



WIA Training/KARS

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Implementation of Lean Kaizen in encouraging Hospital culture



Critical Issues in Global Healthcare

Geopolitic

Borderless
Countries

Regionalizations -
AEC

Geographical
Limitations to
Access

Socio-economic

Netizen

Rise of
Middle Class

Medical
Technology

Medical
Tourism

Healthcare
Shortage
Workforce

Skills Gap

Epidemiology

Non
Communicabl
e Diseases

Longevity

Catastrophic
Diseases

COVID-19

Healthcare Paradigm Shift

Universal
Health
Coverage Policy

Healthcare
Payment
Reform

Self
Care

Preventive
Medicine

Personalized
Medicine

Healthcare
Consumerism

Healthcare Urgencies



How Lean Management might help?

Lean Management can increase healthcare value delivery by Improving Healthcare Quality & Decreasing Healthcare Cost

Lean Healthcare Benefits

1. Lean healthcare cuts out wasted time and resources
2. Increases the process efficiency of admitting and treating patients
3. Improve direct patient care process
4. Allows more patients to be treated
5. Allows hospitals to leverage existing assets and generate higher margins



What is Lean?

1 Objective

1. Lean is an integrated philosophy, set of principles and tools management based on the Toyota Production System (TPS)
2. Eliminate everything that does not add value (waste) in the patient's eyes

2 Focus & Scope

1. Value streams or processes
2. Focused on improving process performance
3. Clear view of end state

3 Approach & Tools

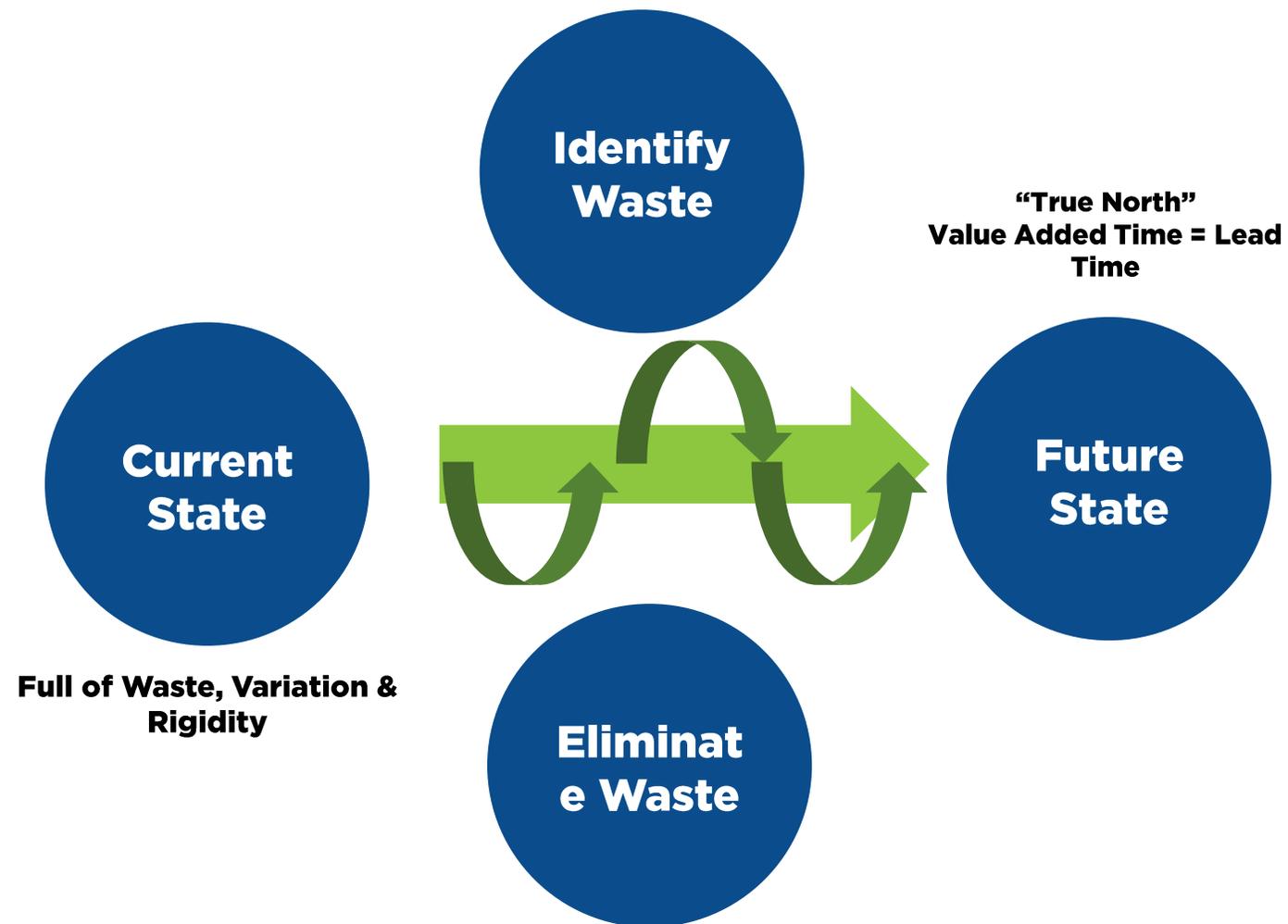
1. Wide range of Lean Methods & Tools available
2. Learning by doing approach
3. Culture of Continuous Improvement

Lean Principles

1. **Specify Value:** from the standpoint of the end customer (patient)
2. **Identify the value stream:** all process steps across departmental boundaries (the value stream), eliminating steps that do not create value
3. **Make value flow continuously:** eliminate causes of delay, such as batches & quality problems
4. **Let customers pull value:** avoid pushing work onto the next process or department; let work and supplies be pulled as needed
5. Pursue perfection through **continuous improvement**

Lean Thinking Philosophy

1. Identify & Eliminate all activities that are waste.
2. Focus on optimal flow throughout process
3. Focus on creating value for patients.



Lean isn't...



1. Laying off employees by the bus load
2. Only applies to manufacturing companies
3. A cost reduction program
4. Delivering less or working harder
5. Just a set of “tools” like 5S, kaizen events, etc
6. Automation or implementing IT system
7. Something that succeeds “bottom up” without leadership understanding and support
8. Something that can be precisely planned at the outset, it must evolve in any organization
9. Something that anyone can understand without hands on experience

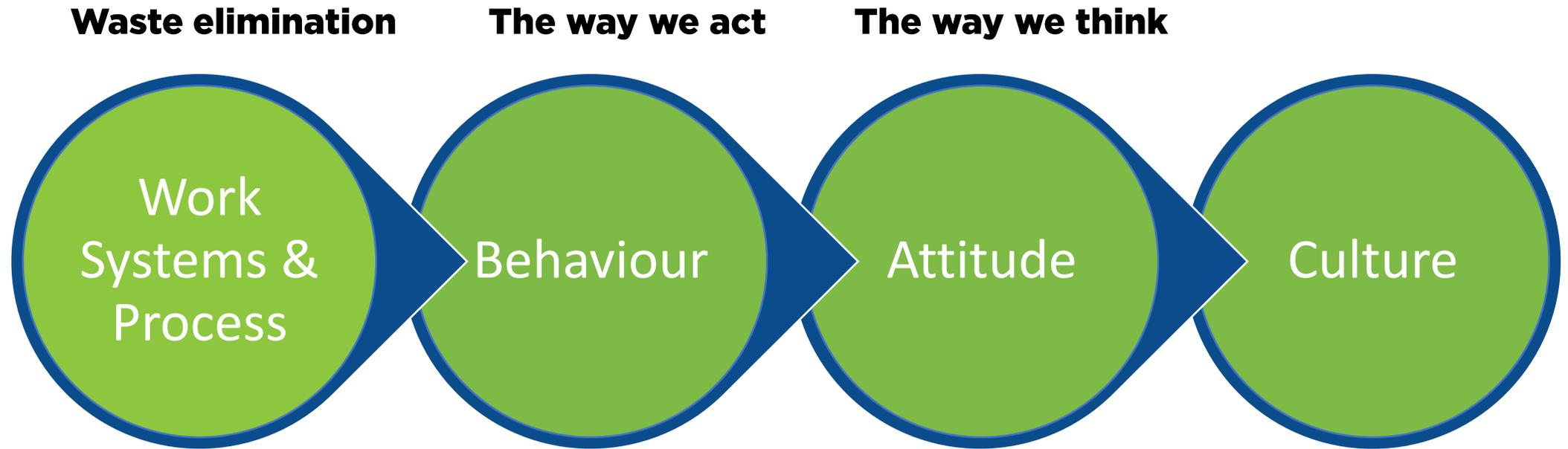
True lean is about principles, not tools:



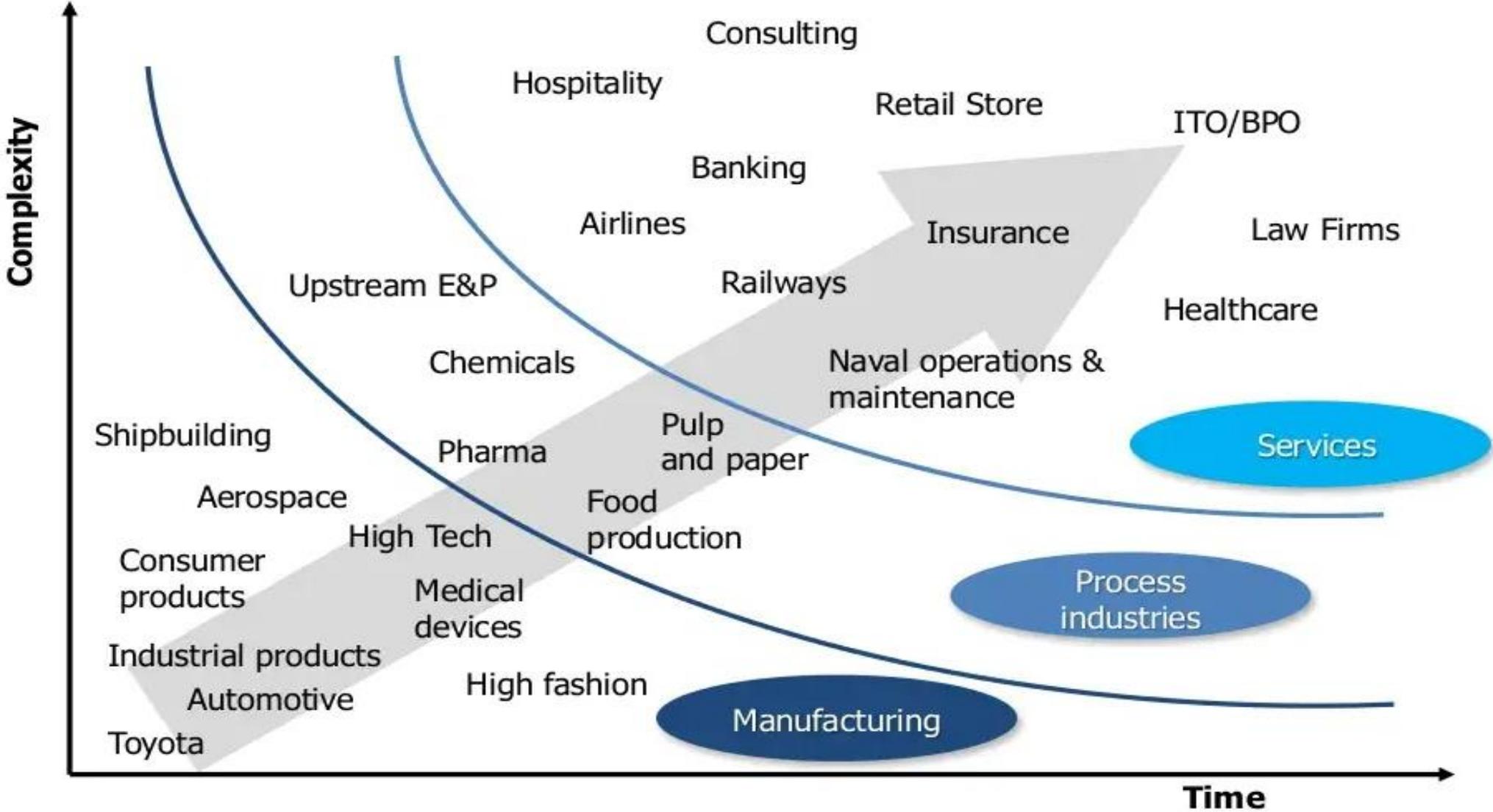
- 1. Directly observes work as actions** (steps taken), connections (how customer/supplier pairs function) and flows (paths and rates for material, information and people)
- 2. Engage in systematic waste elimination** – Understand waste and value, and how to identify and reduce or eliminate waste
- 3. Establish high agreement on what (goals) and how (process) value a common way or process**, with low ambiguity, more than you value your own way
- 4. Encourage systematic problem solving by using a standard system** to expose and solve problems
- 5. Create a learning organization** – experiment and follow PDCA cycle, reflect, manage comfort and fear zones and provide the time to do it



Lean Facilitates a Culture Change



Lean has been adopted in many different environments since its creation



Adapted from: Operational Excellence Consulting



When and how does it apply?

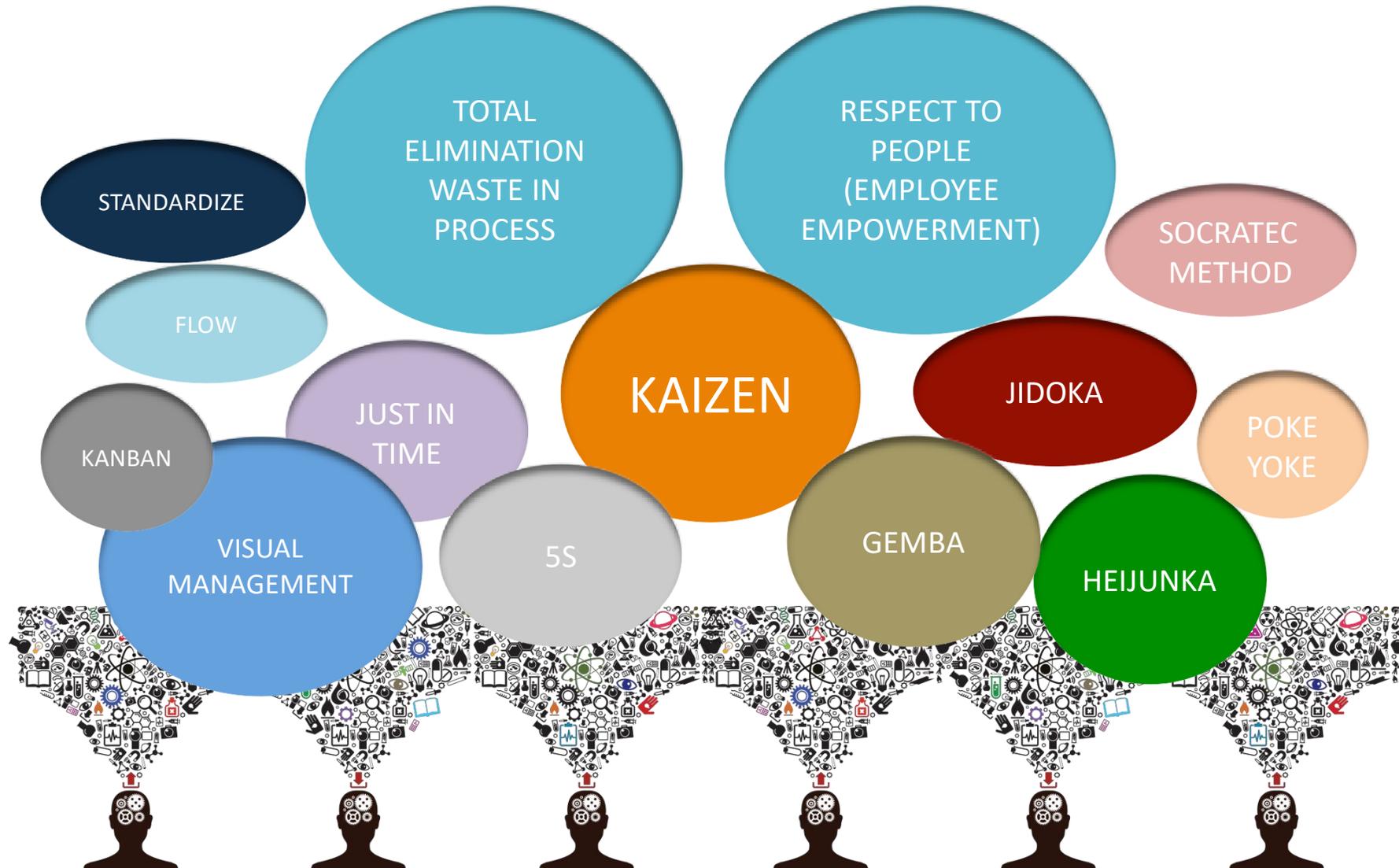
Lean healthcare principles can provide:

1. Point solutions to reduce or eliminate specific, often simple problems
2. Building blocks of a complex, system level (value stream) improvement

| IMPROVEMENT | EXAMPLES | IMPACT | LEAN TOOL APPLIED |
|---|---|---|---|
| REDUCING TIME WASTED LOOKING FOR THINGS | WHEEL CHAIRS INFORMATION EQUIPMENT SUPPLIES AND KITS | MORE NURSING TIME AVAILABLE MORE HOUSEKEEPING TIME AVAILABLE REDUCED TURNOVER BETTER SCHEDULE ADHERENCE | 5S / WORK PLACE ORGANIZATION, STANDARD WORK |
| REDUCED TURNAROUND TIME | LABS PHARMACIES OPERATING ROOMS PATIENT ROOMS | FASTER TEST RESULTS FASTER MEDICATION DELIVERY REDUCED OPERATING ROOM DOWNTIME REDUCED BED / ROOM DOWNTIME | 5S, VALUE STREAM MAPPING, SET UP REDUCTION |
| REDUCED DELAYS / TOTAL PROCESS LEAD TIME | REGISTRATION OPERATING ROOMS TRANSPORTATION | LESS PATIENT WAITING BETTER SCHEDULE PERFORMANCE LESS DOCTOR WAITING | VALUE STREAM MAPPING, STANDARD WORK, LOAD LEVELING |
| REDUCED ERRORS | INFECTIONS PHARMACY ISSUES | REDUCED INFECTION RATES REDUCED FALL RATES | STANDARD WORK, 5S, MISTAKE PROOFING |
| MORE EFFECTIVE HAND OFFS | PATIENTS INFORMATION | MORE PATIENT TIME FOR NURSES & OTHERS IMPROVED PATIENT SAFETY | STANDARD WORK, 5S, MISTAKE PROOFING |

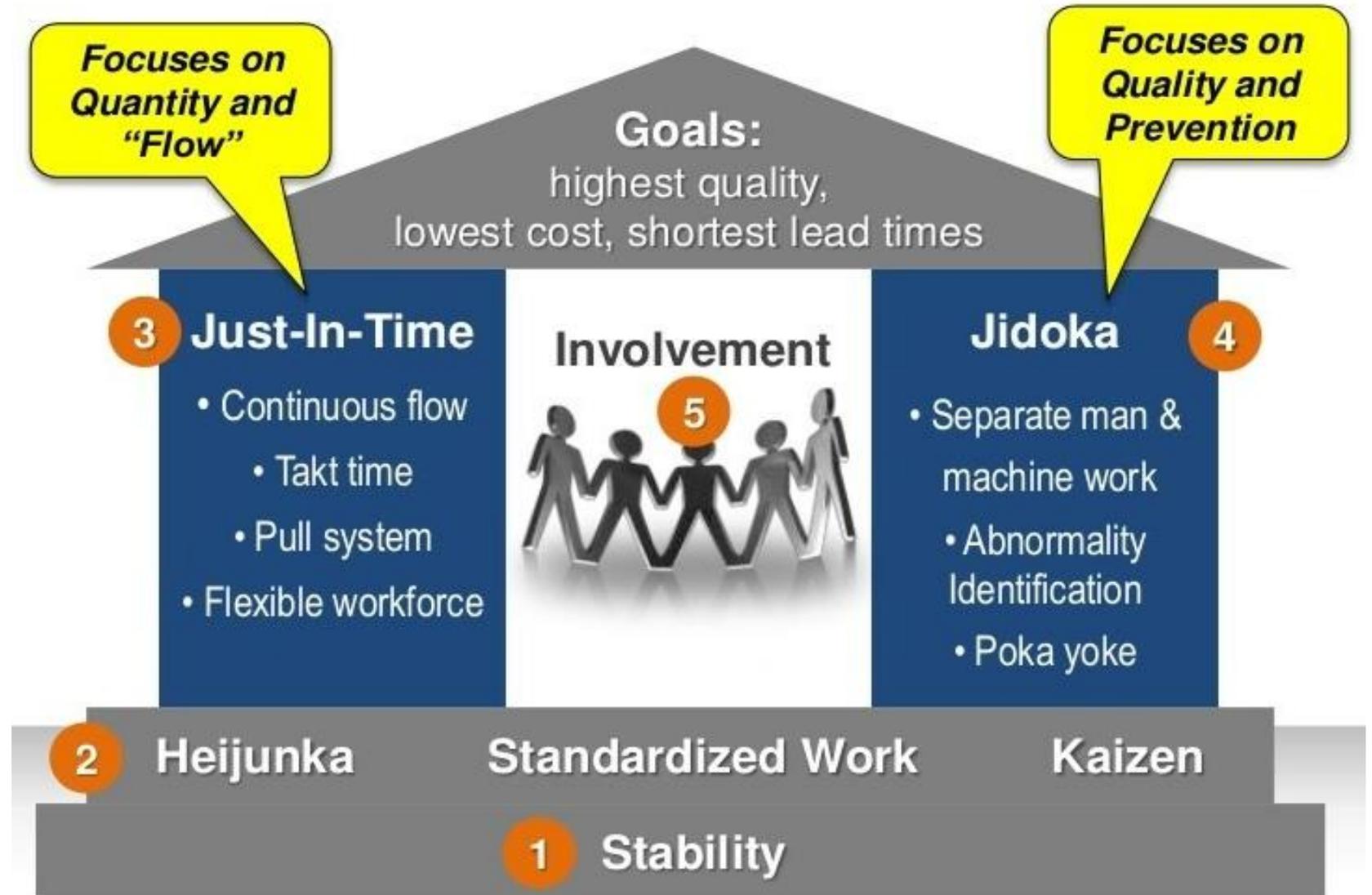


Lean tools for Hospital Operation Strategies



Lean Management Framework (Toyota Production System)

1. Stability
2. Standardization
3. Just-In-Time
4. Jidoka
5. Involvement



5 DNA Lean management

| | |
|------------------------------------|--|
| 1 STANDARDISASI KERJA | Pekerjaan adalah susunan aktivitas yang terstandarisasi waktu & jumlahnya |
| 2 AUTONOMASI | Proses didesain untuk mencegah pegawai berbuat kesalahan (defek) menggunakan alat bantu dan membangun pemikiran kritis tentang masalah di area kerja |
| 3 ALIRAN | Aliran pasien idealnya mengalir lancar dalam operasional RS tanpa interupsi ataupun jeda |
| 4 PDCA | Keterampilan memecahkan masalah langsung di sumbernya (Gemba) |
| 5 SOCRATEC METHOD | Pemimpin menjadi coach yang memberikan pertanyaan-pertanyaan untuk membangun kompetensi pelaksana sebagai penghasil solusi |



Value

What is Value Added?

1. It is an activity
2. It is requested by or important to the patient (i.e something the patient willing to pay for)
3. It changes the thing being processed
4. It is done right the first time (i.e without any rework or waste)

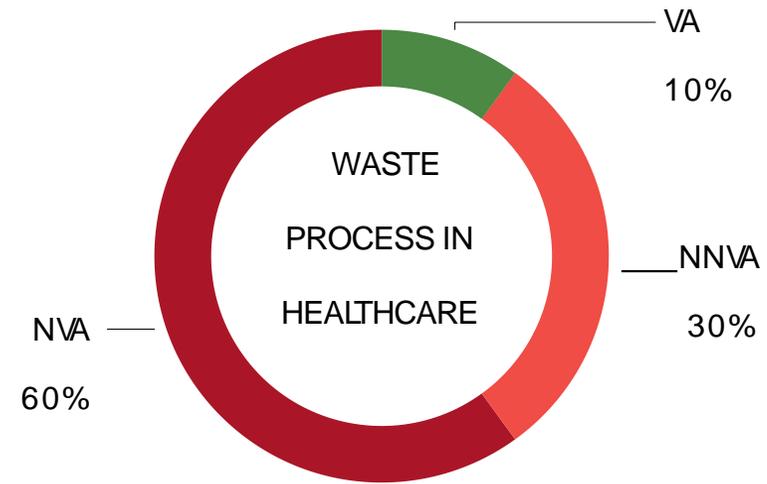
Examples of Value Added

1. Admission
2. Discharge
3. Providing treatment (e.g. emergency, outpatient, surgical, medical, therapy, etc.)
4. Nursing care process
5. Medication process
6. Staff scheduling to match patient loads
7. All patient scheduling process, such as inpatient & outpatients
8. Ancillary testing (i.e. lab test & x-ray)
9. Core process improvement



8 Types of Healthcare Waste

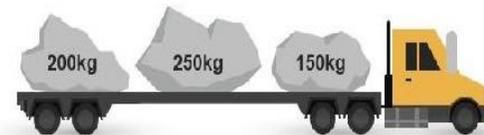
- 1 **Overproduction**
Producing more, sooner, or faster than required
- 2 **Motion**
Extra physical/mental motion that does not add value
- 3 **Transportation**
Unnecessary movement of patients, specimens and supplies
- 4 **Defects**
Error or correction due to work not being done correctly
- 5 **Waiting**
Waiting for another person, process or equipment
- 6 **Overprocessing**
Putting more work into a process than required
- 7 **Inventory**
Storing excess drugs/supplies including unnecessary equipment & resources
- 8 **Intellect**
Not using employee's full intellectual contribution



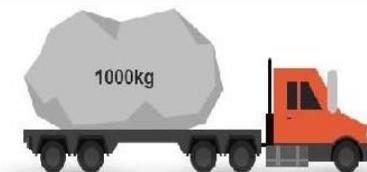
VA = Value Added = Bernilai manfaat langsung dirasakan pasien
 NNVA = Necessary Non Value Added = Tidak bernilai manfaat langsung namun diperlukan
 NVA = Non Value Added = Tidak bernilai manfaat bagi pasien = TRUE WASTE



MUDA
Wastefulness



MURA
Imbalance



MURI
Overload

Heijunka - Lean levers can be applied to reduce waste

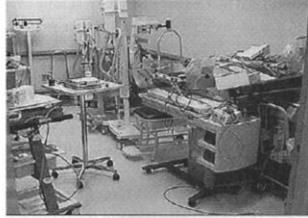


5S Strategy

| The "S" | Principles | General Description |
|-----------|--------------|---|
| 1S | Sort | Remove what is not needed and keep what is needed |
| 2S | Set in Order | Arrange essential items in order for easy access |
| 3S | Shine | Keep things clean and tidy, no trash or dirt in the workplace |
| 4S | Standardize | Establish standards and guidelines to maintain a clean workspace |
| 5S | Sustain | Make 5S a habit and teach others to adhere to established standards |



Organize storage areas to reduce time spent searching for supplies or equipment



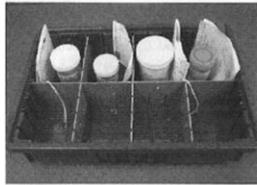
5S – a place for everything and everything in its place, easy to access and ready to use



Organize lab samples to simplify processing and reduce errors

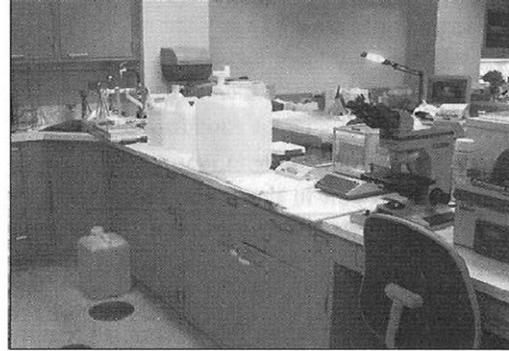


Before – samples arrive haphazardly in plastic bags and pink buckets



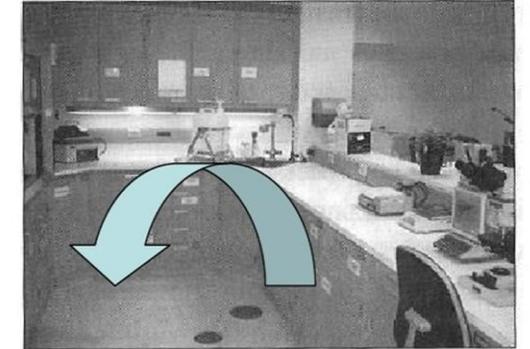
After – samples and paperwork arrive together in well organized tray

Organize lab to improve processing efficiency (response time and work time)



Before:

- Work area cluttered and potentially dangerous
- No standard process evident
- Not designed for flow



After:

- Work area organized; contains 100% of what is needed to do the work (and nothing that isn't needed)
- U-shaped work area (cell) designed for continuous flow



Before



After



Form submission boxes for walk-in blood donors and those by appointment



Drugs are organized for easy retrieval



A neat table setup for blood donations



A neatly arranged Cardiac table



Before

To a Standard
Benchtop
Workspace...

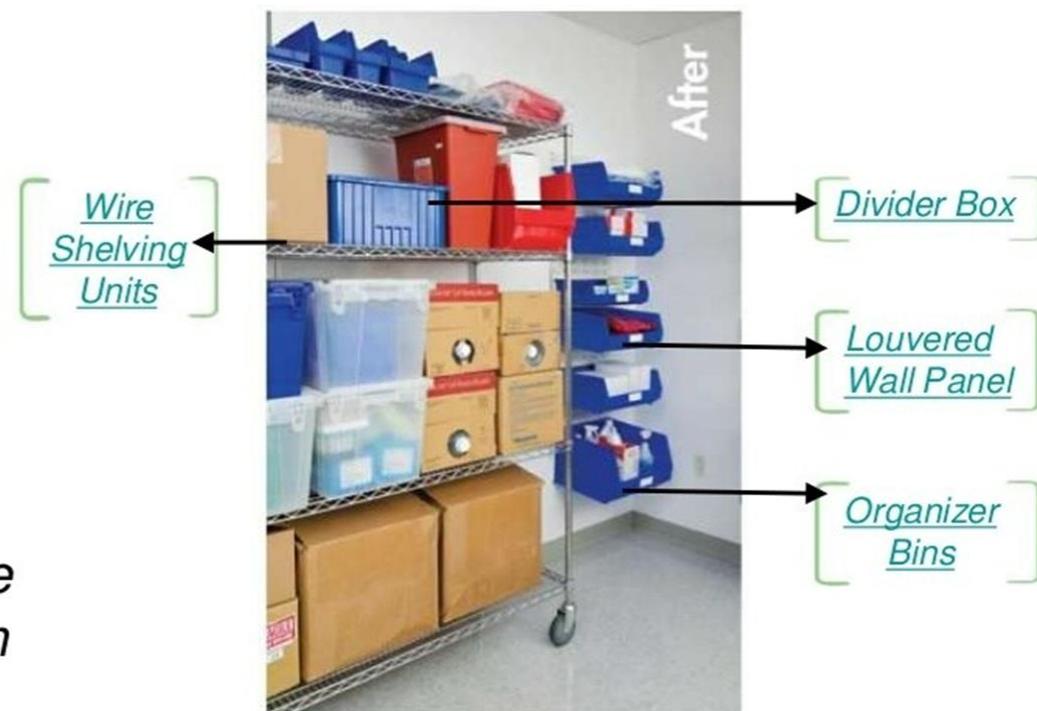


After



Before

... Entire
Room



After



Quick Setup

Quick setup or SMED (Single Minute Exchange of Dies) used to reduce the setup or changeover time for operating rooms, MRI machines or ICUs

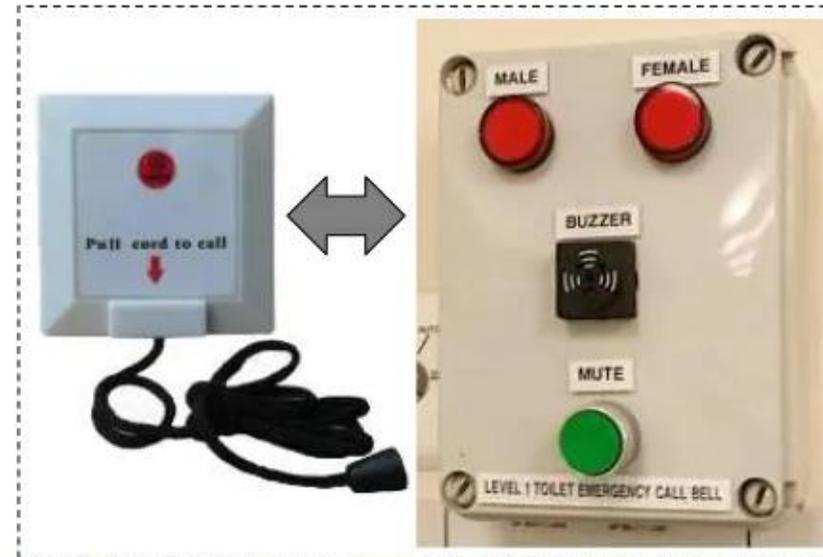


The pitstop concept of quick changeovers can be applied to operating rooms to reduce setup time

Example of Andon System (Notification System)



Andon system for customer service



Andon cord placed at the toilets to facilitate patients to call for help if needed



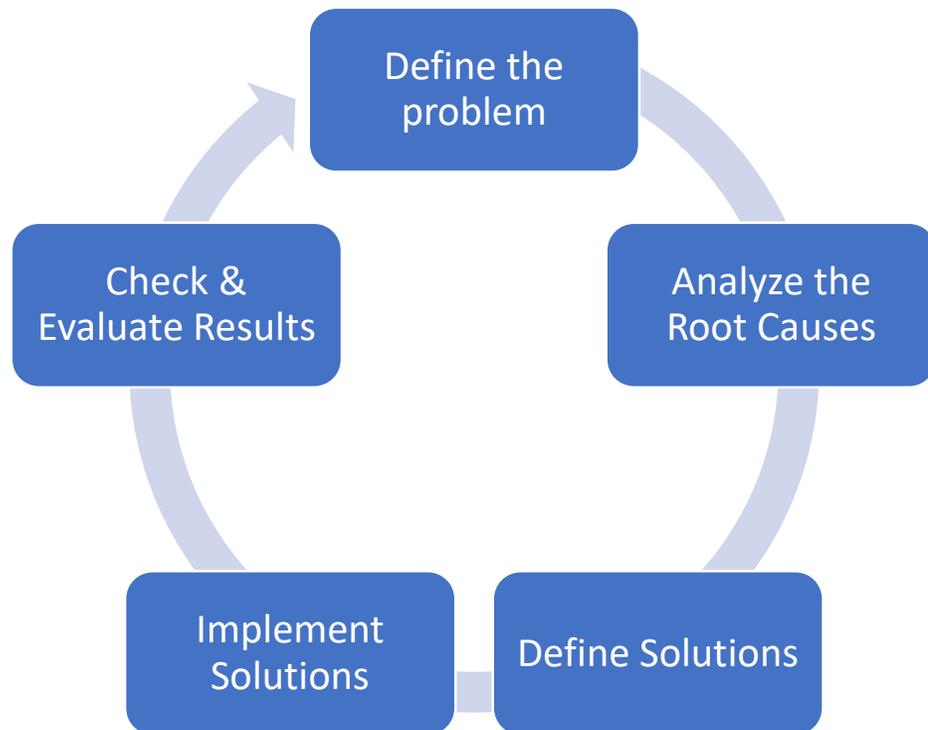
Andon cord at patient's bed



Andon for monitoring of patients' vital signs

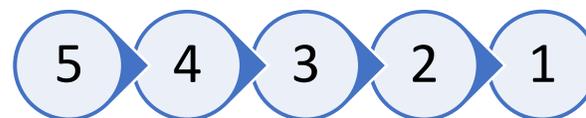


PDCA - Five step problem solving process



Example of 5 Whys

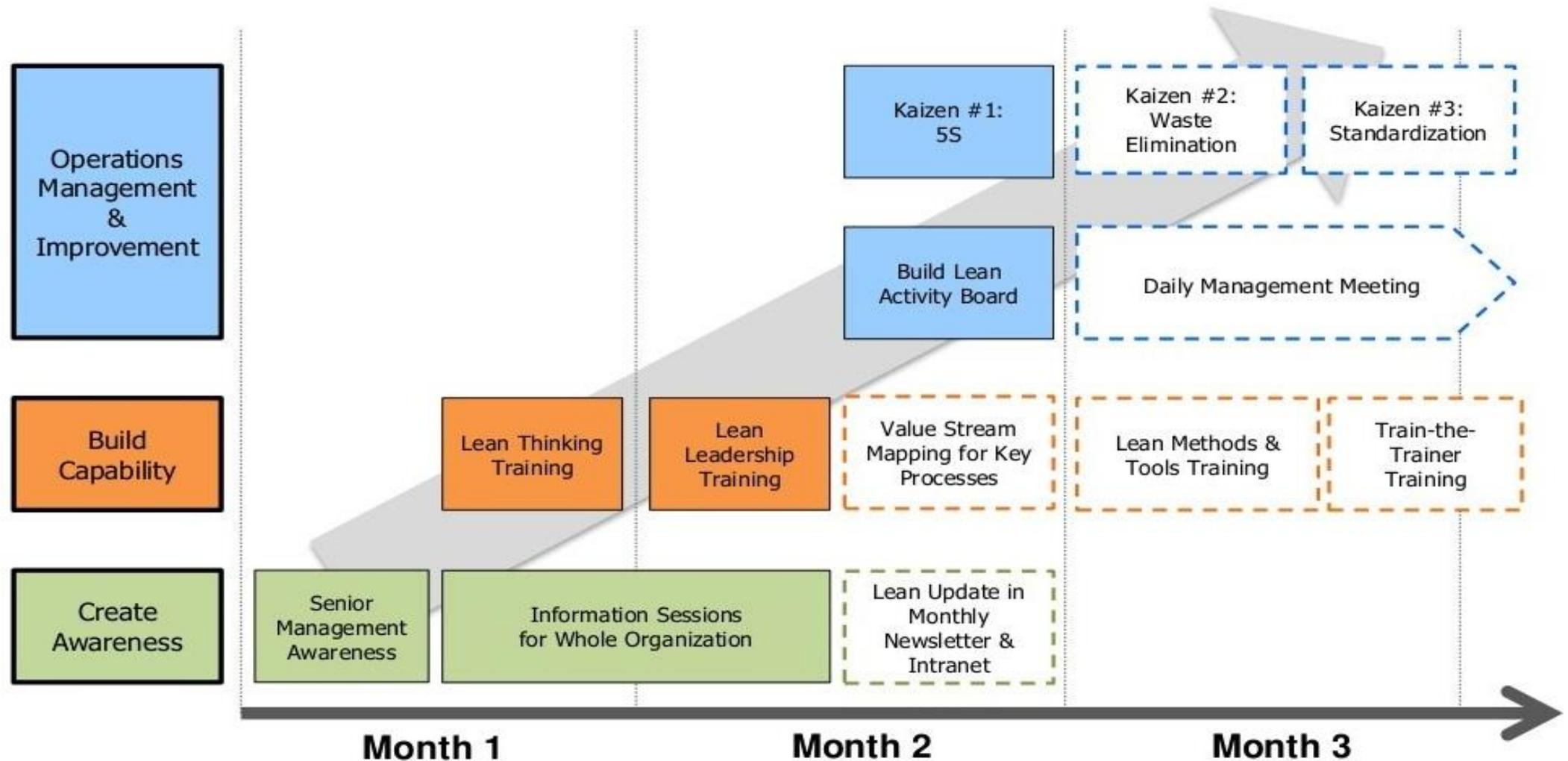
| No. | Why? | Because... |
|-----|----------------------------|------------------------------|
| 1 | Why is Mr. A injured? | ...he had a fall |
| 2 | Why did he fall? | ...the floor was wet |
| 3 | Why was the floor wet? | ...there was a leaking valve |
| 4 | Why was the valve leaking? | ...there was a seal failure |
| 5 | Why did the seal fail? | ...it was not maintained |



Continuum of Causes



Simple Lean Implementation Roadmap



Results of Lean Implementation at Virginia Mason Medical Center



| Category | 2004 Results (after 2 years of Lean) | Metric | Change from 2002 |
|------------------|--------------------------------------|---------|--|
| Inventory | \$1,350,000 | Dollars | Down 53% |
| Productivity | 158 | FTEs | 36% redeployed to other open positions |
| Floor Space | 22,324 | Sq. Ft. | Down 41% |
| Lead Time | 23,082 | Hours | Down 65% |
| People Distance | Traveled 267,793 | Feet | Down 44% |
| Product Distance | Traveled 272,262 | Feet | Down 72% |
| Setup Time | 7,744 | Hours | Down 82% |



- 1. Standarisasi Formularium Obat (FOPI)**
- 2. Standarisasi Pelayanan Alat Kesehatan (DAKSPI)**
- 3. Standarisasi Layanan untuk Memperpendek Length Of Stay (Currently SC from 3d to 2d w/ Enhanced Recovery After Surgery (ERAS) Method)**
- 4. Farmasi “7 Benar”**
- 5. Memperpendek Flow Patient Registration & Prioritization**
- 6. Patient Notification**
- 7. Bed & Prescription Management System**
- 8. Lab Results on Computer (LIS)**
- 9. Pneumatic Tube**
- 10. Operational Dashboard**
- 11. Self Registration Machine**
- 12. e-Medical Record (One Solution System)**
- 13. Telemedicine**
- 14. 5S on every department**

On Development:

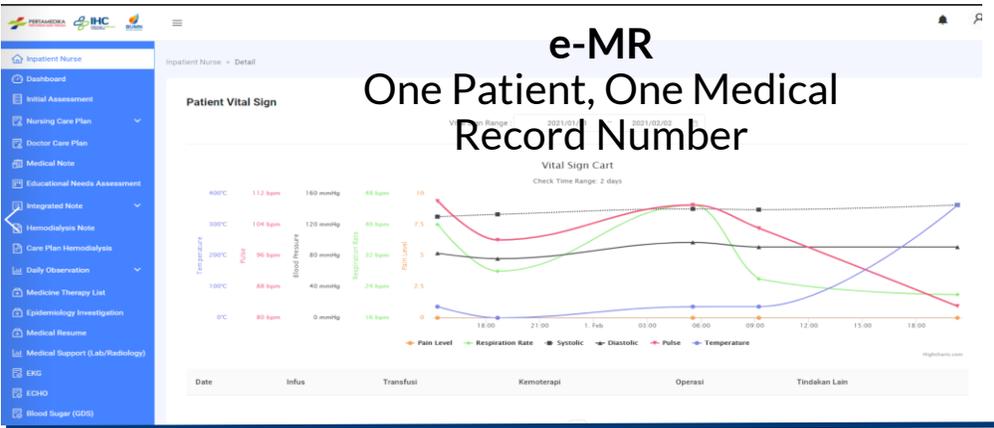
- 1. Wearables & Device Integration**
- 2. Automatic System on Patient Registration integrated with IHC Telemed**



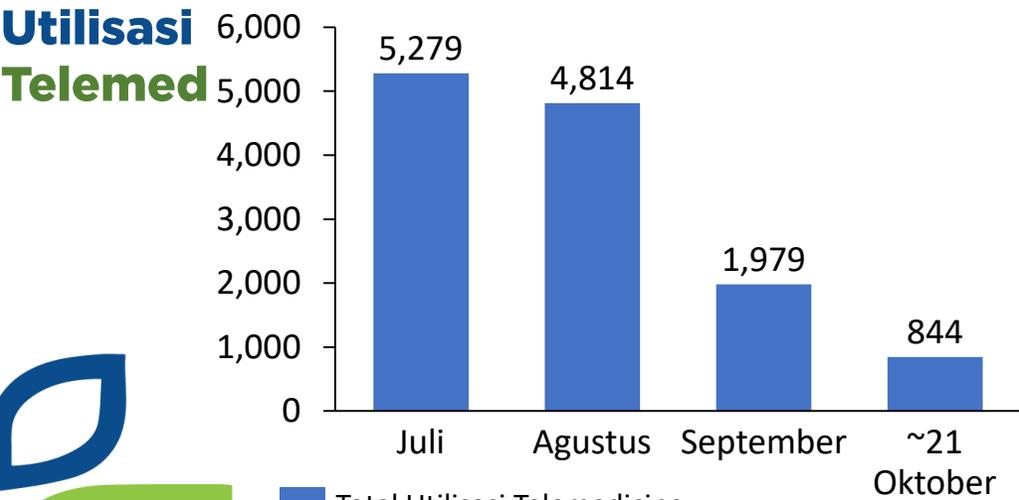
IHC Telemed patient has **one dedicated & integrated e-Medical Record (e-MR)**



ONE SOLUTION SYSTEM



“Bringing health services closer and improving the quality of health services in health care facilities both in cities and remote areas.”



>84 1st Phase Hospital&Clinics Socialization | **>534** Specialists & GP

TOTAL DOWNLOADS >23K

Source: Pertamina IHC

IHC TELEMED FUTURE INTEGRATION

One Healthcare Platform :

1. Home Healthcare
2. Medical Evacuation
3. Ambulance Services
4. Electronic Medical Record
5. Outpatient Registration
6. Emergency Call/Panic Button
7. IOT's/Wearables Integration
8. FitAja Integration

Full Cycle Occupational Health & Industrial Hygiene on the App

1. We focused on preventive program
2. Help customer to gain a healthier lifestyle through wellness program
3. Help company to create a healthy workplace



How to sustain a Lean Culture?

1. Management commitment
2. Alignment to vision and mission
3. Availability of resources
4. Address “what is in it for me”
5. Success measures and KPIs
6. Management review
7. Rewards and recognition



Daily Management Meetings

Management need to discuss daily on:

1. Yesterday’s issues
2. Lessons learned
3. Manpower status
4. Update from top management
5. Lean activities
6. Today’s target and actions

TERIMA KASIH



WALAUPUN SUDAH DI **VAKSIN**,
HARUS TETAP *PATUH 6M*
DAN MENJAGA IMUNITAS TUBUH

#PERTAMEDIKAIHC

Memakai Masker

Menjaga Jarak

Mencuci Tangan

Membatasi Mobilitas

Menjauhi Kerumunan

Menghindari Makan Bersama