A DISCUSSION ON LEAN, 3P DESIGN IN HEALTHCARE, AND THE LEAN LEADER

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Oregon Society for Healthcare Engineering

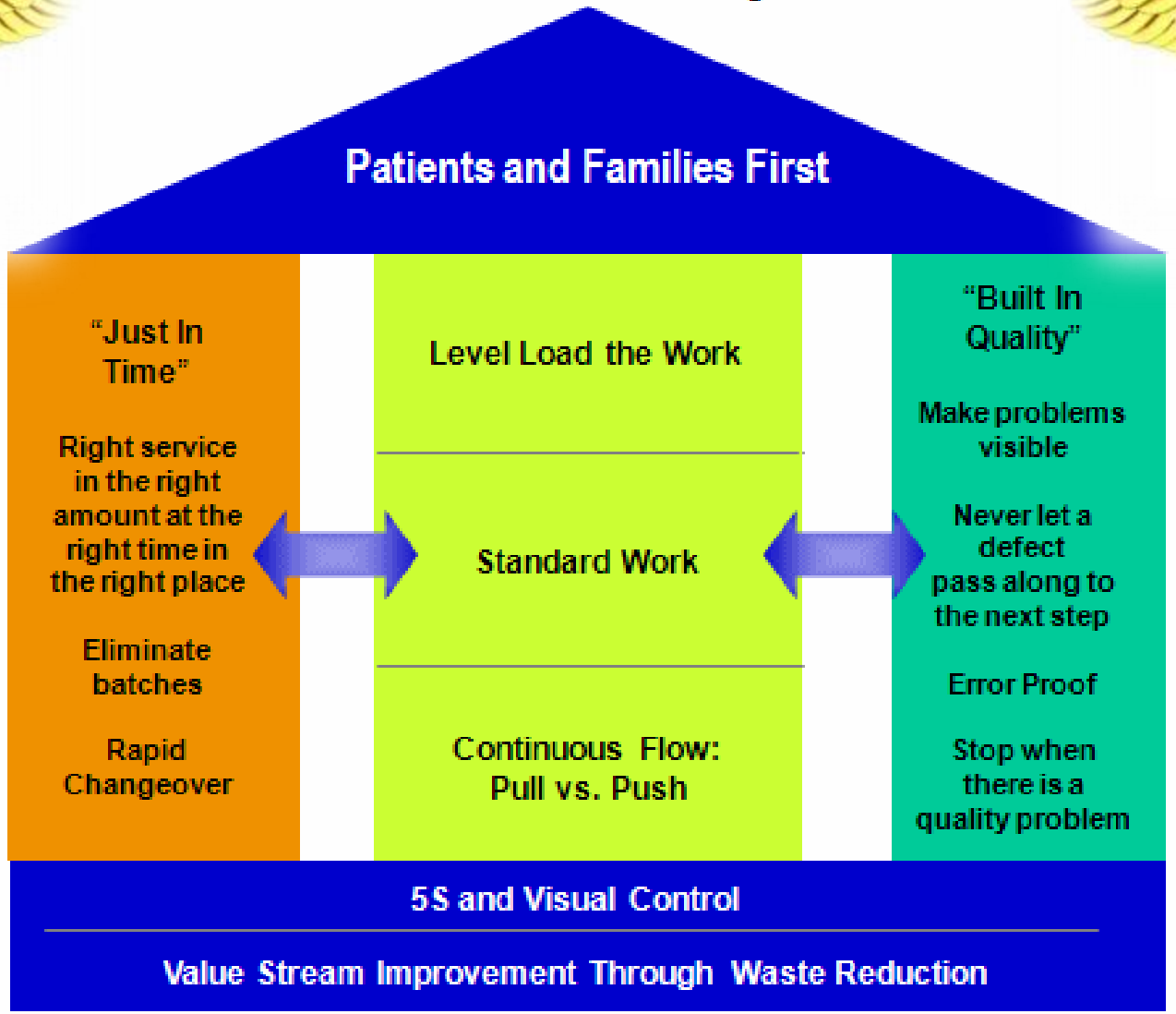
What is Lean Healthcare

Simple: A process for managing change and creating continuous improvement within the healthcare environment

Lean Healthcare **is not just another project**: it's a way to **transform** your entire organization into a **safe** and **high-quality**, **high-performing** healthcare delivery system.

The Four Pillars of 21st Century Healthcare

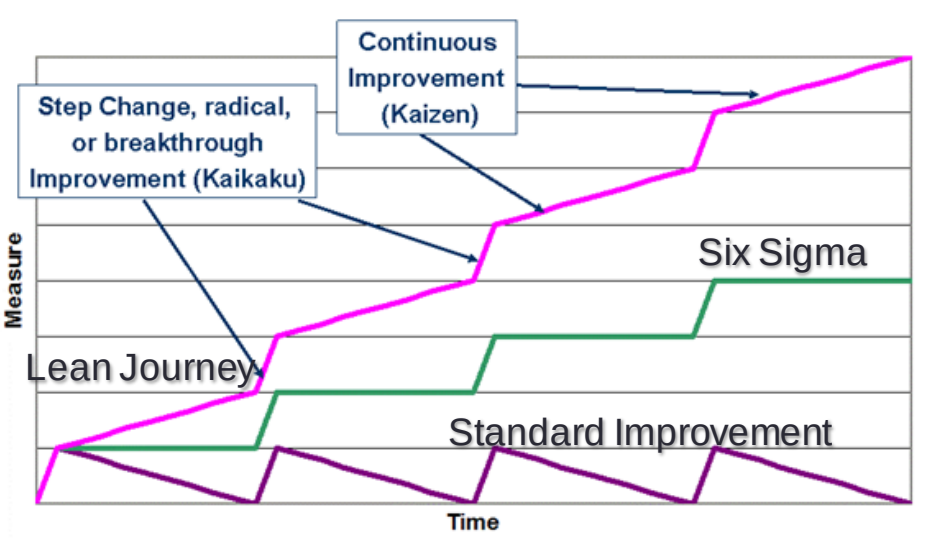
Lean Healthcare

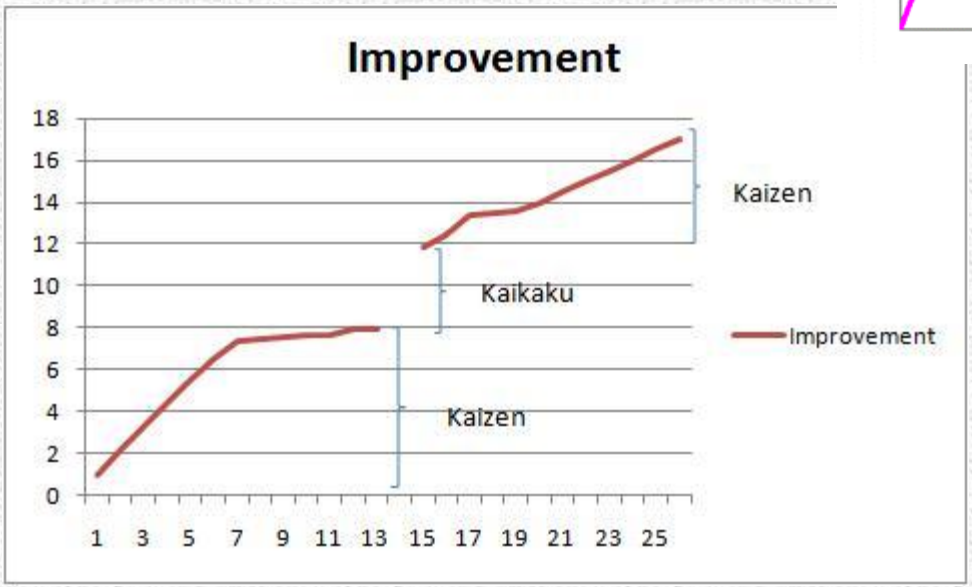


The Lean Journey

Kaizen:

- Kaizen Event
- Rapid Process Improvement Work Shop

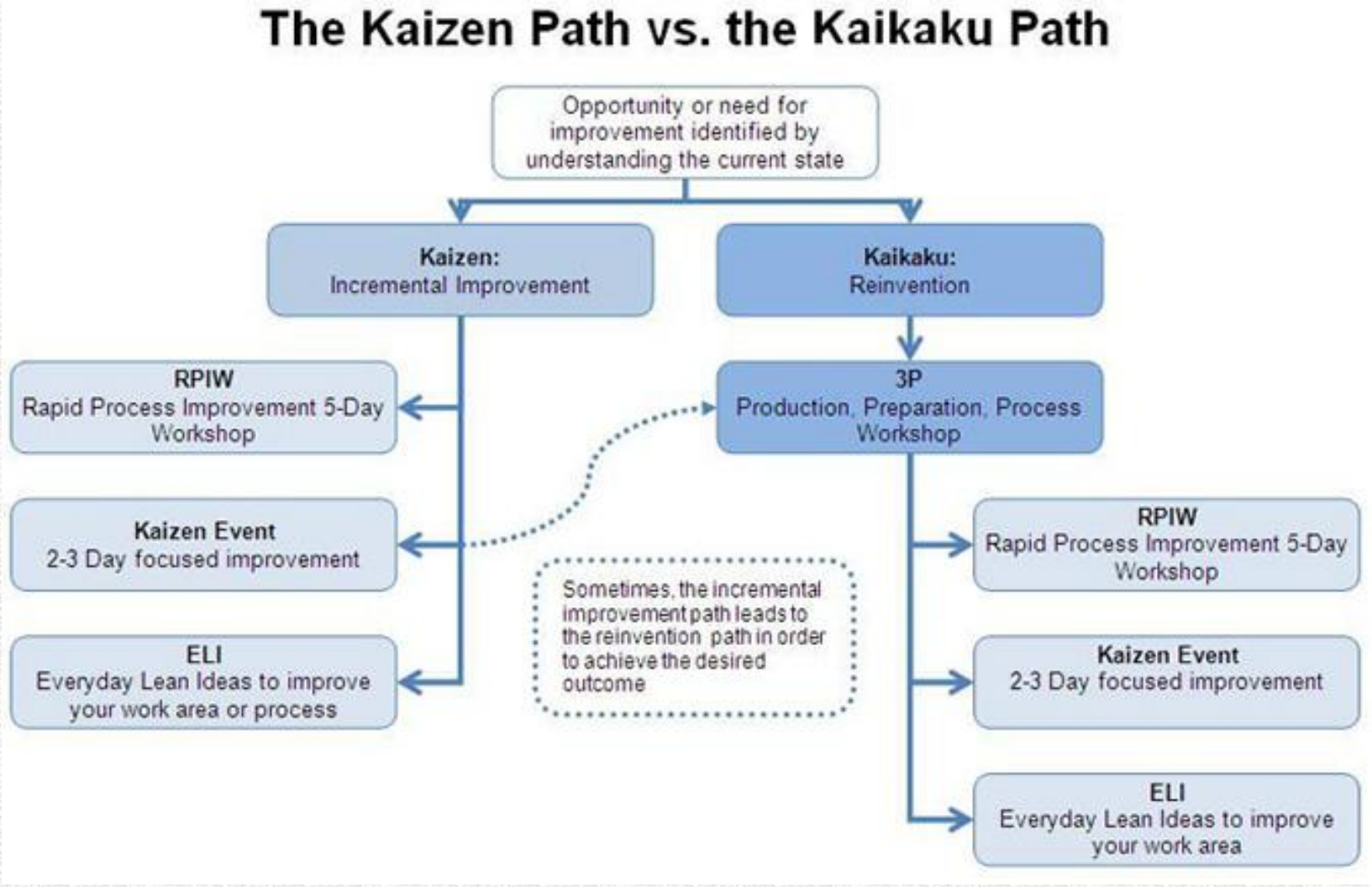




Kaikaku:

- 3P Work Shop

Kaizen is a MUST!



The Basics- You Must Relentlessly Pursue the Seven Wastes

Waste is any task or item that does not add value from the perspective of the customer.

Which is the Greatest Waste and Why?

There are Different Types of Waste

Type 1: Non-value added activities that are currently required, such as work to comply with regulations

Type 2: Non Value added activities that can be stopped immediately with no detrimental effect

Eliminate the Type 2 Wastes as soon as possible

What is True Value

The Value-Added Test

- Does the task contribute to meeting customer needs?
- Is the customer willing to pay for the task?
- Does the task transform the product/service?
- Does the customer want or need the transformation?
- Is the task done right the first time?

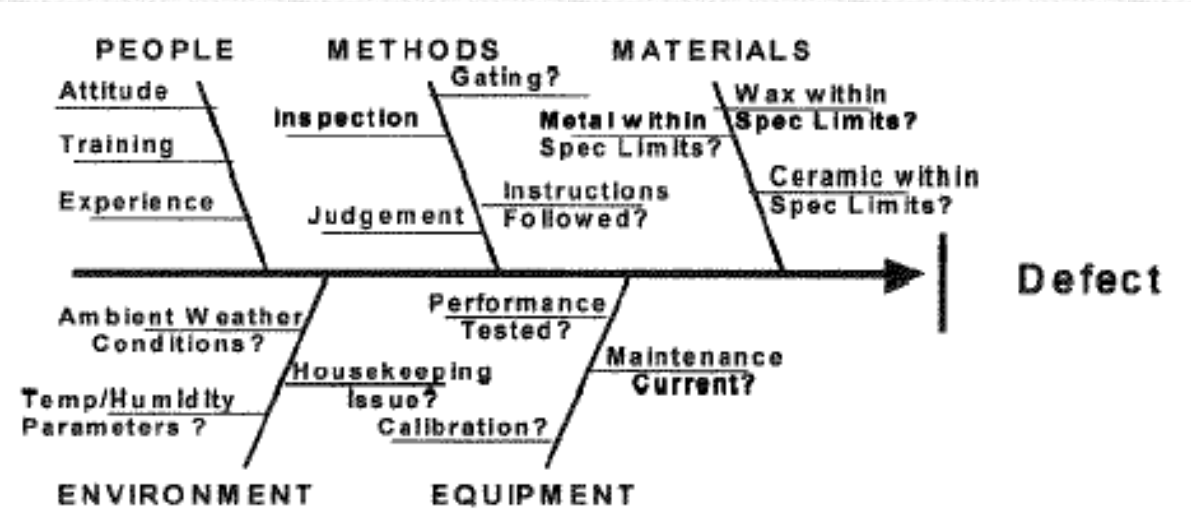
If you answer “No” to any of the questions is the task value-added?

Which of these tasks add value?

- Front Desk check in
- Directions to your doctor's office
- Waiting for your doctor
- Being shown into the exam room
- Taking your blood pressure
- Doctor reviewing your symptoms
- Writing the prescription for medication
- Filling out the billing form
- Billing information entered into IDX
- Making corrections to your bill

Defects

Defects are mistakes that go uncorrected



The purpose of a Lean Journey is to ensure

Defects at a 200 Bed Surgical Hospital

So what's good enough?

Imagine 96% quality at The Kennedy Woods Medical Center…

- 600 defective surgeries/year
- 501 defective transfusions/year
- 40,000 defective medication administrations/year
- 10,800 wrong meals served/year
- 68,000 defective bills sent/year
- 5,000 defective paychecks/year

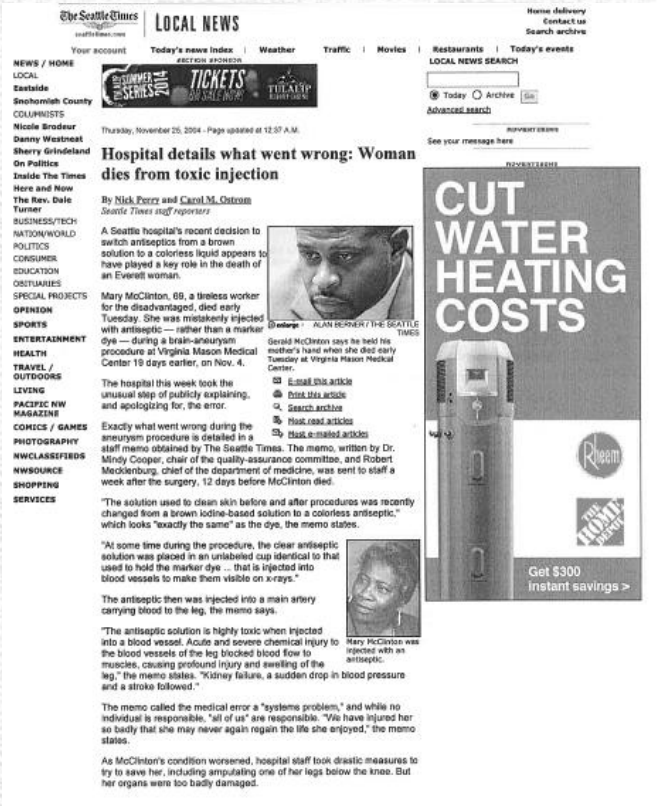
Again at 99.9% Quality

- Imagine 99.9% quality at Kennedy Woods Medical Center

- 15 defective surgeries/year
- 17 defective transfusions/year
- 1,000 defective medication administrations/year
- 182 wrong meals served/year
- 17,000 defective bills sent/year
- 125 defective paychecks/year

Are We Done?

Only 100% Perfection is Acceptable



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Thursday, November 25, 2004 - Page updated at 12:57 A.M.

Hospital details what went wrong: Woman dies from toxic injection

By Nick Perry and Carol M. Ostrom
Seattle Times staff reporters

A Seattle hospital's recent decision to switch antiseptics from a brown solution to a colorless liquid appears to have played a key role in the death of an Everett woman.

enlarge | ALAN BERNER / THE SEATTLE TIMES

Gerald McClinton says he held his mother's hand when she died early Tuesday at Virginia Mason Medical Center.

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Mary McClinton, 69, a tireless worker for the disadvantaged, died early Tuesday. She was mistakenly injected with antiseptic — rather than a marker dye — during a brain-aneurysm procedure at Virginia Mason Medical Center 19 days earlier, on Nov. 4.

The hospital this week took the unusual step of publicly explaining, and apologizing for, the error.

Exactly what went wrong during the aneurysm procedure is detailed in a staff memo obtained by The Seattle Times. The memo, written by Dr. Mindy Cooper, chair of the quality-assurance committee, and Robert Mecklenburg, chief of the department of medicine, was sent to staff a week after the surgery, 12 days before McClinton died.

"The solution used to clean skin before and after procedures was recently changed from a brown iodine-based solution to a colorless antiseptic," which looks "exactly the same" as the dye, the memo states.

"At some time during the procedure, the clear antiseptic solution was placed in an unlabeled cup identical to that used to hold the marker dye ... that is injected into blood vessels to make them visible on x-rays."

The antiseptic then was injected into a main artery carrying blood to the leg, the memo says.

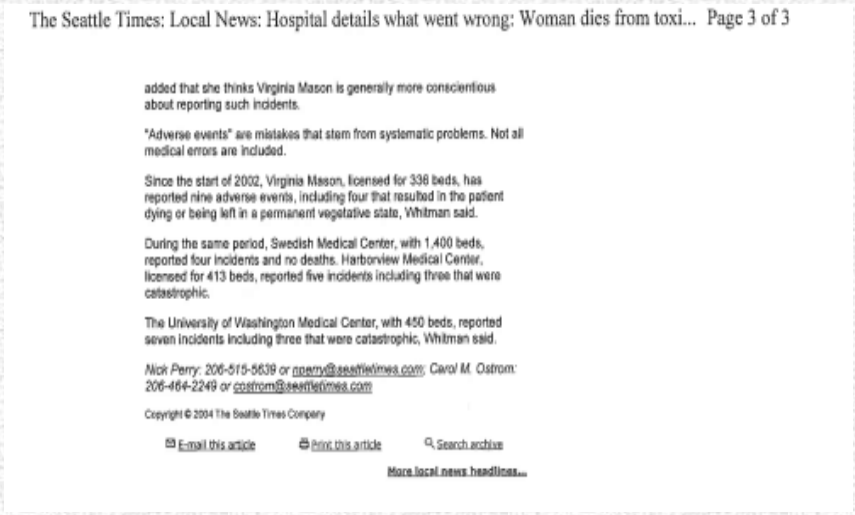
Mary McClinton was injected with an antiseptic.

"The antiseptic solution is highly toxic when injected into a blood vessel. Acute and severe chemical injury to the blood vessels of the leg blocked blood flow to muscles, causing profound injury and swelling of the leg," the memo states. "Kidney failure, a sudden drop in blood pressure and a stroke followed."

The memo called the medical error a "systems problem," and while no individual is responsible, "all of us" are responsible. "We have injured her so badly that she may never again regain the life she enjoyed," the memo states.

As McClinton's condition worsened, hospital staff took drastic measures to try to save her, including amputating one of her legs below the knee. But her organs were too badly damaged.

"... Perhaps the only way we can make our apology real is to do everything we can to prevent medical errors in our system," reads a statement on the hospital Web site.



The Seattle Times: Local News: Hospital details what went wrong: Woman dies from toxi... Page 3 of 3

added that she thinks Virginia Mason is generally more conscientious about reporting such incidents.

"Adverse events" are mistakes that stem from systematic problems. Not all medical errors are included.

Since the start of 2002, Virginia Mason, licensed for 336 beds, has reported nine adverse events, including four that resulted in the patient dying or being left in a permanent vegetative state, Whitman said.

During the same period, Swedish Medical Center, with 1,400 beds, reported four incidents and no deaths. Harborview Medical Center, licensed for 413 beds, reported five incidents including three that were catastrophic.

The University of Washington Medical Center, with 450 beds, reported seven incidents including three that were catastrophic, Whitman said.

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What is 3P

A variation of the RPIW, it is an adaptation of manufacturing's "production preparation process," or "3P" workshop.

Clinicians, operations staff and managers, architects, contractors and lean experts collaborate on achieving facility design to optimize the seven healthcare flows:

Staff	Information	Supplies
	Patients	
Medications	Equipment	Families

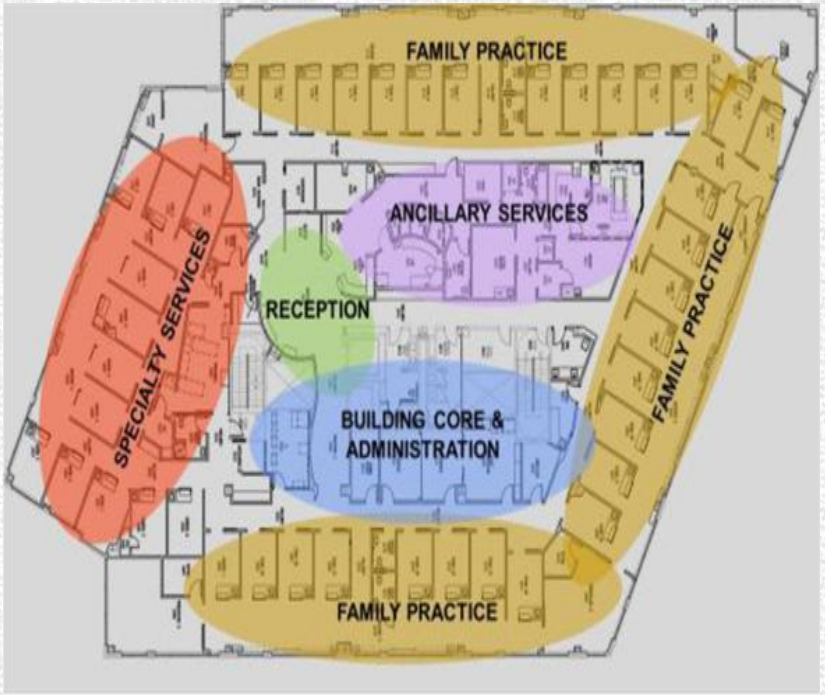
Designing Lean- The 3P

When

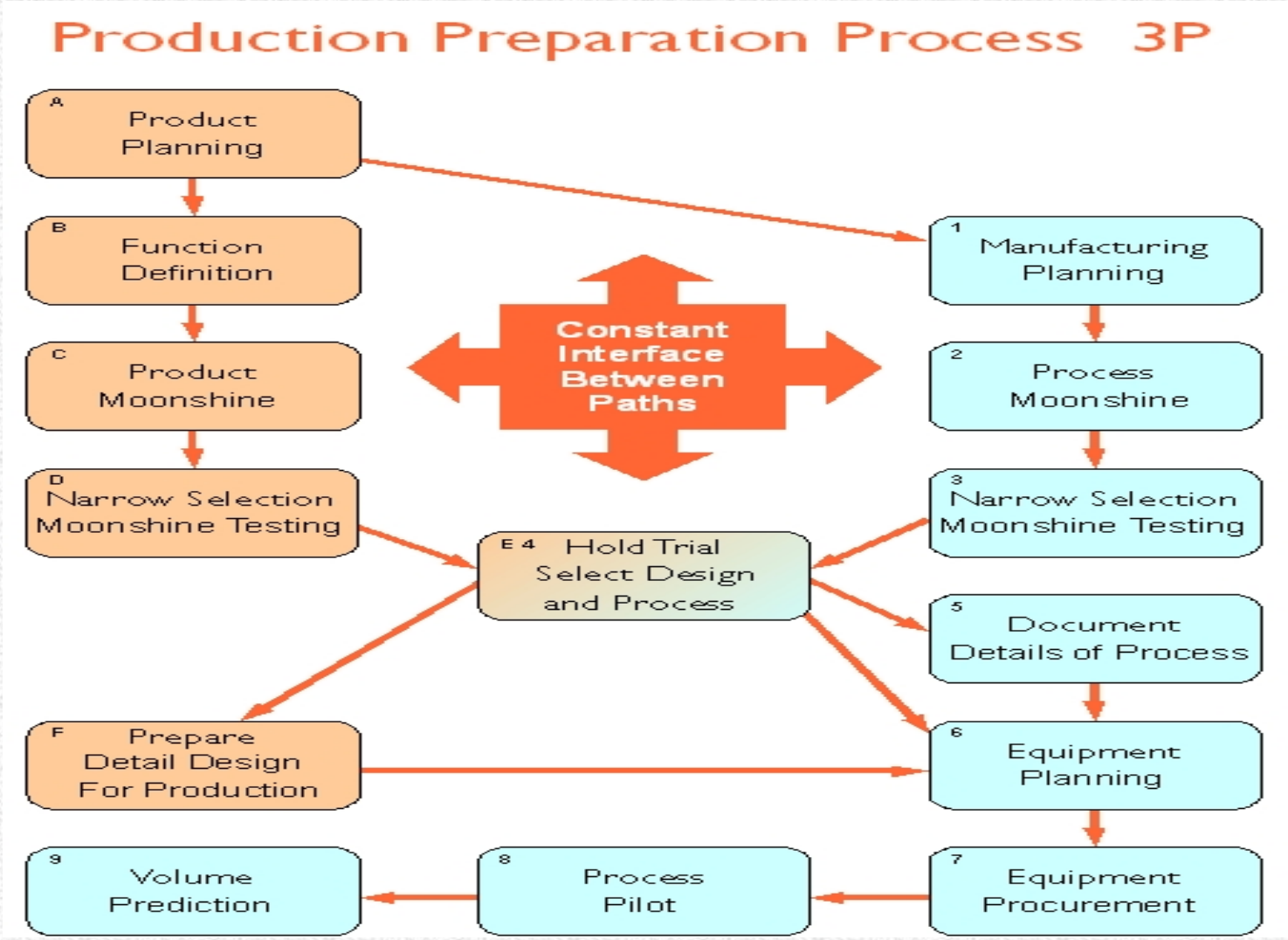
- New Facility Development
- New Service Line Development
- A Significant Change in Production Schedules
- Upgrading or Changing Equipment

Why

- Will Provide Effective Defined Planning
- Implements Remedial Measures for Existing Issues
- Incorporates New Production Methods Discovered Through Kaizen
- Will Shorten Lead Times



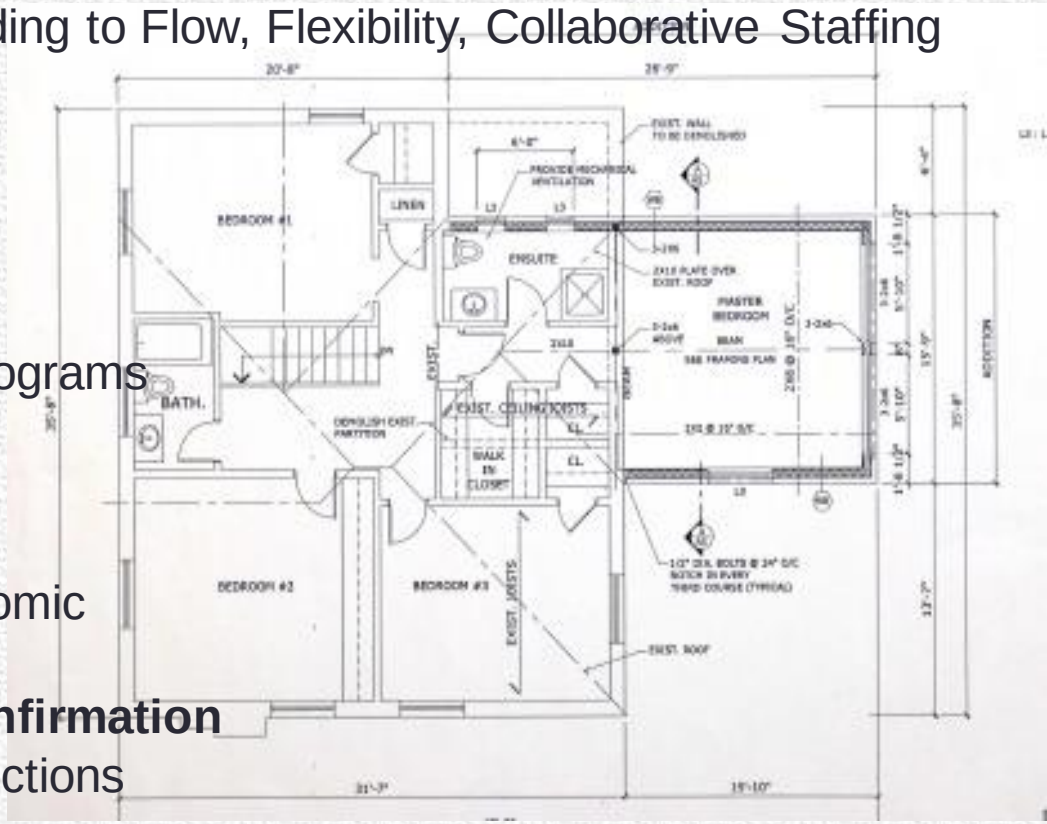
Steps of 3P- Any Industry, Every Time



3P- The Good…….

This is where Lean Planning, Design, and Development takes place.

- **Allows the Team to First Refocus on the Process Flow**
  - What and How Many
  - New Flows Focused on Process Commonalities or Cycle Times
  - New Layouts Developed according to Flow, Flexibility, Collaborative Staffing Support
- **And People Flow**
  - Development of Tact Time
  - Work Sequence
  - Standard Work and Training Programs
  - Visual Management
- **Then Equipment**
  - Right Sized, Right Type, Ergonomic
- **And Finally Imbedded Quality Confirmation**
  - 100% In-Line, In-Process Inspections



3P- The Bad…….

Teams See the 3P Opportunity to Design and Space but not Flow and Quality

The Focus of the 3P Must Always Be on the 7 Flows of Medicine and the Imbedded Quality Checks Within the Flows!

Teams See the 3P Opportunity for Design and Space but not Planning and Development

The Steps to a Successful 3P are

1. Process Planning
2. Proto Typing- Design Test and Evaluation
3. Volume Based Production Design

3P- The Ugly……

- 3P's Begin and End the Lean Journey
- Consultants Try to Coach & Play
- Time is Spent Trying to Win the Approval of the Doubter
- Goals Become Barriers
- We Start by Building a Hospital
- Failure is seen as Failure

And One More Time…3P is.....

When the people who do the work examine the way the work is performed now, recognize what processes work well and should be optimized in the new design along with identifying and repairing the systems that should be changed before the move……

A 3P is about process, flow & quality.

It is NOT about design and construction.

What is a Lean Leader?

Character Traits of a Lean Leader

Talk Straight

- Open, Honest, & Candid- No Spin, Posturing, or Lying

Demonstrate Respect

- Genuinely care for others, show you care

Be Transparent

- Tell the truth in a way people can Verify, with openness and authenticity

Right Wrongs

- Make things right when you are wrong, Make it quick and with restitution when necessary

Show Loyalty

- Give credit to others and represent others when they are not present

Competency Traits of a Lean Leader

- Deliver Results
  - Get the right things done- results not activities
- Get Better
  - Always improve, increase your capabilities and take feedback- often and thankfully
- Confront Reality
  - Take issues head on- especially the undiscussables. Do not skirt the real issues
- Practice Accountability
  - Hold yourself accountable.

Social Traits of a Lean Leader

- Listen First
  - Truly attempt to understand and diagnose- Listen with your eyes, ears, and heart
- Keep Commitments
  - Say what you are going to do and do what you say. Make your commitments carefully but keep them at all costs
- Extend Trust
  - Demonstrate the propensity to trust- This truly makes a leader.

Trust simply means confidence, you know it when you see it.

Jack Welsh

Thank You….And Remember……

Fail Forward Fast

If you haven't failed then you haven’t tested the boundary of your maximum efficiency!

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