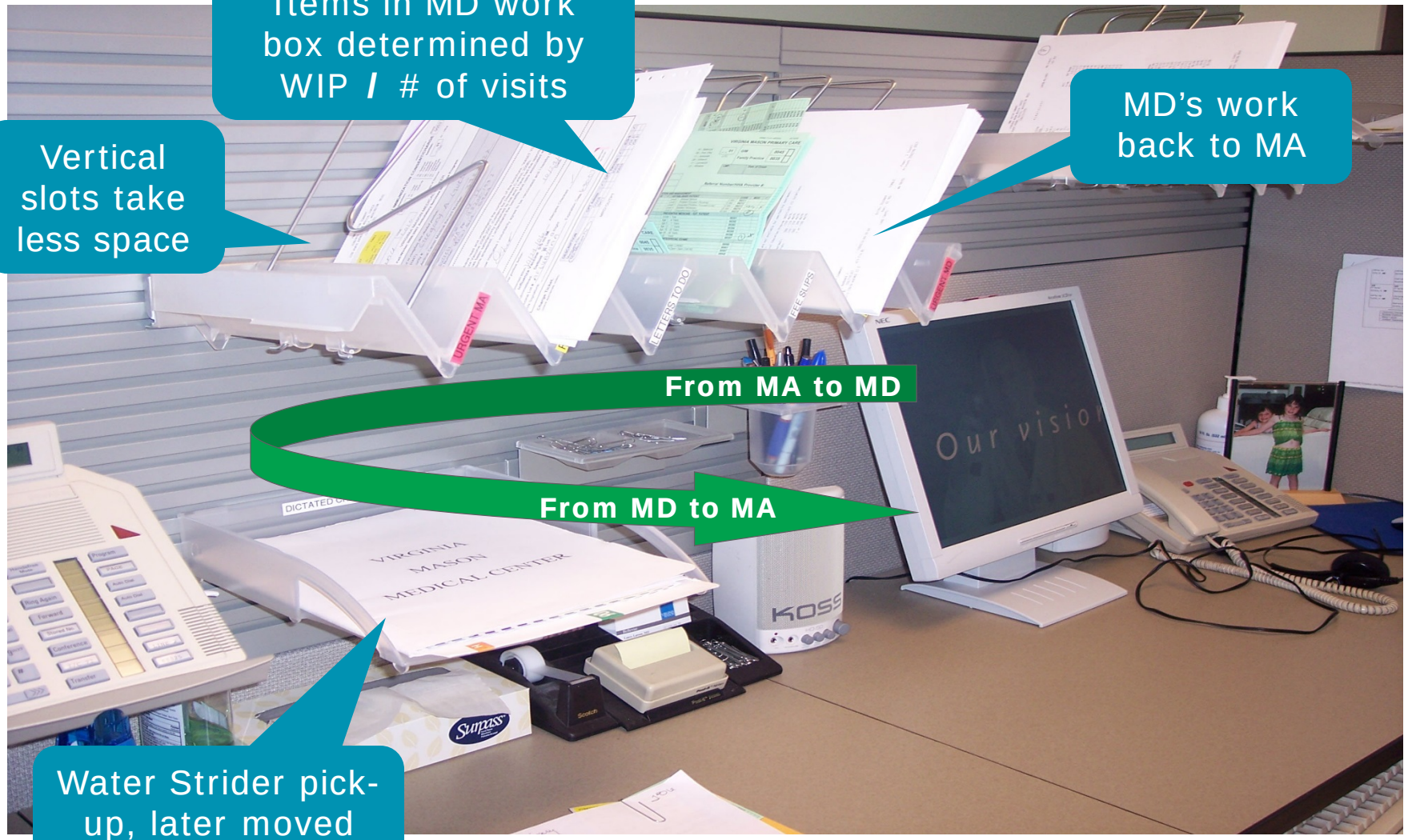
Flow: Unbatching Work

Traditional MD office and inbox for indirect care of information about patients

Virginia Mason Kirkland flow station for indirect care flow

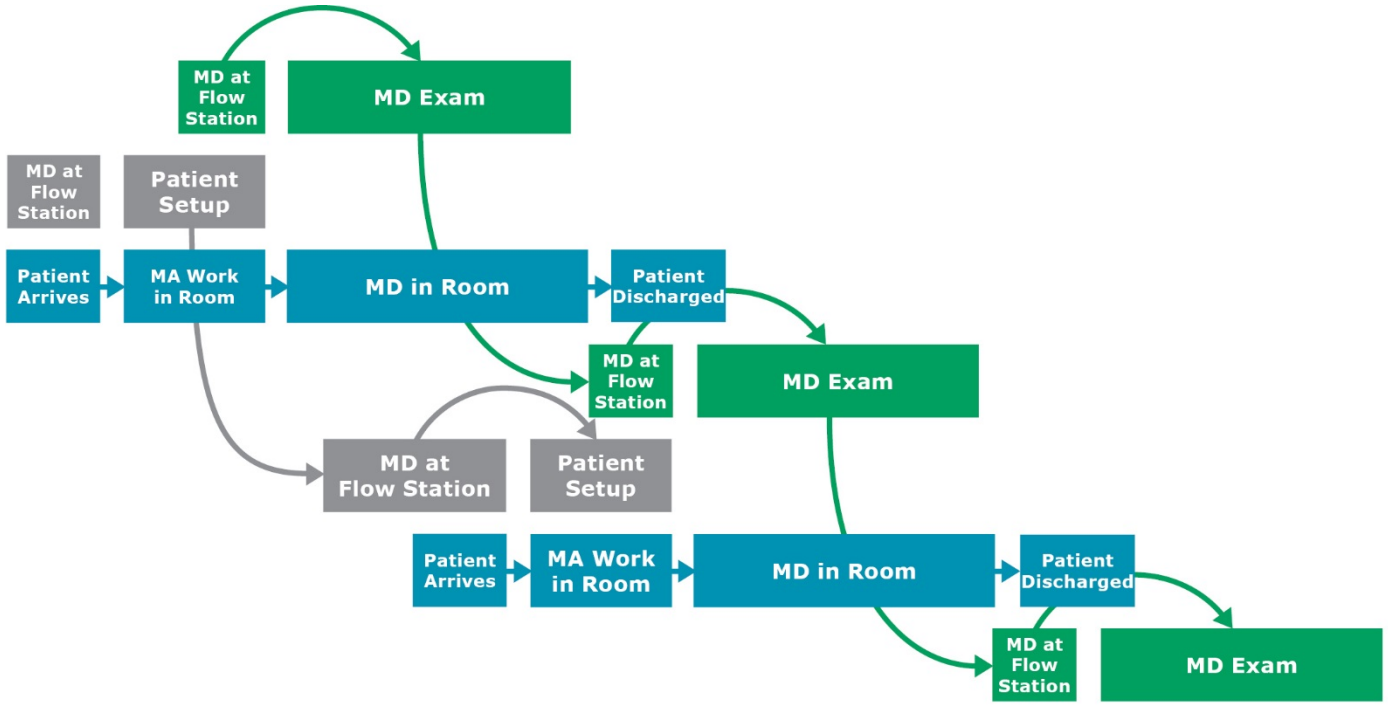
© 2019 Virginia Mason Institute

Bellevue Flow Station



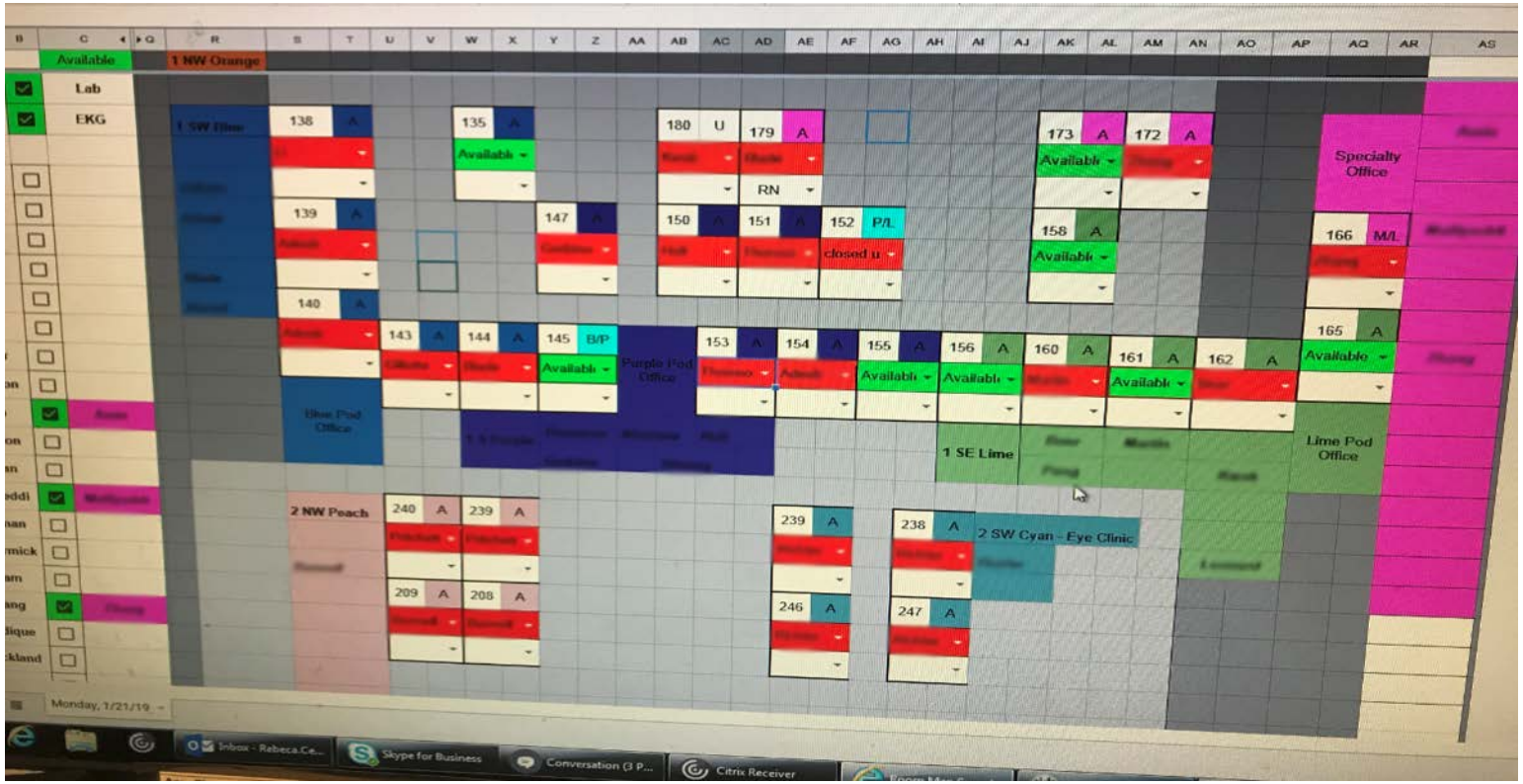
© 2019 Virginia Mason Institute

Achieving Flow



© 2019 Virginia Mason Institute

The Next Innovation: No Assigned Rooms!



Result: Currently achieving 85% exam room utilization

© 2019 Virginia Mason Institute

YOUR CARE TEAM

Pharmacist follows up on medication adjustments
Manages multiple medications

Provider assesses diagnosis and oversees the management of complex patients

Flow Master
manages prevention needs, sets agenda,
Manages flow and indirect care

Pharmacy Tech
Huddles, pulls patients
Manages prior auth, mail in orders, and medication asst programs

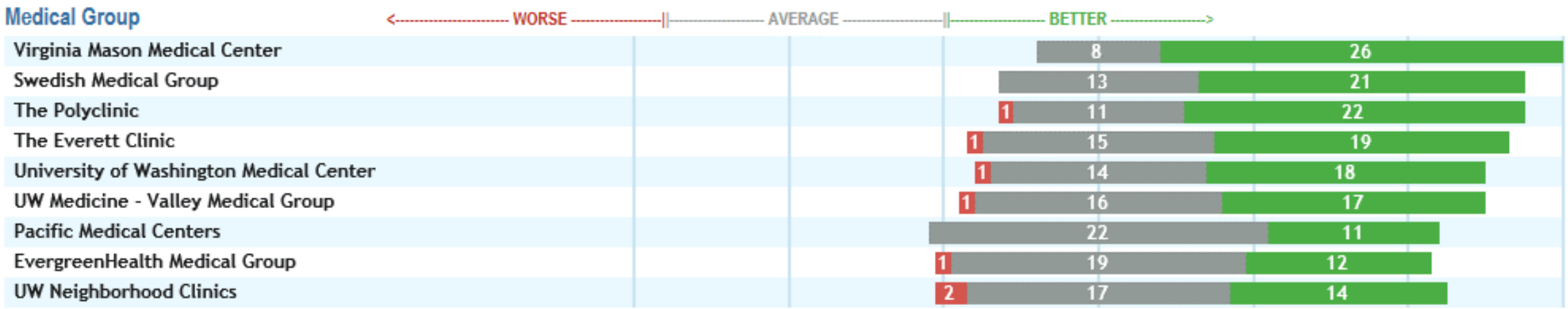
Patient
Activated and informed

RN Care Manager
Chronic illness goal setting and education
Personalized care plans

© 2019 Virginia Mason Insti

Quality Results

Quality and Service Performance Results from Washington Health Care Alliance



© 2019 Virginia Mason Institute

How well does your organization do at communicating its most important work?

How often do you go to the genba?

© 2019 Virginia Mason Institute

“In times of change, learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists.”

Eric Hoffer

© 2019 Virginia Mason Institute

Virginia Mason™

INSTITUTE

A **lean** journey is a **learning** journey™

© 2019 Virginia Mason Institute