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Lean Healthcare Concepts for Supervisors

15-LSUP-11A

Air Academy Associates

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CONCEPTS for SUPERVISORS

Agenda

START at 9:00am and STOP at 4:00pm each day

- Strategic View
  - Self-Assessment
  - Strategic Drilldown
  - Planning Model
- Lean Principles
  - Value Stream
  - 8 Wastes
  - Value Stream Mapping
  - Input-Process-Output
  - Measurements
  - Exercise (1st Statapult)
  - Variation and Process Capability
  - DMAIC Methodology
  - Process Flow
  - Exercise (2nd Statapult)
  - Tools (from Manager's viewpoint)
    - 5S
    - Standard Work

CONCEPTS for SUPERVISORS

Agenda

- Tools (cont.)
  - Visual Management
  - Questions Leaders/Managers Need to Ask
  - A-3 Thinking
  - Gemba
  - Analyzing Work
  - Physical Process Map
  - Process Control
- Change Management
  - Management Styles
  - "Additional" Manager Roles
  - Lean Deployment
  - Breakout
- Summary
- Appendices
  - Appendix A - Control Chart Examples
  - Appendix B - DMAIC Tollgate Questions
  - Appendix C - Rapid Improvement Events

SELF-ASSESSMENT

Reality Check

- What are you doing to enhance patient care while building a more efficient and effective healthcare system?

- What measurements are you currently tracking?

- What are your top 3 issues?

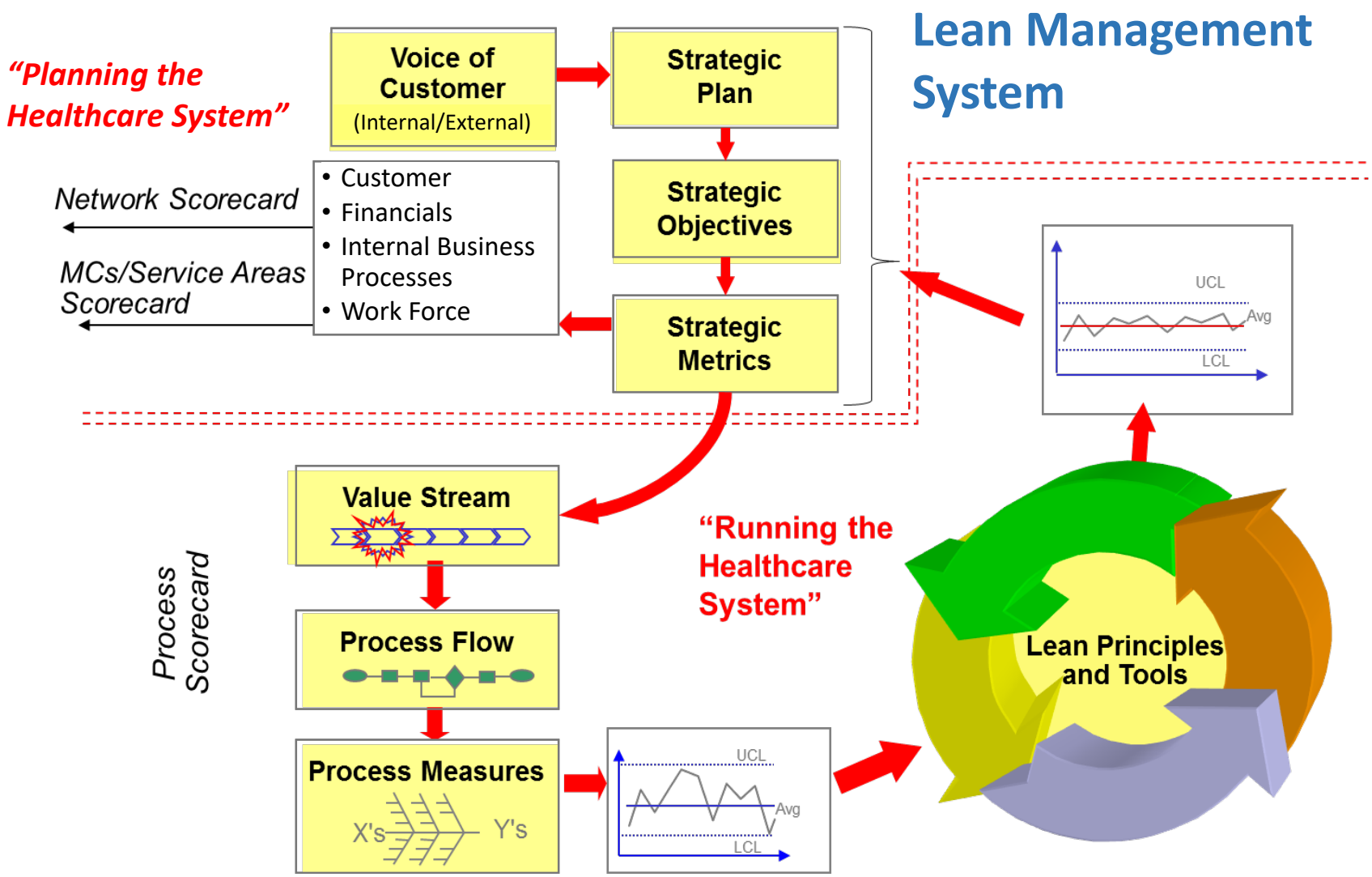
SELF-ASSESSMENT (cont.)

Reality Check

- What have you done in the last 6 months to address the issues?
- Is there a need to improve?
- What is your vision of the future?
- What is your plan to get there?

A STRATEGIC PLANNING MODEL

Improvement Efforts Should Link



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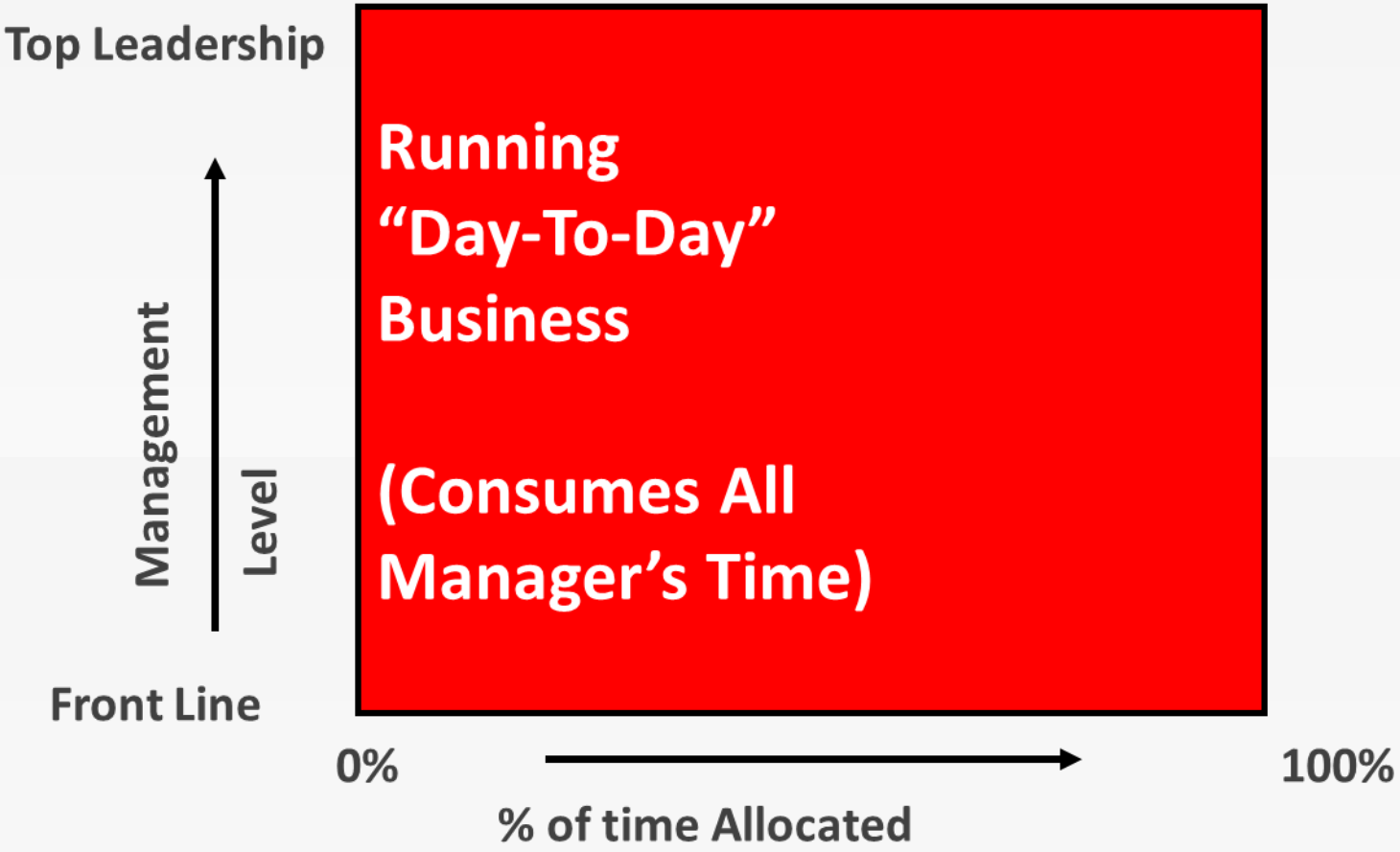
TIME ALLOCATION

In a "Chaotic" Organization



Source: George Hanson - Empire State Advantage

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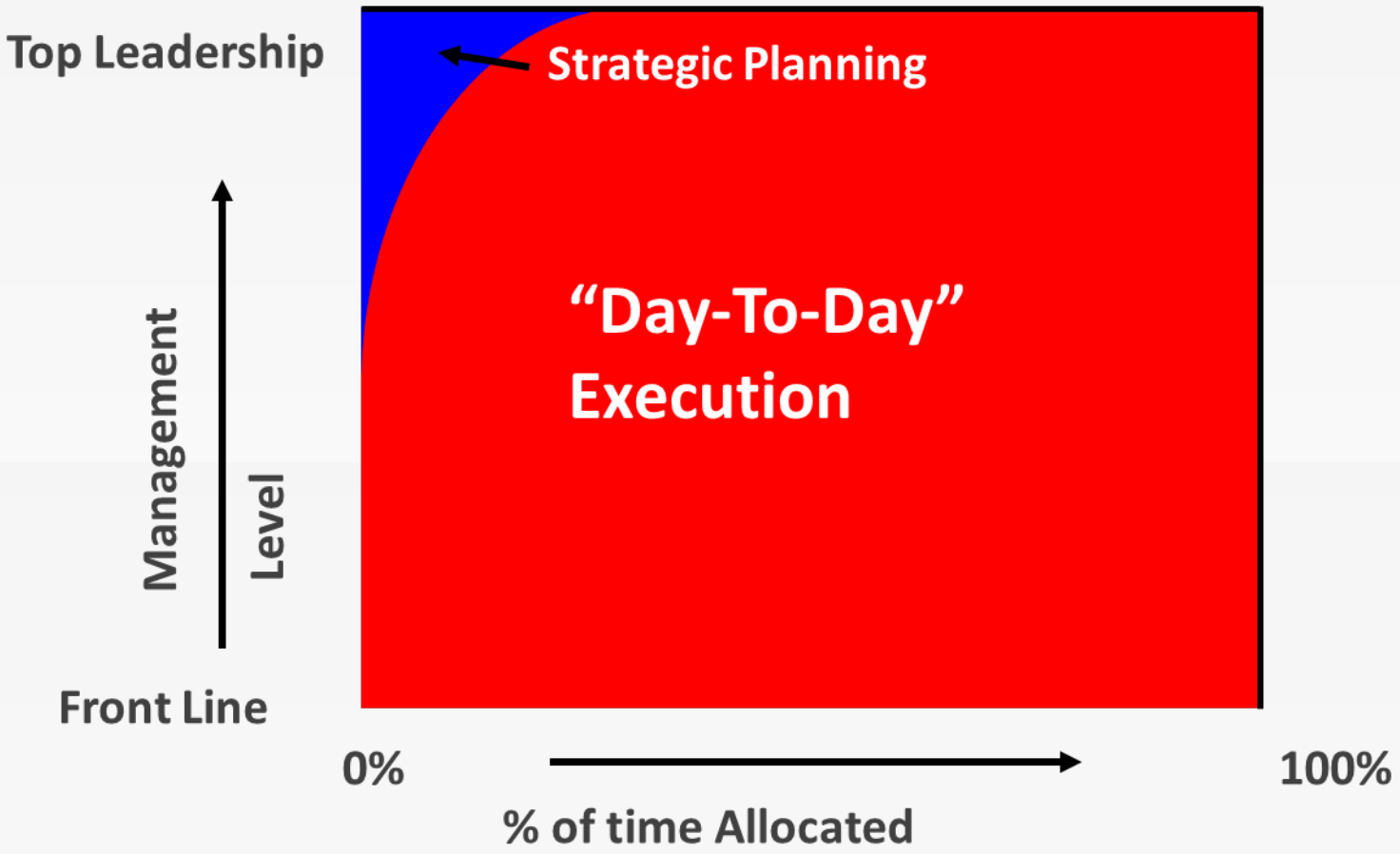
TIME ALLOCATION (cont.)

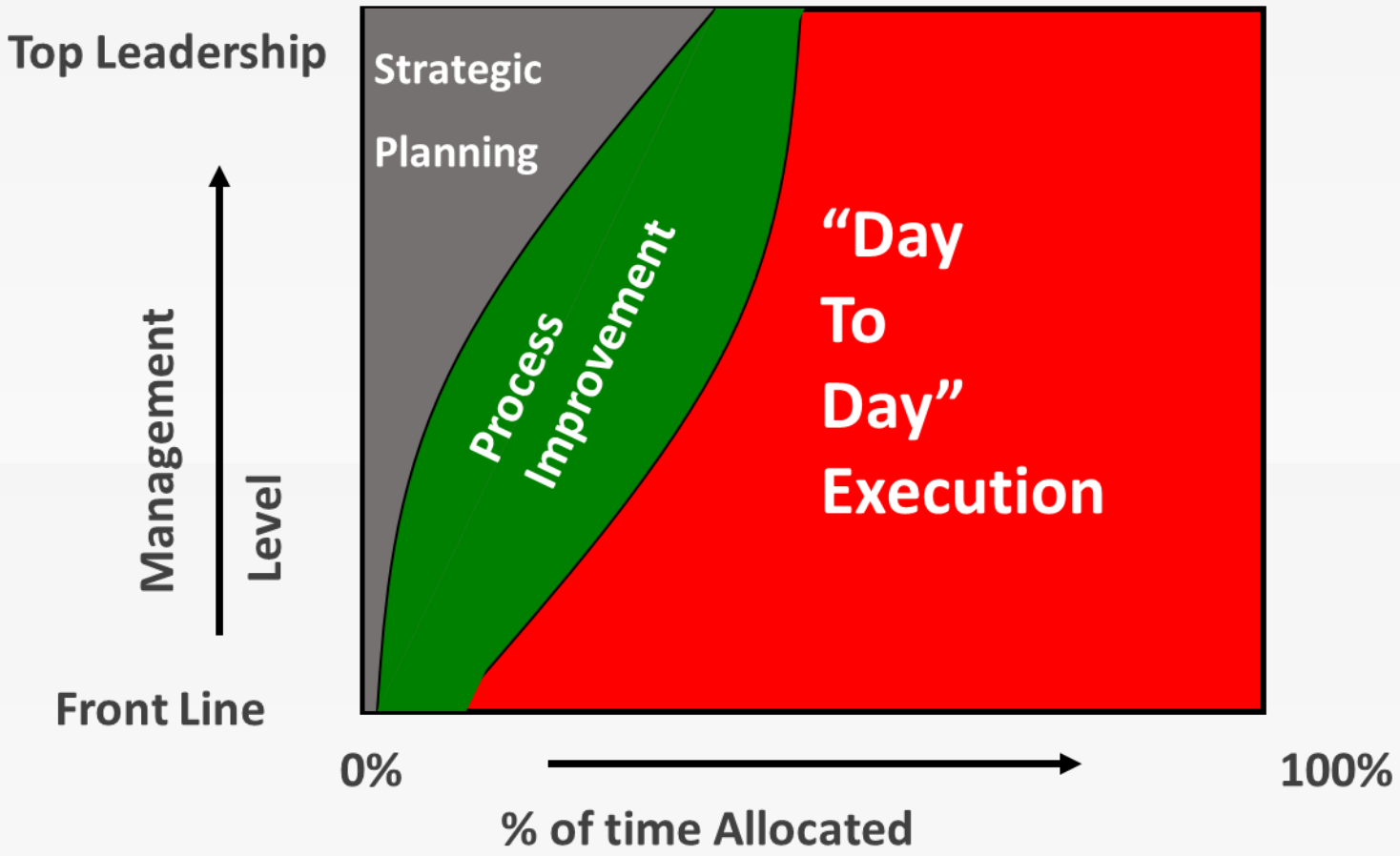
In a "Conventional " Organization



Source: George Hanson - Empire State Advantage

TIME ALLOCATION (cont.)

In a "World Class" Organization



Source: George Hanson - Empire State Advantage

LEAN PRINCIPLES

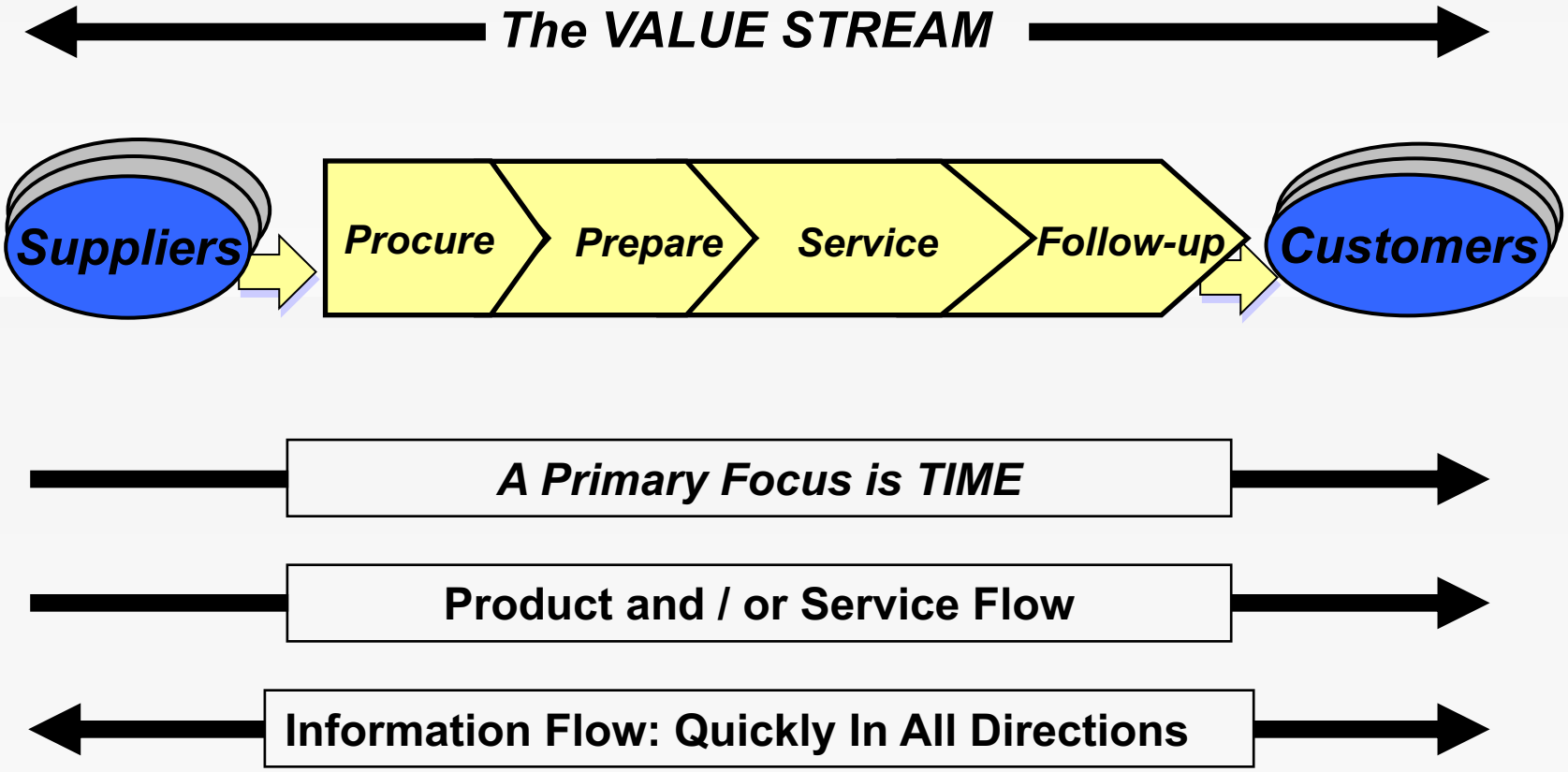
Promote Performance Improvement

- Specify value in the eyes of the Customer
  - Learn to see your processes from the perspective of your customer
- Identify the value stream and eliminate waste/variation
  - Look at the combination of processes, not just a single process in isolation
- Make value flow at the pull of the customer
  - Wait until you know what the customer wants before you start
- Involve, align, and empower employees
  - Develop solutions using the people who are currently working in the process
- Continuously improve knowledge in pursuit of perfection
  - Constantly challenge the organization to continue removing waste from processes

VALUE STREAM

Adds Value to the Customer

The VALUE STREAM is the entire set of activities performed to transform the products and services into what is required by the customer.



VALUE STREAM (cont.)

Types of Activities

Value Added Activities (VA)

- Activities where the product or service is transformed into a state required by the customer.
- Activities which, when asked, the customer is willing to pay for.

Non-Value Added But Required (NVA-R)

- Activities causing no value to be created but which cannot be eliminated based on current state of technology or thinking.

Non-Value Added Activities (NVA)

- Activities which consume resources but create no value in the eyes of the customer.
- **Pure Waste.**

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WHERE WASTE (MUDA) EXISTS

D-O-W-N-T-I-M-E

1. Defects
2. Over-production
3. Waiting
4. Not utilizing employee ideas or initiative
5. Transportation
6. Incorrect inventory
7. Motion
8. Extra processing

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EIGHT WASTES

Type of Waste	Description	Examples
Defects	Processes not performed correctly resulting in defects and/or rework	Surgical cart missing an item; wrong medication; incorrect patient information
Over-production	Doing more than what is needed by the customer	Unnecessary diagnostic tests; data fields larger than necessary
Waiting	Waiting for the next event or next work activity to occur	Waiting for equipment; waiting to move a patient to their room; waiting for approval
Non-productive use of people and ideas	Not utilizing employee talent or ideas "properly"	Burning high-talented workers out; putting people in "wrong" job positions; ignoring sound ideas

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EIGHT WASTES (cont.)

Type of Waste	Description	Examples
Transportation	Excess movement of materials, equipment, supplies, and patients	Poor ED layout resulting in the patient being moved from room to room; nurse station far from patients
Incorrect Inventory	Excessive inventory or inadequate inventory	Expired supplies; equipment parts obsolete; out-of-stock medications
Motion	Unnecessary movement and excessive walking of staff	Technicians walking miles per day due to location in facility; nurses walking miles per day looking for equipment or records
Extra Processing	Required work that is not of value	Asking for information on forms that is never used; same information required on multiple forms; collecting data never used

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VALUE STREAM MAPPING

Connection of Processes

- Helps to visualize the entire system
- Links the flow of activities with the flow of information (how the system is controlled)
- Points out sources of waste
- Highlights which steps are pacemakers (holding up other activities)
- Allows selection and coordination of multiple improvement efforts in the same value stream

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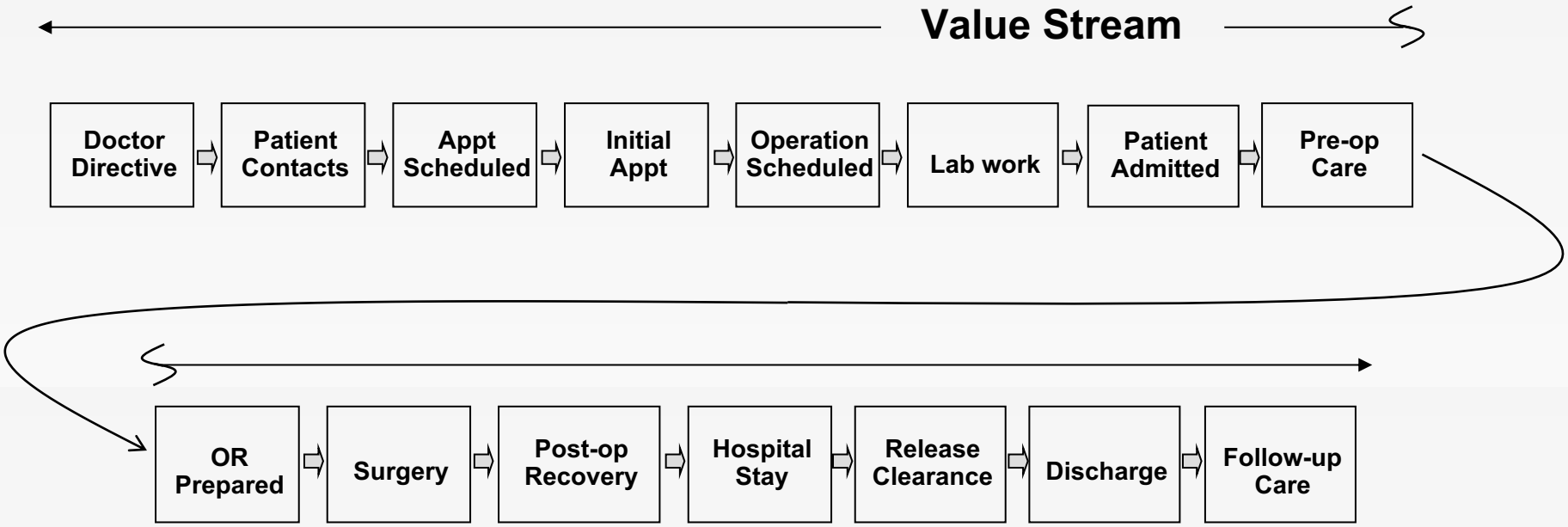
VALUE STREAM MAPPING (cont.)

Manual Mapping Example

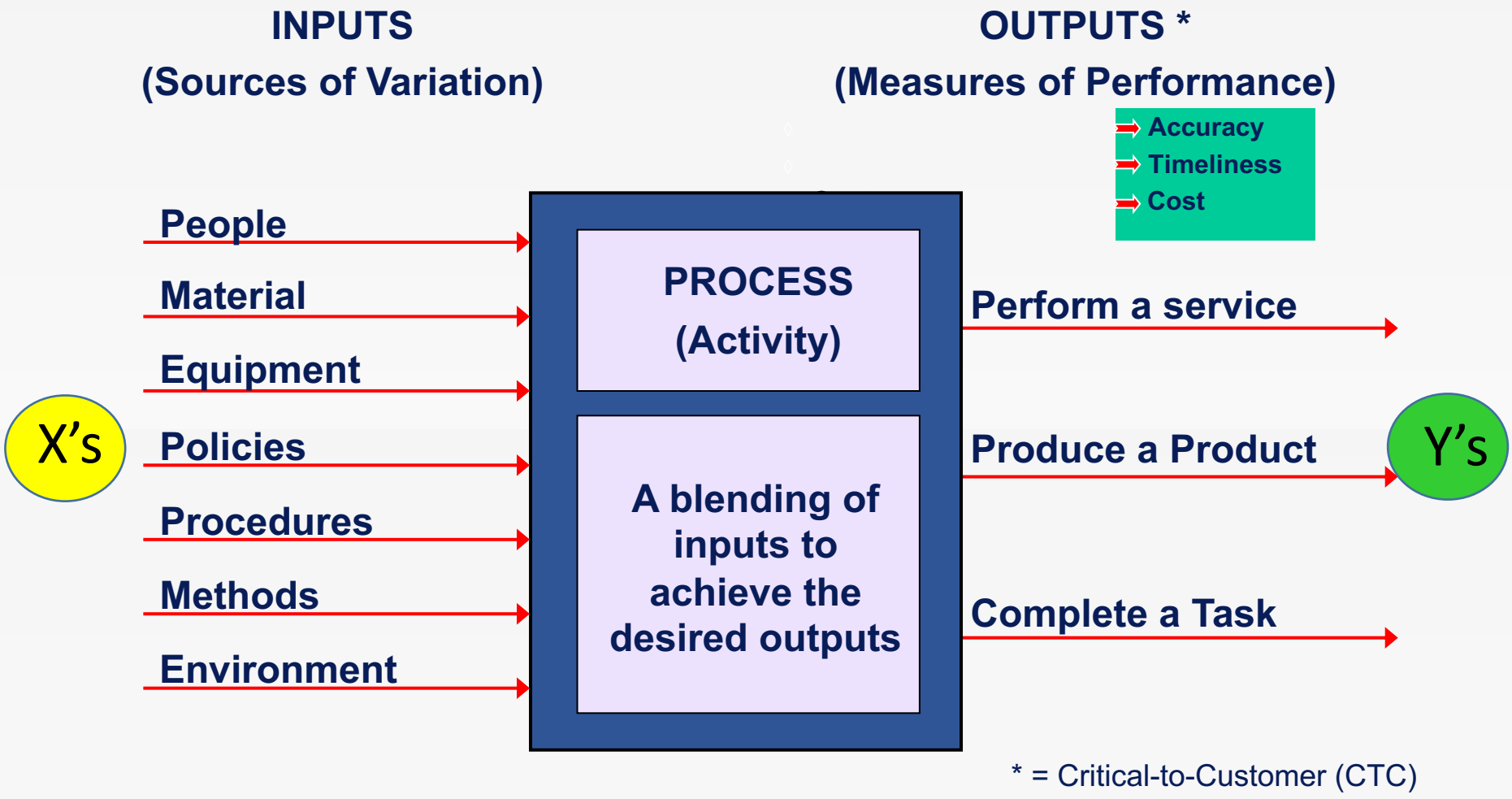
VALUE STREAM MAPPING (cont.)

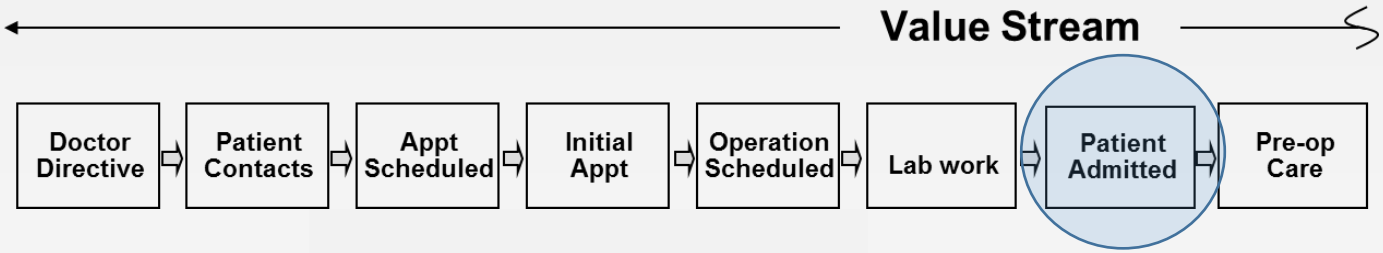
Patient Care



INPUT-PROCESS-OUTPUT (IPO)

Components of a Process





Input

- Status of Patient
- Patient Info Requirements
  - Name
  - Age
  - SSN
  - Address
  - etc.
- Healthcare Insurance (?)
- Reason for Admission
- Availability
  - Staff
  - Room
  - Bed
- Attending Physician
- Bar Coding System
- Documentation
- Staff Member
  - Time w/ Hospital
  - Experience
  - Training
- Software
- Forms
- Policies

Process

Admissions Process

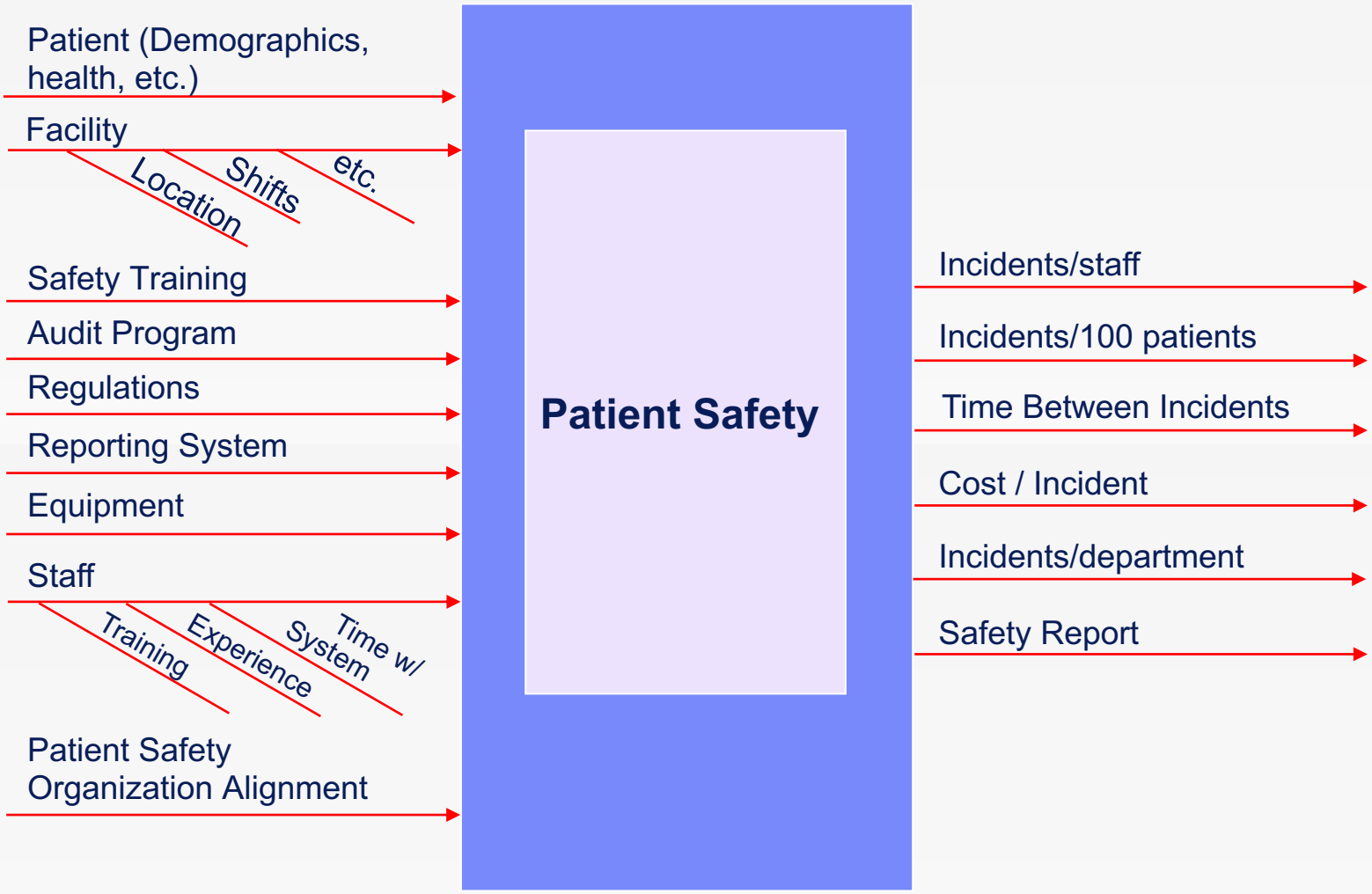
Output

- Patient Information Errors → Q
- Patient Satisfied → Q
- Timely Patient Admission → T
- Admission Cost per Patient → C
- Bar Code Bracelet → Q, T
  - Complete
  - Accurate

Performance Measures (Quality, Timeliness, Cost)

INPUT-PROCESS-OUTPUT (IPO)

Patient Safety Process



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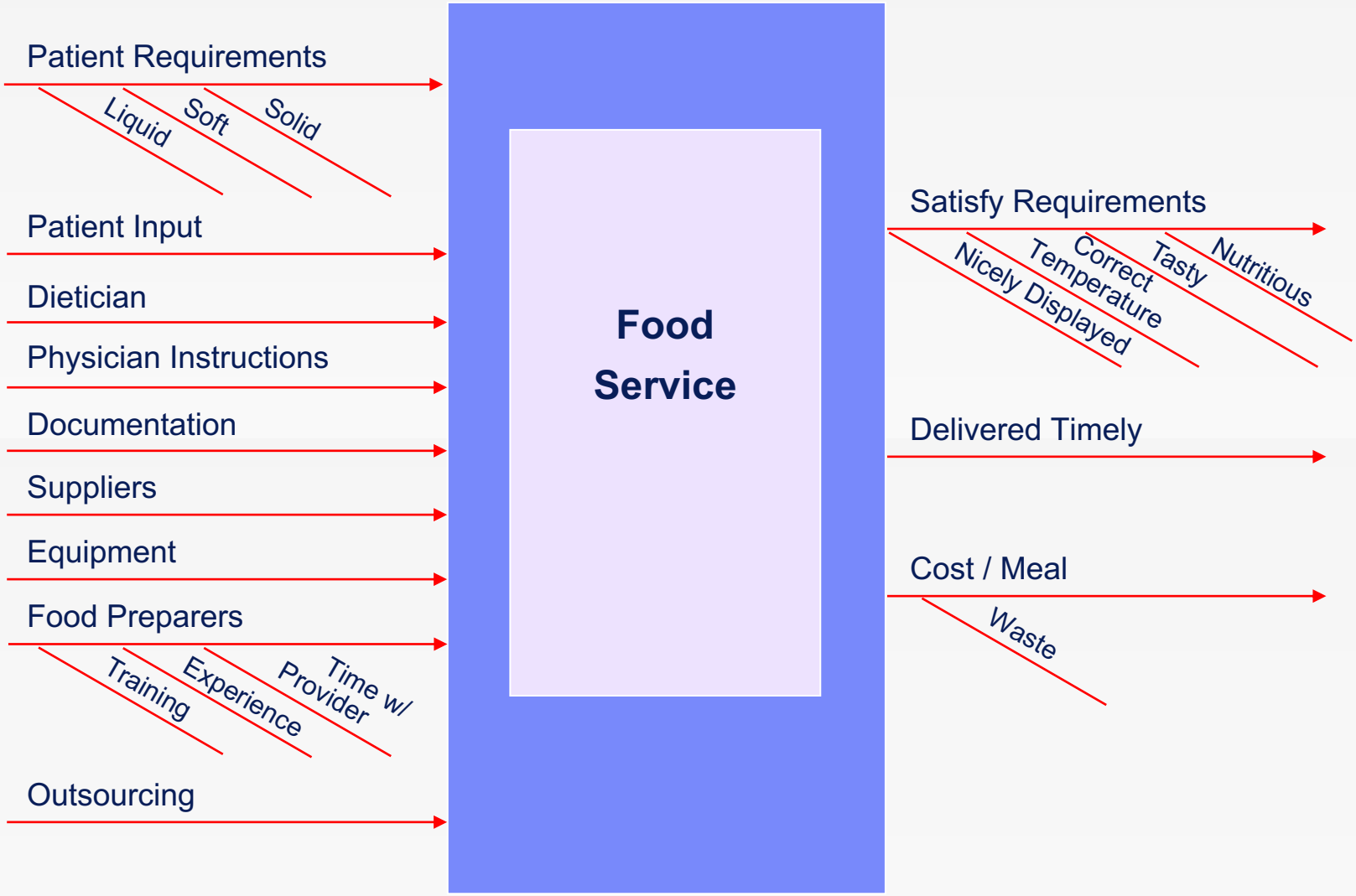
INPUT-PROCESS-OUTPUT (IPO)

Food Service Process



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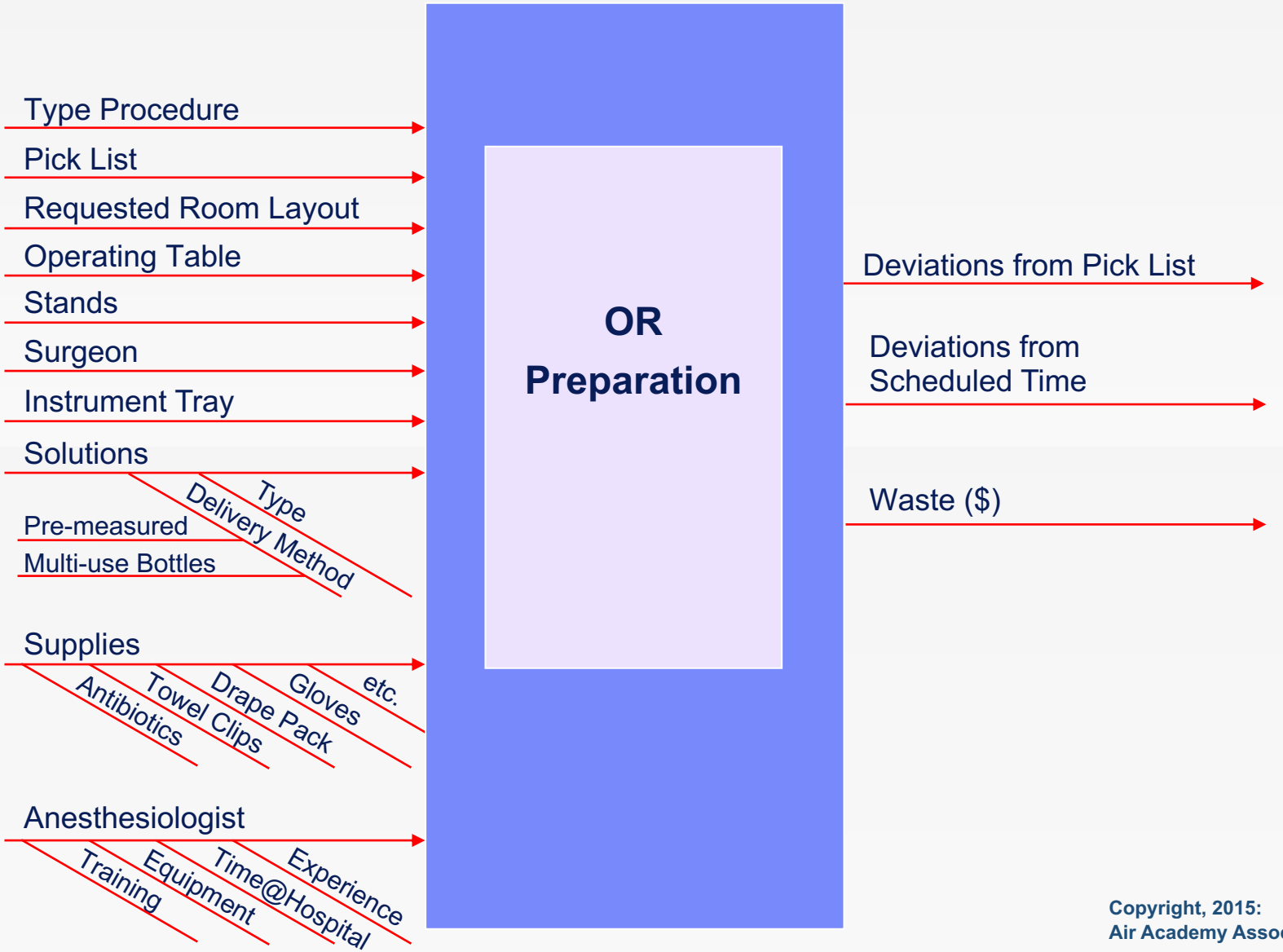
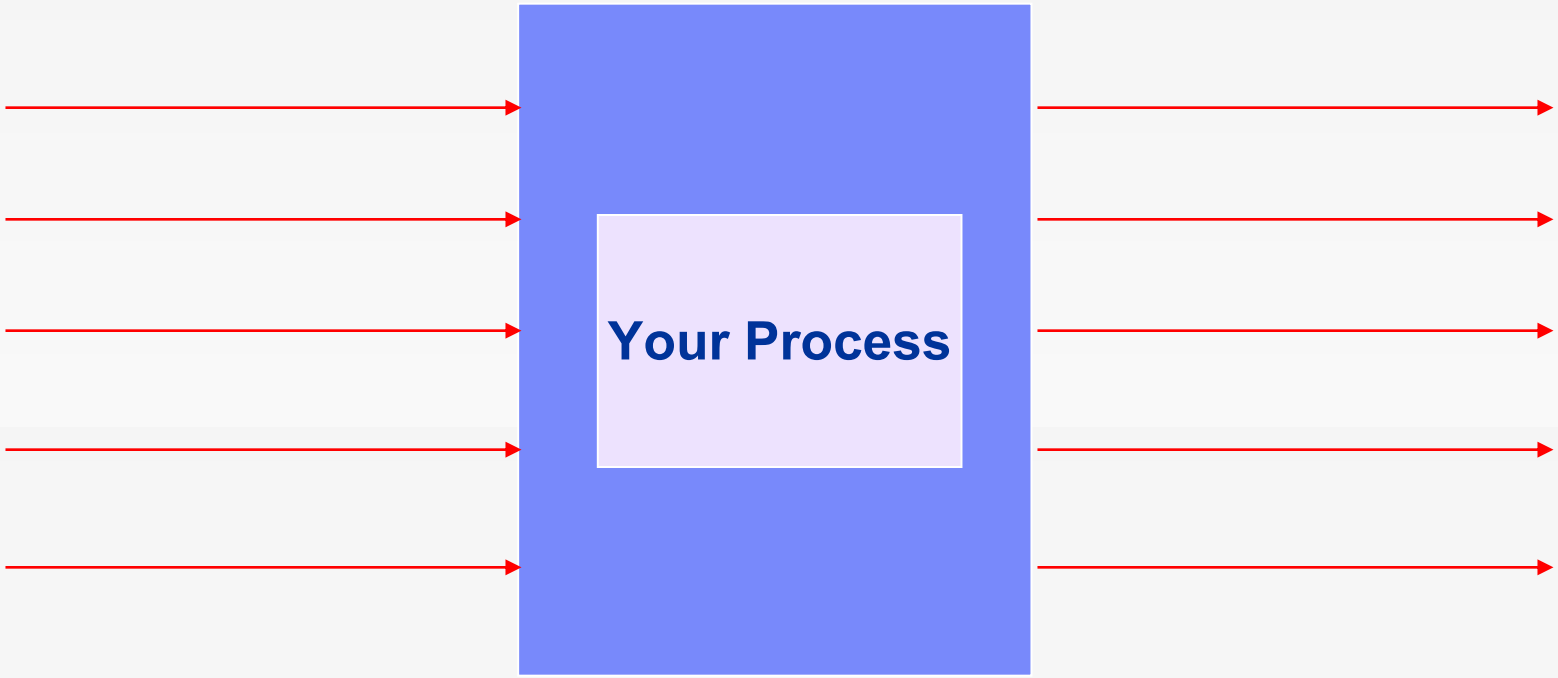
INPUT-PROCESS-OUTPUT (IPO)

OR Preparation Process



INPUT-PROCESS-OUTPUT (IPO)

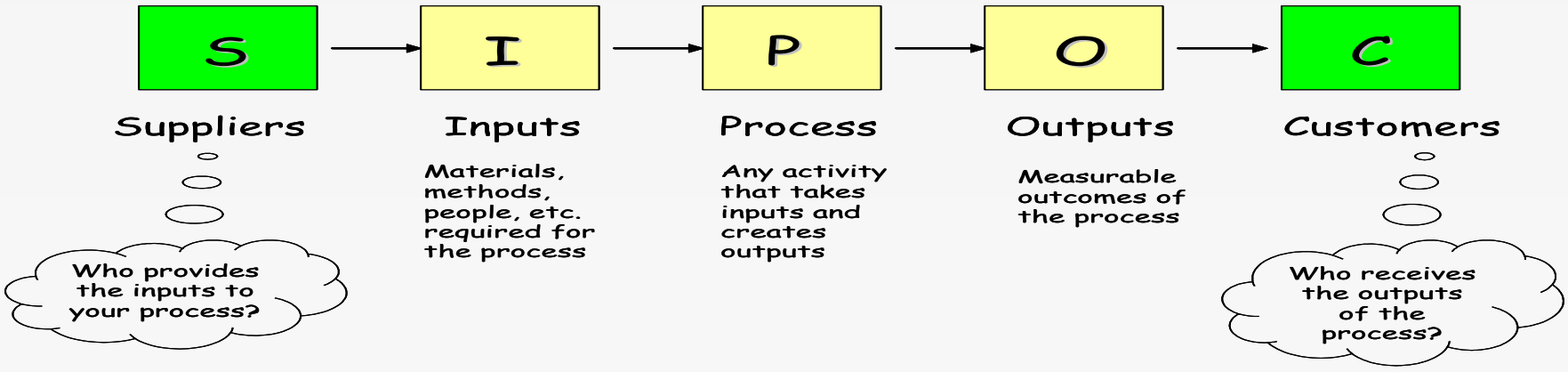
Your Process



SIPOC

IPO + Suppliers + Customers

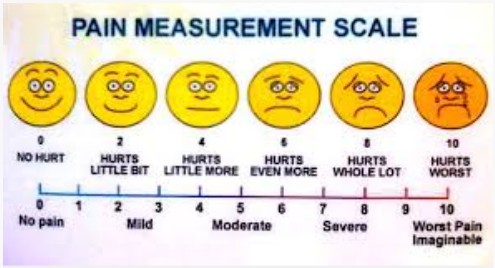
- A SIPOC diagram is an extension of a simple IPO diagram
- It includes information about suppliers and customers
- To create a SIPOC diagram:
  - Name the process
  - Identify the outputs and customers
  - Identify the inputs and suppliers



IMPORTANCE OF MEASUREMENTS

Beginning of Process Improvement

- To assist good decision making
- To identify/verify problem areas
- To baseline a value stream or process
- To characterize our processes (to know how inputs and outputs are related)
- To see if our value streams and processes are improving
- To determine if the patient care and improvement objectives are being realized



IMPORTANCE OF MEASUREMENTS (cont.)

Three Types

1. **One-Time Measures**
   - To answer a question
   - To solve a problem
2. **Measures that Track Progress Towards a Desired Outcome**
   - Customer
   - Employee
   - Financial
   - Internal Business Process
3. **Measures used to Monitor a Process**
   - Baseline the process
   - Determine improvement

IMPORTANCE OF MEASUREMENTS (cont.)

Examples

- % New Mental Health appointments not seen within 30 days of create date
- % billing code errors
- % medication errors
- % adverse clinical events (lab errors, needle sticks, surgery delays, etc.)
- % New Primary Care appointments not seen within 30 days of create date
- Patient complaint rate
- Average # of adverse events/ICU day
- % adverse events contributing to death
- % ICU patients with defects on ID band

IMPORTANCE OF MEASUREMENTS (cont.)

Examples

- % CT Scan effectiveness or requiring redo
- % deviations from estimated Length of Stay (LOS)
- % incorrect surgeries
- % complications resulting from hip / knee replacement
- % depression readmission rate
- # hospital-acquired infections / 100 patient admissions
- % services performed not authorized
- # admittance errors / 100 patient admissions
- Avg time for first appointment
- % first-time appointments scheduled with wait-time exceeding one month

BASELINING THE PROCESS

Statapult Exercise

- Statapult = Delivery Process
- Ball = Service Provided
- Setup = Job prep
- Measurement = Outcome of the service

BASELINING THE PROCESS (cont.)

Collecting Data

Each participant must shoot Statapult® three times using the following steps:

(1) Insure all pins are at position #3

(2) Pull the arm to 177° and shoot the rubber ball

(3) Have someone measure your distance

(4) Disconnect rubber band between shots

(5) Your standard is no more than 15 seconds between shots

(6) Record distances and calculate Range (= longest – shortest)

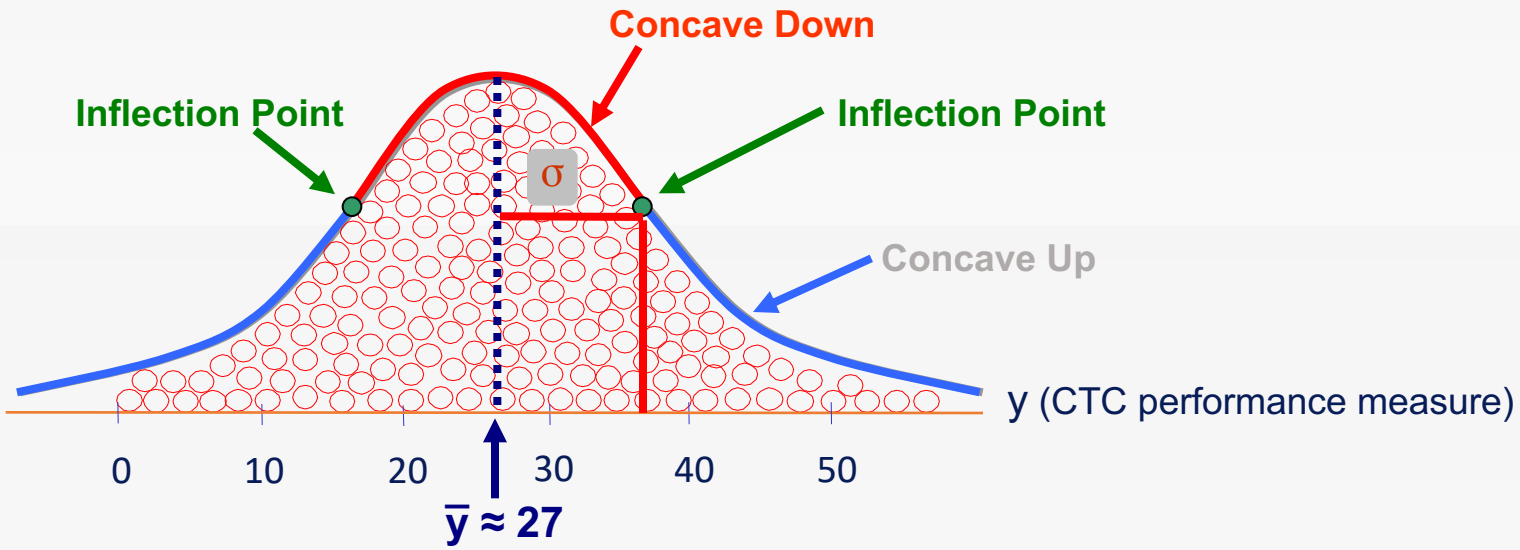
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Shot #1										
Shot #2										
Shot #3										

THE VOICE OF THE PROCESS

Two Parameters

$\bar{y}$ = Average (mean, balance point)

σ = Standard Deviation (variation)

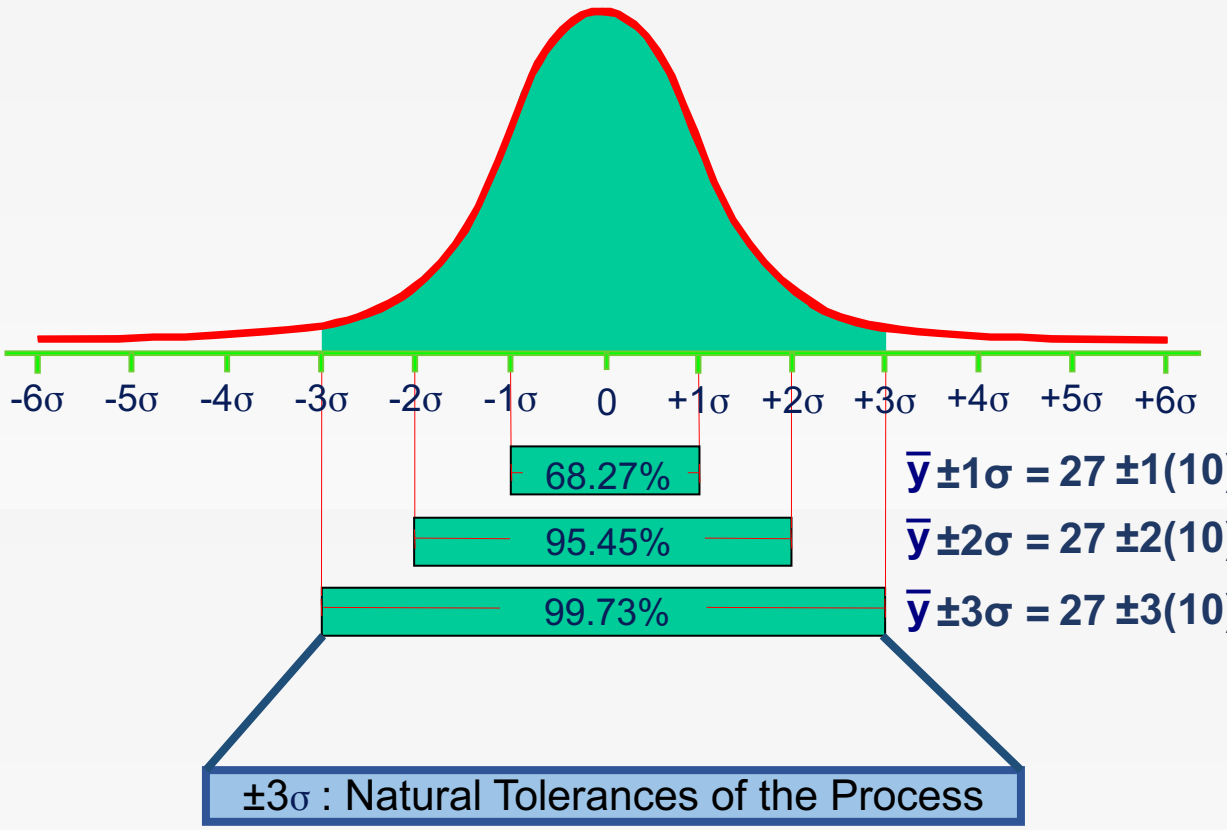


σ ≈ distance from the centerline to the inflection point

σ ≈ 37 – 27 = 10

AVERAGE and VARIATION

Voice of the Process (VOP)



$\bar{y} \pm 1\sigma = 27 \pm 1(10) = (17\text{-}37)$

$\bar{y} \pm 2\sigma = 27 \pm 2(10) = (7\text{-}47)$

$\bar{y} \pm 3\sigma = 27 \pm 3(10) = (0\text{-}57)$

From example on previous page:

$\bar{y} = 27 \quad \sigma = 10$

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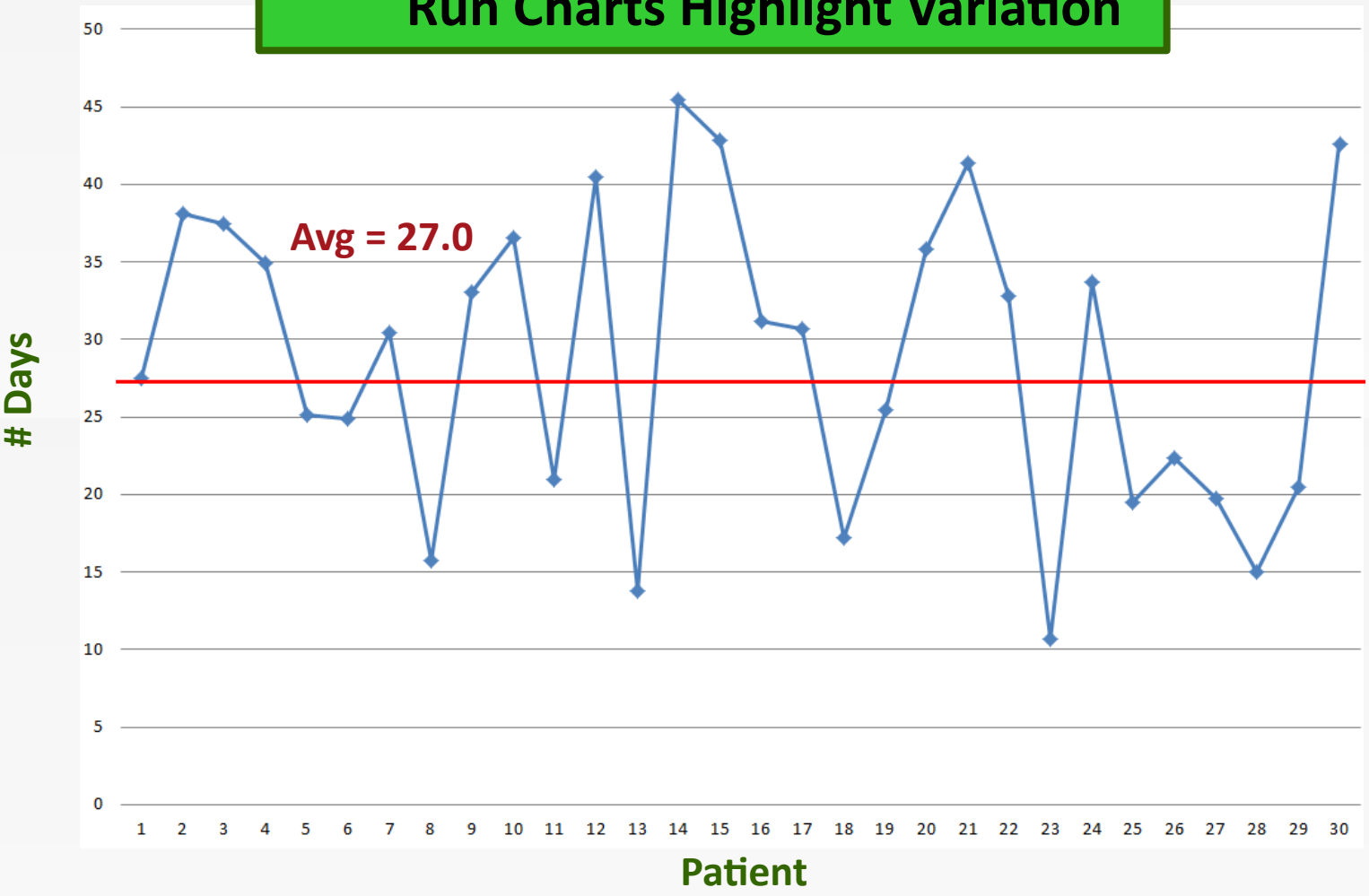
RUN CHART

Lead Time for Appointments

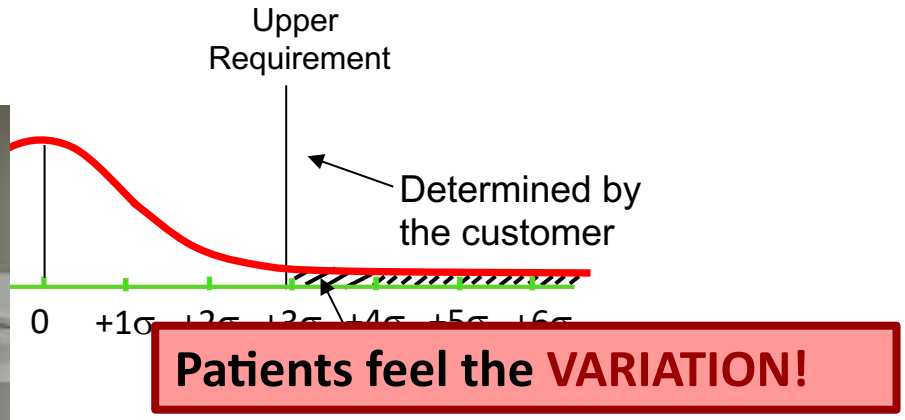
Run Charts Highlight Variation



VARIATION IMPACTS PROCESS CAPABILITY

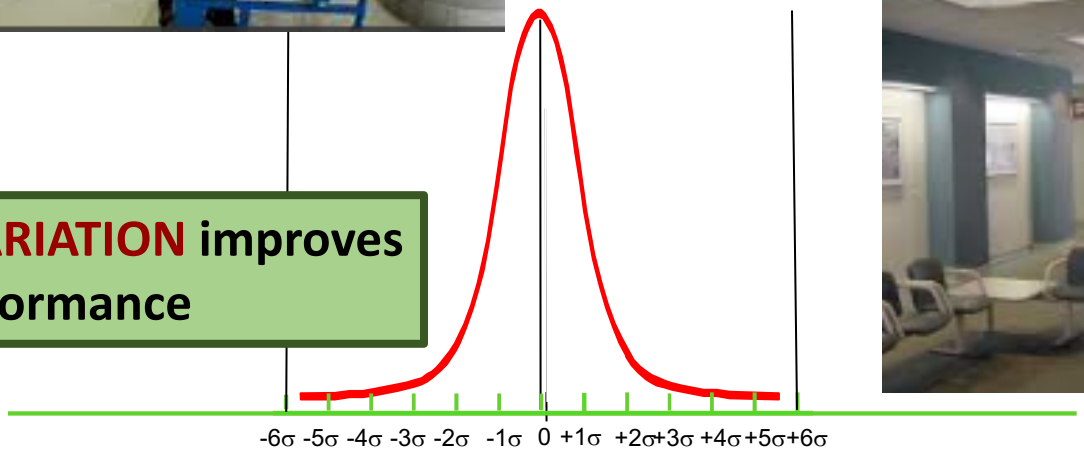
VOC vs VOP

The capability of a process is determined by comparing **Voice of the Process (VOP)** with the **Voice of the Customer (VOC).**



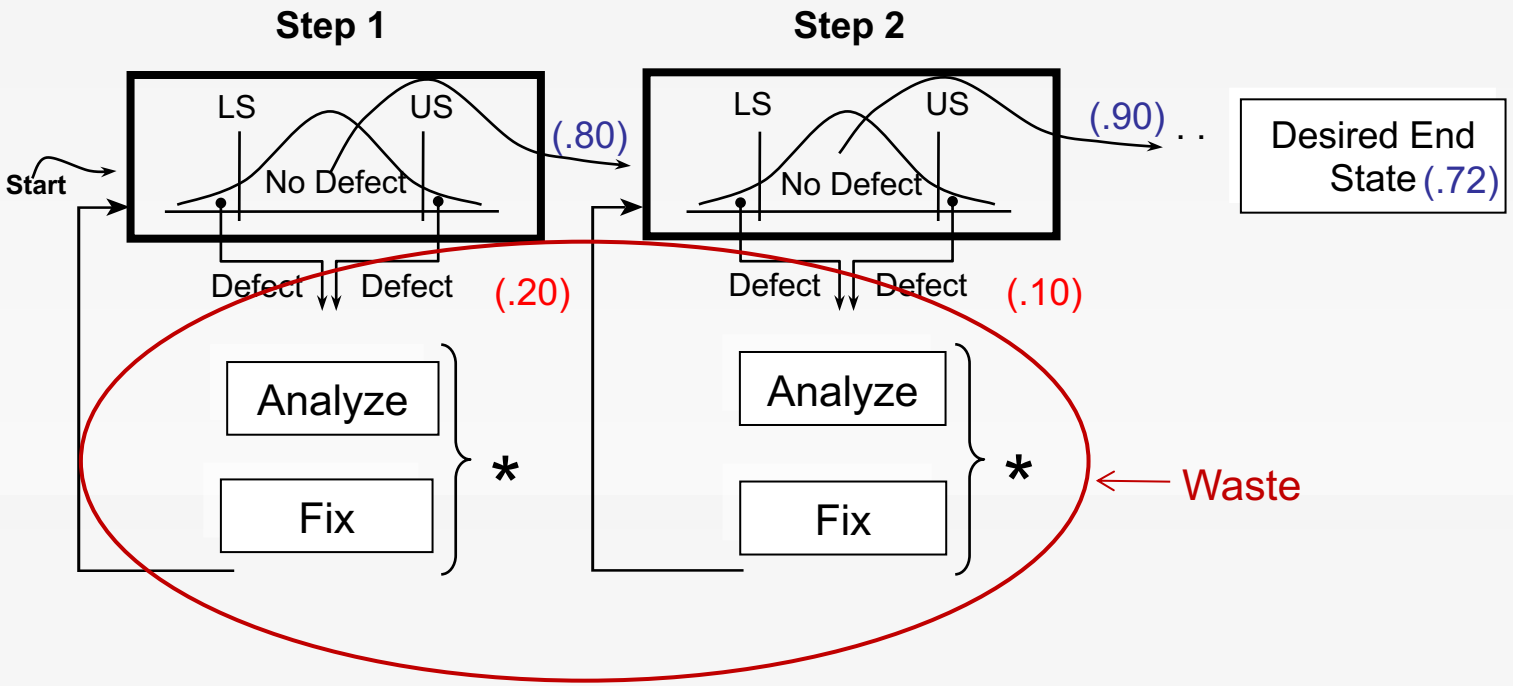
Patients feel the VARIATION!

Reducing VARIATION improves process performance



QUALITY PERFORMANCE MEASURES

Yield Rate



Every Time a Defect is Created During a Process (Step), it Takes Additional Cycle Time to analyze and fix.

* These Non-Value Added Activities Typically Require Additional Floor Space, Capital Equipment, Material, and People.

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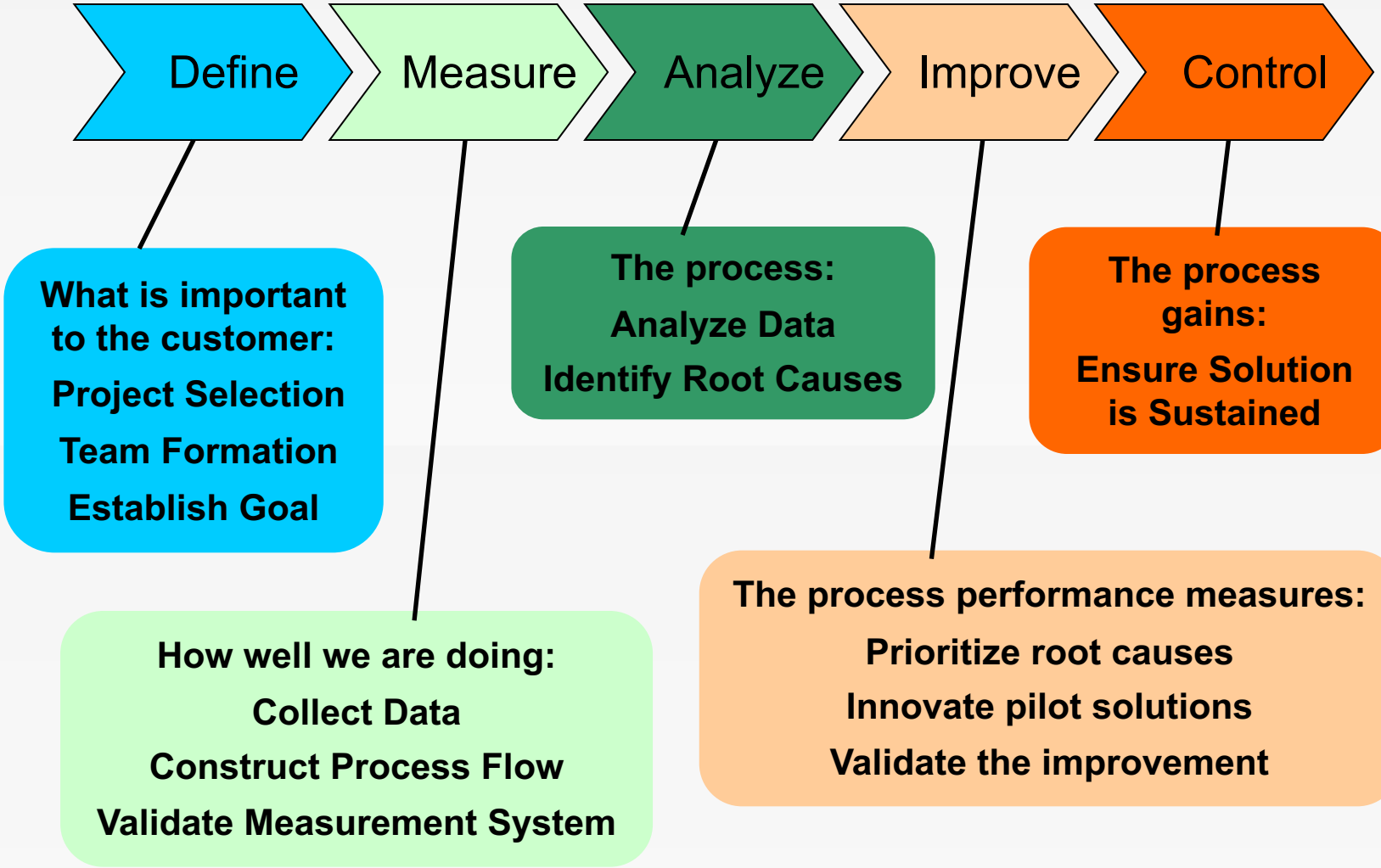
LEAN METHODOLOGY

Systematic Approach to Improvement



LEAN METHODOLOGY (cont.)

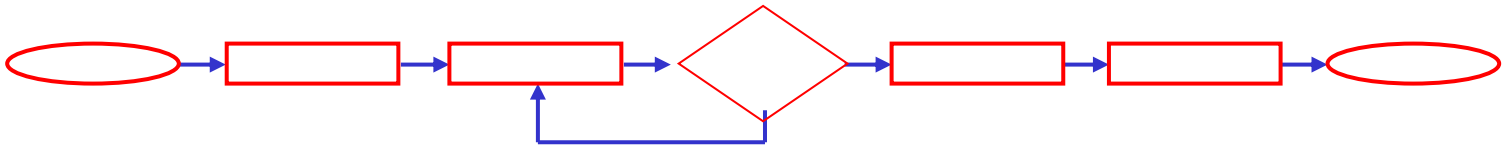
Potential Tools

Define	Measure	Analyze	Improve	Control
Voice of Customer	Physical Process Flow	Brainstorming	Rapid Improvement Event (Kaizen)	Control Charts
Project Charter	Process Flow Diagram	Cause & Effect Diagram	Mistake Proofing	Control Plan
Project Scope	Process Observation	Pareto Chart	PF/IPO/SOP	Run Charts
SIPOC	Value Stream Mapping	Root Cause Analysis	Standard Work	SOPs
Waste	Waste Analysis	5 Whys	Visual Management	
			5S	

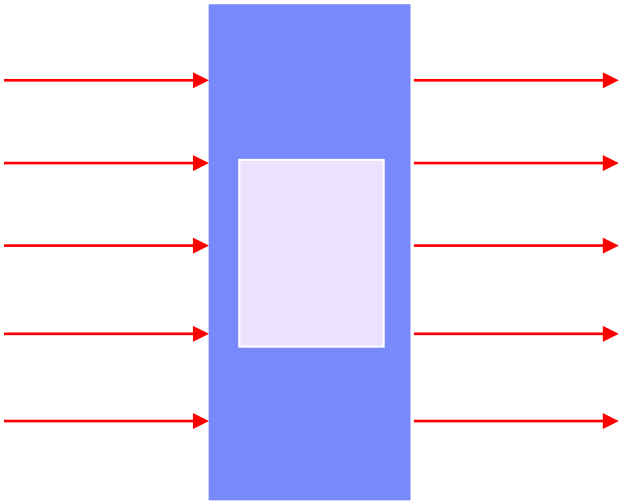
IMPROVEMENT TOOLS

Reduce Variation, Defects, and Times

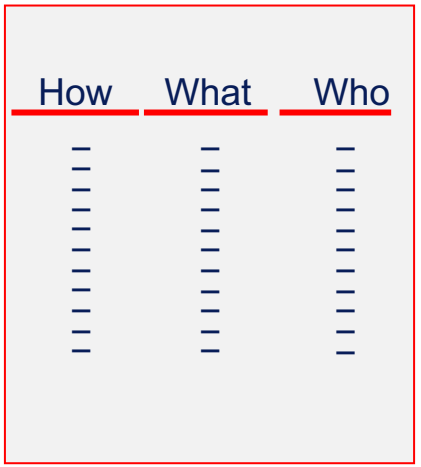
PROCESS FLOW (PF) OR PROCESS MAP



INPUT - PROCESS - OUTPUT



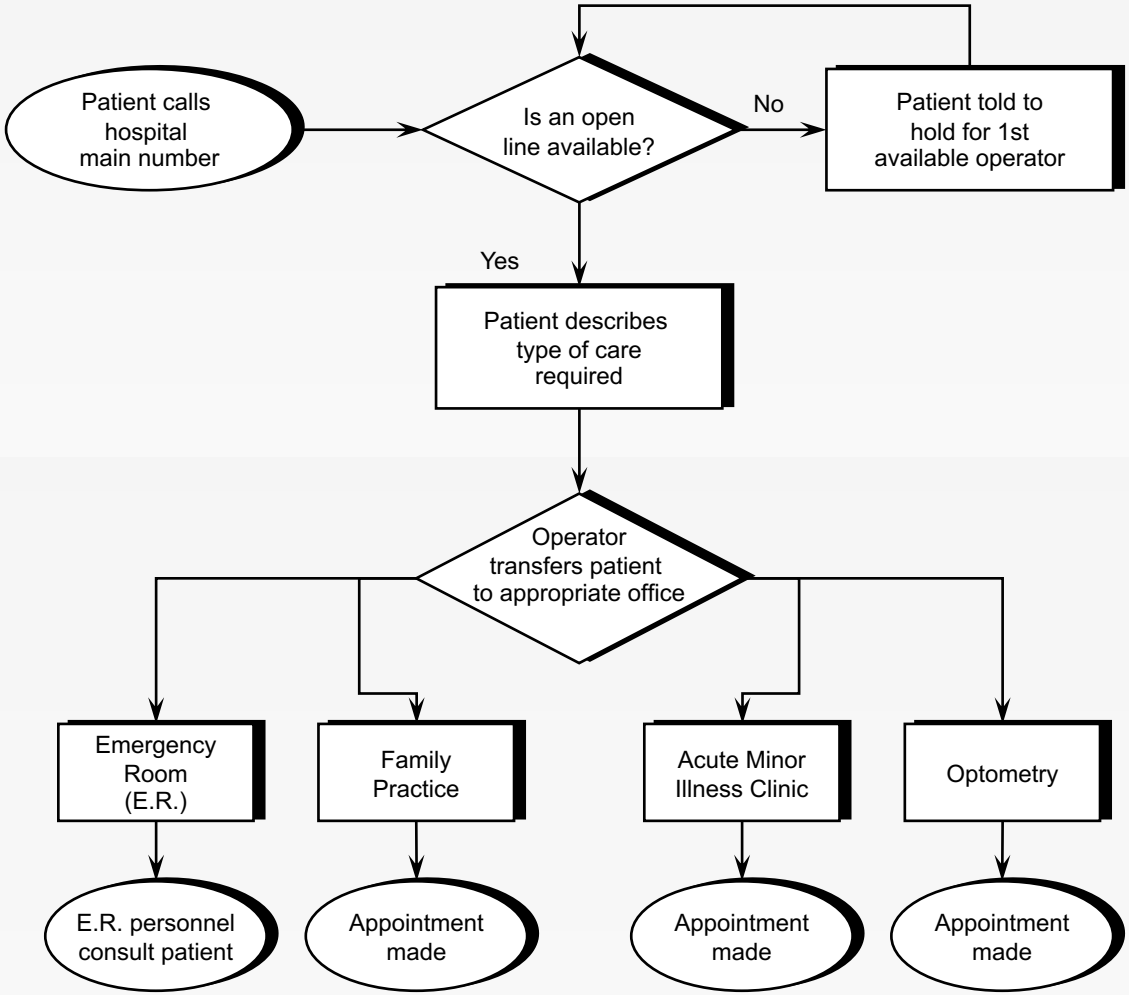
STANDARD OPERATING PROCEDURES (SOP)



PROCESS FLOW

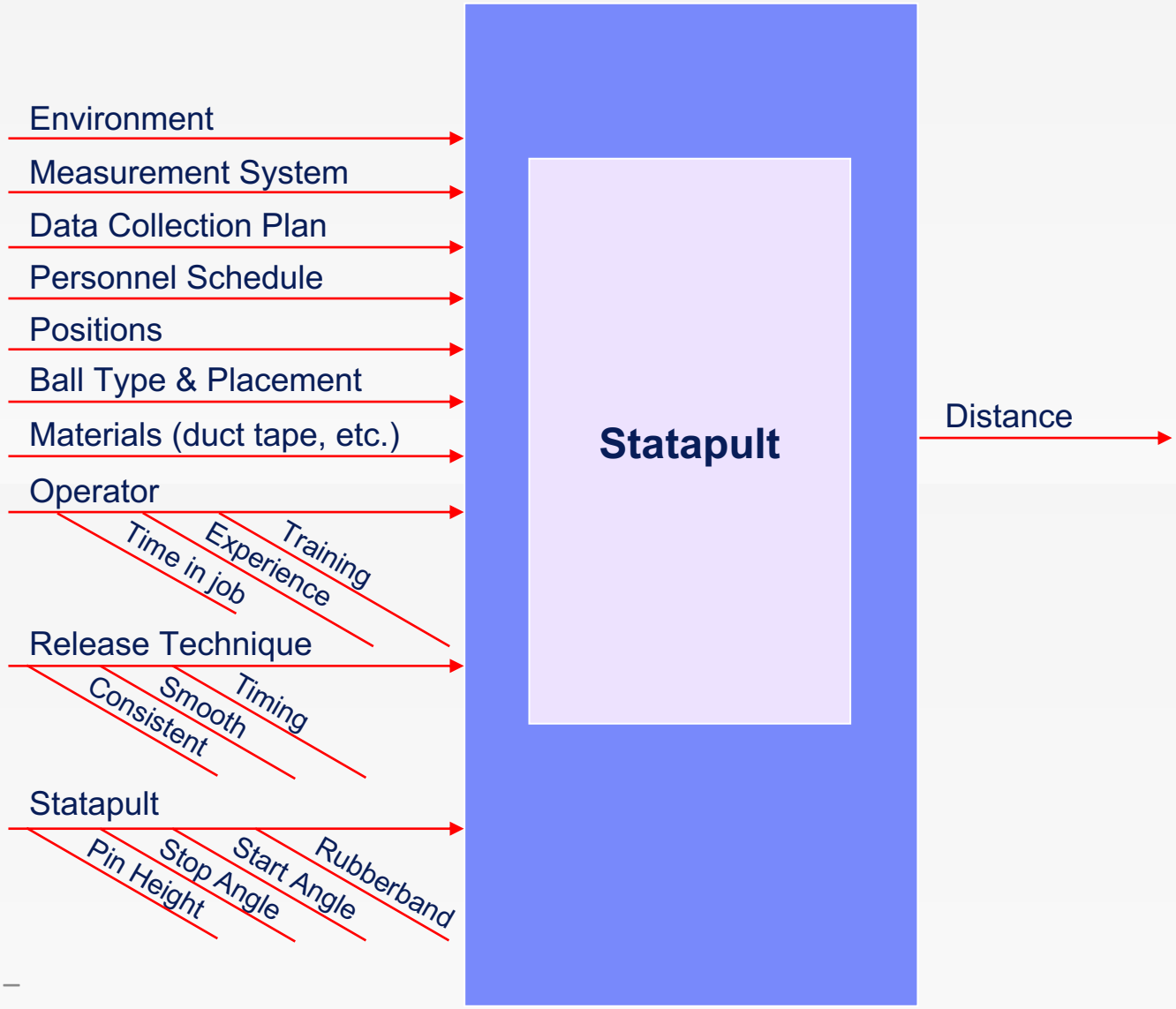
Improves Performance

Hospital Appointment Process



INPUT – PROCESS - OUTPUT

Improves Performance



STANDARD OPERATING PROCEDURES (SOPs)

Improve Performance

- Define the interaction of people and their environment when performing a service
- Detail the action and work sequence of the worker
- Provide a routine to achieve consistency within the process
- Specify the best process we currently know and understand for controlling variation
- Provide a basis for future improvements
- Validate mistake proofing in the process

IMPROVE THE PROCESS WITH PF/IPO/SOP

Second Statapult Exercise

(1) Process flow "Shooting the Statapult®"

(2) Complete Cause-and-Effect Diagram

(3) Label inputs as C or N

(4) Write simple SOPs for all C's

(5) Re-shoot Statapult® using the first example instructions (all pins at #3; pull angle = 177°; 15 sec. between shots; etc.)

(6) Record data taken after PF/CE/CN/SOPs

(7) Evaluate current process variability

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Shot #1										
Shot #2										
Shot #3										

Range = Longest - Shortest = _____

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5S

From Shop Floor to Office

整理 1) SEIRI = Sort
整頓 2) SEITON = Set
清潔 3) SEISOU = Shine
清掃 4) SEIKETSU = Standardise
躾 5) SHITSUKE = Sustain

Organize the workplace …5S

S A F E T Y

1. **Sort** - Identify what forms, equipment, parts, etc. are needed (keep) and what is not (remove)
2. **Set in Order** - Determine a place for needed items … identify the storage place with clear markings
3. **Shine** - "Clean" the office/room/station and maintain the equipment
4. **Standardize** - Work procedures, systems, and policies
5. **Sustain** - Review regularly the SOPs, processes, regulations, etc. and ensure compliance

Leaders and Managers Make It Happen!

Provide documentation so that the work environment is clearly defined, self-regulating, and self-improving

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5S

Sort

How often is it used?	Storage Location
Hourly	Within arm's reach
Every Shift	Within a short walk
Daily	Further away (but convenient)
Monthly	Department storage
Annually	Facility storage
Never	Get rid of it

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5S

Set in Order

- Physically reconfigure the area for optimization
- Mark locations for carts, big equipment, unit storage, etc.
- Designate location for paperwork, medications, materials, and supplies
- Build racks, containers or shadow boards for frequently used items
- Place frequently used items near primary work locations

5S

Shine

- Clean floors, walls, tools, and equipment
- Repair/replace items that could cause future cleanliness problems
- Repair faulty electrical outlets, cracks, items with excessive wear, etc.
- Paint areas if necessary
- Provide proper cleaning tools and procedures to maintain the improved condition
- Ensure that proper collection methods exist for debris and trash

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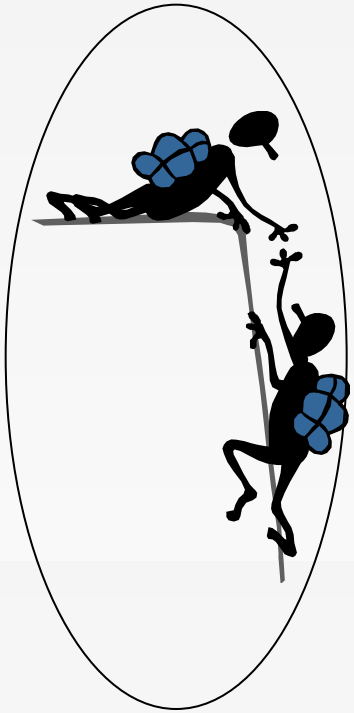
5S

Standardize

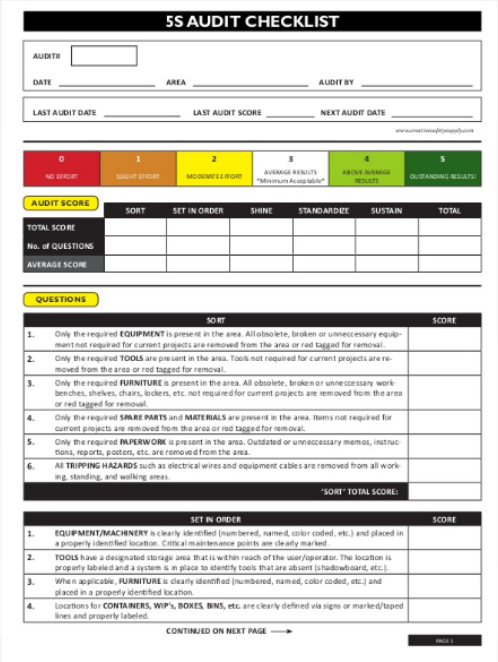
- Document the process and procedures with checklists, guidelines, flowcharts, diagrams, photographs, etc.
- Implement visual management …color coding, checklists, labeling, etc.
- Ensure that everyone is properly trained on the current process and standard operating procedures
- Determine and document responsibility towards achieving this step
- Communicate the necessity to embrace 5S and provide any necessary 5S training



5S

Sustain

- Develop a 5S audit capability
- Identify roles and responsibilities
- Review regularly the SOPs, processes, regulations, etc. for currency and compliance
- Develop a process to ensure compliance (audit, frequency, etc.)
- Utilize standard written procedures and check sheets
- Reward and recognize success



5S AUDIT CHECKLIST

AUDIT#

DATE _____ AREA _____ AUDIT BY _____

LAST AUDIT DATE _____ LAST AUDIT SCORE _____ NEXT AUDIT DATE _____

0	1	2	3	4	5
NO EFFORT	SLIGHT EFFORT	MODERATE EFFORT	AVERAGE RESULTS *Minimum Acceptable*	ABOVE AVERAGE RESULTS	OUTSTANDING RESULTS!

AUDIT SCORE

	SORT	SET IN ORDER	SHINE	STANDARDIZE	SUSTAIN	TOTAL
TOTAL SCORE						
No. of QUESTIONS						
AVERAGE SCORE						

QUESTIONS

SORT	SCORE
1. Only the required **EQUIPMENT** is present in the area. All obsolete, broken or unnecessary equipment not required for current projects are removed from the area or red tagged for removal.	
2. Only the required **TOOLS** are present in the area. Tools not required for current projects are removed from the area or red tagged for removal.	
3. Only the required **FURNITURE** is present in the area. All obsolete, broken or unnecessary workbenches, shelves, chairs, lockers, etc. not required for current projects are removed from the area or red tagged for removal.	
4. Only the required **SPARE PARTS** and **MATERIALS** are present in the area. Items not required for current projects are removed from the area or red tagged for removal.	
5. Only the required **PAPERWORK** is present in the area. Outdated or unnecessary memos, instructions, reports, posters, etc. are removed from the area.	
6. All **TRIPPING HAZARDS** such as electrical wires and equipment cables are removed from all working, standing, and walking areas.	
'SORT' TOTAL SCORE:	

SET IN ORDER	SCORE
1. **EQUIPMENT/MACHINERY** is clearly identified (numbered, named, color coded, etc.) and placed in a properly identified location. Critical maintenance points are clearly marked.	
2. **TOOLS** have a designated storage area that is within reach of the user/operator. The location is properly labeled and a system is in place to identify tools that are absent (shadowboard, etc.).	
3. When applicable, **FURNITURE** is clearly identified (numbered, named, color coded, etc.) and placed in a properly identified location.	
4. Locations for **CONTAINERS, WIP's, BOXES, BINS, etc.** are clearly defined via signs or marked/taped lines and properly labeled.	

CONTINUED ON NEXT PAGE →

5S SUSTAIN CAMPAIGN

AREA _____ WEEK OF _____

5S	TASK	TEAM
SORT		
SET-IN-ORDER		
SHINE		
STANDARDIZE		
SUSTAIN		

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STANDARD WORK

Improves Efficiency

- Method for improving work efficiency by:
  - Designing the best method to complete a work task
  - Documenting the method
  - Training operators, technicians, nurses, etc. to do the same work task using the same method
- Steps to develop standard work routines:
  - ❑ Step 1: Involve those performing the process to analyze the work task by breaking it down into work components … understand the current process
  - ❑ Step 2: Sequence the steps in a logical and efficient order … use good ergonomic principles of human motion

STANDARD WORK (cont.)

Improves Efficiency

- Steps to develop standard work routines (cont.):
  - ❑ Step 3: Capture appropriate times for the completion of the steps
  - ❑ Step 4: Document with procedures, diagrams, and layouts
    - Use visual methods such as photographs, Powerpoint, and schematics whenever possible
    - Keep task descriptions clear and simple
    - Present the work steps in the sequential order in which they must be performed
    - Develop using a team approach combining the best practices in a safe and efficient way to complete the task at a sustainable pace

STANDARD WORK (cont.)

Improves Efficiency

- Steps to develop standard work routines (cont.):
  - ❑ Step 5: Review the procedures with all who perform the process and revise as necessary
    - Standard Work is not permanent and should be reviewed regularly for improvement
  - ❑ Step 6: Train those who work the process by demonstration with the documents as aids
    - Follow up with “hands-on” training and a review for competency
  - ❑ Step 7: “Audit” at all levels regularly and ensure standard work is current

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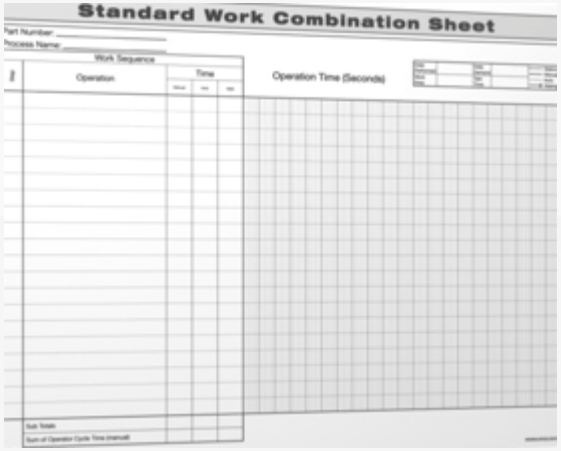
STANDARD WORK (cont.)

Needed At All Levels



STANDARD WORK (cont.)

Benefits

- Standard Work:
  - Predictable quality and predictable cycle time for the task
  - Efficiency gains with reduction in variability
  - Standardizes the method with standard operating procedures (SOPs)
  - Enhances competencies
  - Enhances problem solving
  - Strengthens multi-skilling
  - Details the interactions between the people (nurses, technicians, etc.) and the equipment/computers used for the process

STANDARD WORK (cont.)

Exercise

- Work as individuals or on a team (4-6 people)
- Pick a process
  - Making coffee
  - Shopping for groceries
  - A process from within a MC value stream
- Complete the Standard Work Template (next page)
- Prepare a debrief

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STANDARD WORK (cont.)

Standard Work Template

Process:										Date:			
Step No.	Description	1	2	3	4	5	6	7	8	Max.	Min.	Avg. Time	Comments
1													
2													
3													
4													
	TOTAL												

VISUAL MANAGEMENT

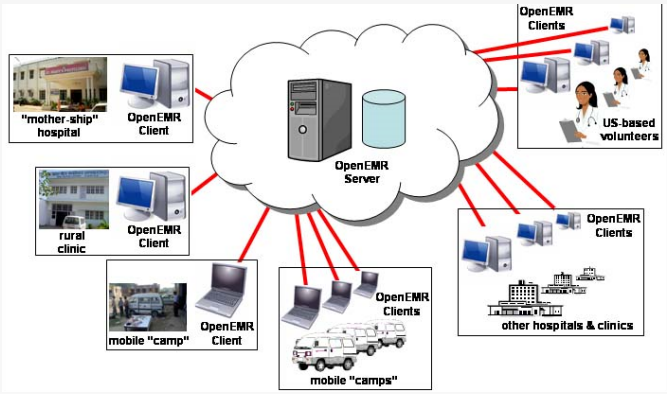
Benefits

- Used to:
  - Support Leadership and Management
    - Displays work priorities
    - Daily process performance
    - Enhances communication
  - Provide current status/information
  - Standardize
  - Error Proof
    - Prevents process omissions
    - Supports correct process step completion

VISUAL MANAGEMENT (cont.)

Benefits

- Promotes:
  - Better patient outcomes
  - Safety
  - Training and standards
  - Better job performance
  - Good process control (less variation)



VISUAL MANAGEMENT (cont.)

Examples

True North Metrics

Strategic View

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WHAT'S HAPPENING HERE?

List Common Characteristics

HUDDLE BOARD MEETINGS

A Powerful Tool for Leaders/Managers

- Attended by:
  - Leaders/managers (typically, leads the meeting)
  - Team members/staff/process workers (responsibility for leading or facilitating the huddle can be rotated)
- Promotes:
  - Efficient use of meeting time (normally limited to 15 minutes)
- Provides:
  - Current status
  - Daily direction
  - Strategic alignment
- Facilitates:
  - Quick and accurate communication
  - Performance and process improvement

HUDDLE BOARD MEETINGS

A Powerful Tool for Leaders/Managers

- Facilitates (cont.):
  - Prioritization of effort
  - Self-management
  - Making adjustments and improvements to daily work practices
- Topics discussed:
  - Selected by leaders/managers
  - Related to organizational strategy and priorities
- Candidate topics include:
  - Hot issues
  - Metrics and goals
  - Current plan to meet goals
  - Day's top priorities

HUDDLE BOARD MEETINGS (cont.)

A Powerful Tool for Leaders/Managers

- Candidate topics include (cont.):
  - Problems faced
  - Help needed
  - Safety issues
  - Performance issues
  - Potential improvement efforts/events
  - Training on updated/new processes
- Fosters:
  - Recognition
  - Communication
  - Efficiency
  - Culture of unity
  - Trust and respect

HUDDLE BOARD MEETINGS (cont.)

A Powerful Tool for Leaders/Managers

- Success enhanced by:
  - Starting on time
  - Ending on time
  - Holding regularly (even if it's a busy day)
  - Sticking to the agenda or format
  - Not turning the huddle into just a "status report"
  - Leadership/management direction

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PROCESS IMPROVEMENT QUESTIONS

Questions Leaders/Managers Need to Answer

1) How do you know that waste and quality issues are important to your organization? Which ones are a priority and why are they so important?
2) How do you know your organization's current level of quality and performance? How do you know that improvement efforts can assist you in increasing quality, improving performance, and reducing waste?
3) How are you actively pursuing breakthrough as well as continuous improvement in your areas of responsibility that link to customer value?
4) What portion of your time do you spend devoted strictly to the removal of waste and variation?
5) What are your products and services and who are your customers? How do you learn the value created for each customer? What is your process for soliciting feedback from your customers? What do you do with the feedback?

PROCESS IMPROVEMENT QUESTIONS (cont.)

Questions Leaders/Managers Need to Answer

6) What is your process for soliciting feedback from the people you manage? What kind of feedback do you solicit? What do you do with the feedback?
7) How do you measure, analyze, review, and improve performance by using data and information?
8) What are the right knowledge-generating and improvement-oriented questions you need to ask the people who work for/with you? What methods or tools can be used to answer them?
9) To what extent have you deployed and implemented an improvement strategy with a disciplined methodology and toolset and associated infrastructure to predictably generate higher levels of efficiency and effectiveness?

PROCESS IMPROVEMENT QUESTIONS (cont.)

Questions Leaders/Managers Need to Answer

10) How do you assure that your workforce is properly trained to successfully use the latest and best improvement methodologies and tools?
11) How would you describe the Cost of Poor Quality in your area of responsibility? How is it calculated? How are efforts to eliminate it identified and prioritized? How do you calculate the Return on Investment (ROI) from your improvement efforts (including eliminating the Cost of Poor Quality, project resources deployed, and training?
12) Do you have a standard procedure for documenting the improvement efforts and results? What is it?
13) What barriers does your workforce face when trying to improve the way your organization does business? What are you doing to remove these barriers?

PROCESS IMPROVEMENT QUESTIONS

Questions Leaders/Managers Need to Answer

14) On what measures of performance, related to these issues, are you evaluated? How are you held accountable for the measures of performance? What are the specific improvement goals for them? How do you hold your workforce accountable?

15) What kind of plan do you have that will, one year from now, show evidence that you made a difference? What do you predict that evidence will show?

ANALYZING WORK

Enhances Performance

- In our processes, we must challenge ourselves to:
  - Analyze the work being done
  - Understand the types of activities being performed (VA, NVA, NVA-R)
  - Strive to eliminate or reduce the non-value added work

- Where's the gap? What's the problem?
  - Cycle times too long
  - Changeover times too long
  - Excessive variation
  - High defect rates
  - Excessive waiting

ANALYZING WORK (cont.)

Enhances Performance

- Identify the potential causes of the problem

- Tools for analyzing work include:
  - Process map (previously addressed)
  - Observation (Gemba Walk)
  - Brainstorming
  - 5 Whys
  - Pareto Chart
  - Physical Process Map

GEMBA WALK

Observation

- *Gemba* is a Japanese term for "the real place"
  - Where work is being done and value is created
- Why perform *Gemba Walks*?
  - Required by top leadership?
    - Frequency, coverage, goals, etc.
  - Enhances leaders/managers capability
  - Helps problem-solve
  - Provides first-hand view/knowledge … get away from the office/desk
  - Fosters conversations with "your" people who work the processes
- On a *Gemba Walk* leaders need to answer:
  - What is the process?
  - How do I know it is working?
  - What can I do to help improve the process?

GEMBA WALK

A Leadership/Management Tool

- Things to observe and to discover on the *Gemba Walk*
  - How processes are accomplished (enables completion of a process map)
  - What activity is Value Added and what is Non-value Added
  - How upstream and downstream processes are performing
  - Safety
  - Ergonomics
  - Layout
  - Equipment status (maintenance and performance)
  - Consistency of work accomplishment (does variation exist?)
  - Validity of measurements (are they tracked real-time?)
  - Patient activity and wait time

GEMBA WALK (cont.)

A Leadership/Management Tool

- Chokepoints
- Compliance with Standard Work/Standard Operating Procedures
- 5S
- Waste
- Visual Management
- Problems with the process
  - Cycle times too long
  - High defect rates

GEMBA WALK

Points To Remember

- ❑ Start with a purpose in mind (see previous slides)
  - Know what you want to observe
  - Know what you want to learn
  - Know if there are any problems
- ❑ Know the people who are involved in the process
- ❑ Observe intently … the facility, the process, the equipment, the people, etc.
- ❑ If problem solving, drill for Root Cause (use 5 Whys)
- ❑ Validate and verify … ask yourself, “is the observation what I would normally see?”
- ❑ Listen, listen, listen

Perform Gemba Walks

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BRAINSTORMING

Helps in Decision Making

- What is it?
  - Brainstorming is used for generating many ideas that team members can build upon in a non-critical environment
- Why use it?
  - Brainstorming engages all members of the team by treating each idea equally
  - Team members are able to pool their knowledge
  - Creative ideas are formed by building off of other's ideas
- When should it be used?
  - Brainstorming should be used when the problem can be solved using existing knowledge
  - Brainstorming can also be used as an opening step for other methods of creativity

BRAINSTORMING (cont.)

Helps in Decision Making

- Assemble a team
  - Team members should include experts in the fields that are likely to be useful in solving the problem.
  - Team size should be limited to 8 (approx.)
- Clearly state the problem to be solved
- Explain the rules for Classic Brainstorming

BRAINSTORMING (cont.)

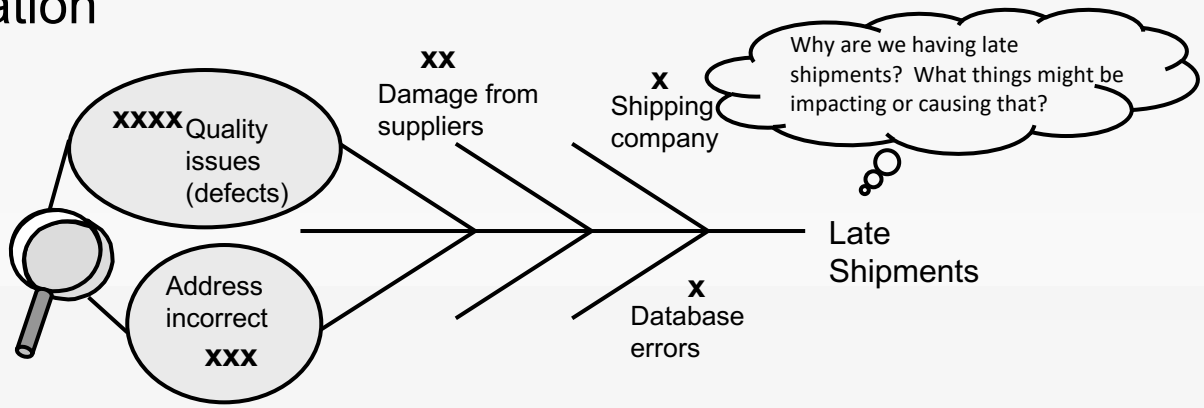
Rules

- All ideas are recorded
- No criticism, all ideas are valid
- Quantity is important, not quality
- Be imaginative
- Build off each other's ideas
- Get to the point

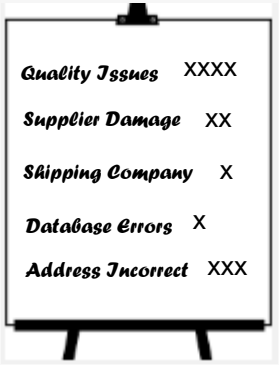
TEAM VOTING

Tool Used to Prioritize

- Use after the “right” level of discussion has occurred
- Use a CE diagram, sticky notes, or easel paper
- Give all team members a certain number of votes
- Provides documentation



Prioritize according to number of votes



BRAINSTORMING/CE

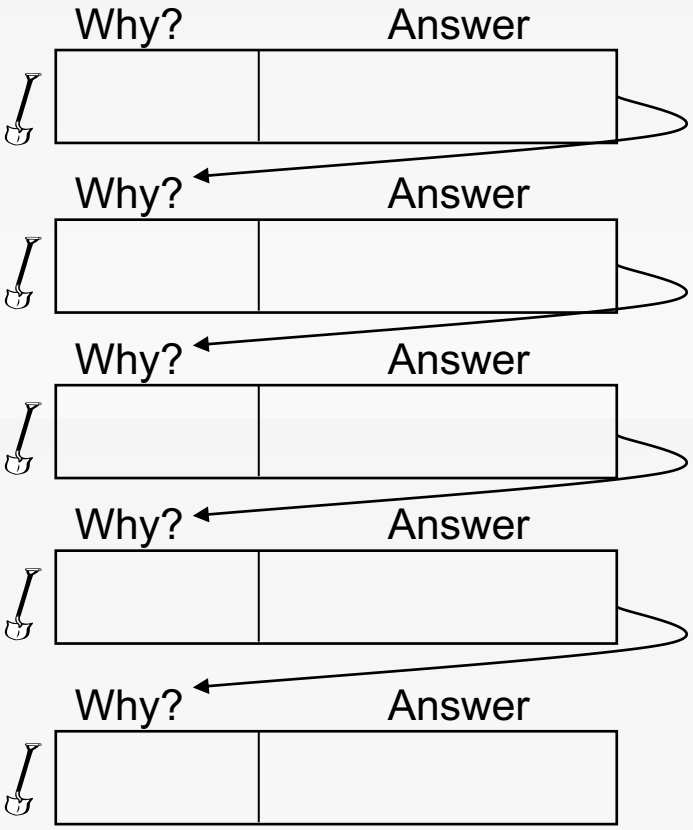
Exercise

- Break into teams of 6-8 people
- Pick a real problem (scheduling, admission, patient complaints, staffing, process thinking, etc.) and state it
- Brainstorm for 15 minutes the potential causes
- Record potential causes
- Use a team tool such as team voting to prioritize the top three potential causes
- Have a spokesperson from your group discuss:
  - The process (pros and cons)
  - The prioritization
  - The plan

5 WHYs

Root Cause Analysis

Problem: The patient's diagnosis of skin cancer was delayed.



Why was it delayed?
Because the oncologist did not make the diagnosis timely.

Why didn't the oncologist make the diagnosis timely?
Because the oncologist did not receive the excision biopsy report.

Why didn't the oncologist receive the report?
Because it was not sent.

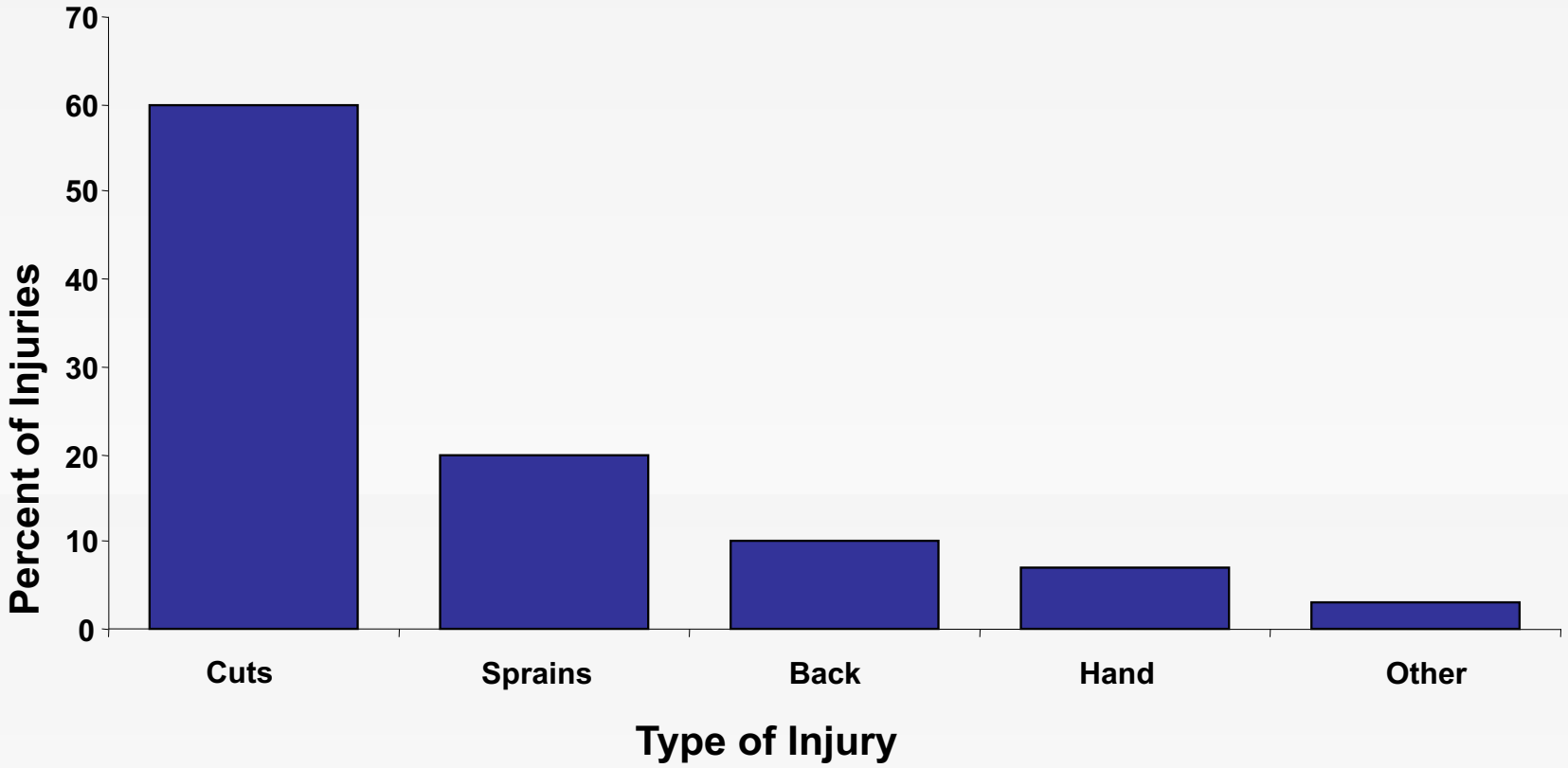
Why was the report not sent to the oncologist?
Because it was filed in the patient's medical record.

Why was the report filed in the medical records?
Because the current process dictates filing the report and sending it to the oncologist just prior to appointment.

Solution: Revise process so that oncologist "pulls" report from pathology.

PARETO CHART

Stratifies Data

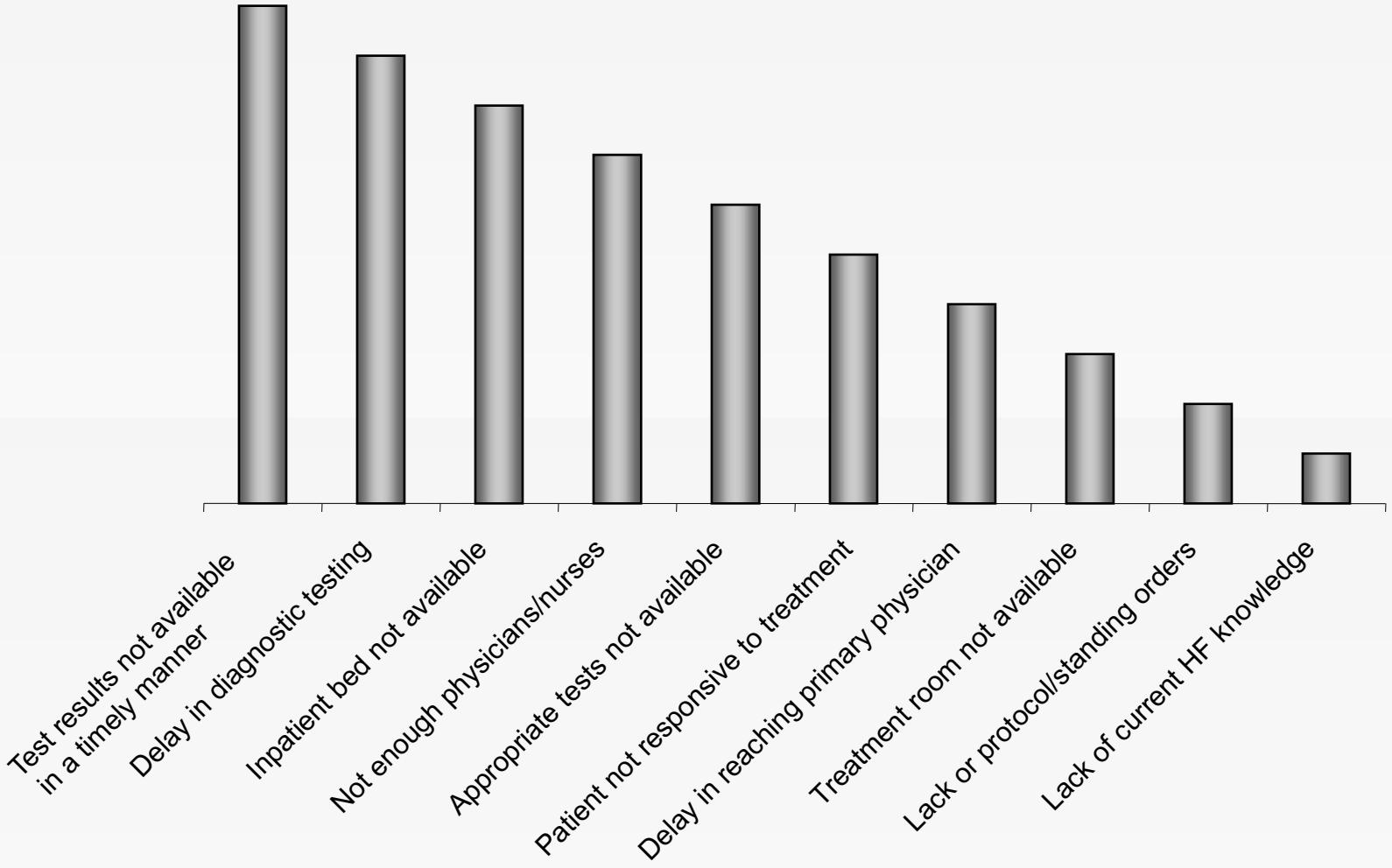


- A bar chart for non-numerical categorical descriptors whose bars are in descending order
- Used to identify and separate the “vital few” categories from the “trivial many”
- May be used in a stratified or nested fashion to zero in on precise problem area

PARETO CHART (cont.)

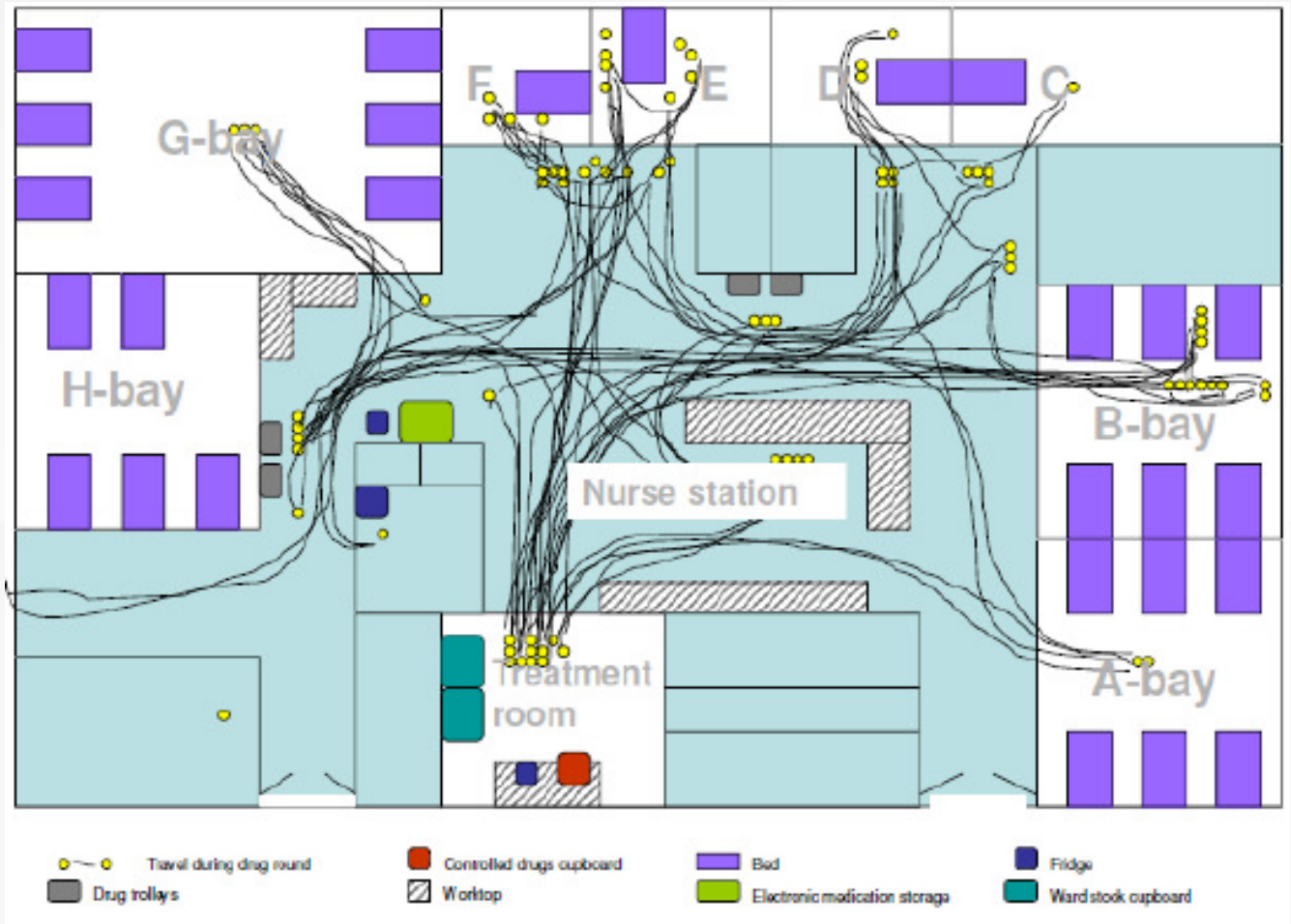
Stratifies Data

Barriers to Heart Failure Management



PHYSICAL PROCESS MAP

Spaghetti Diagram

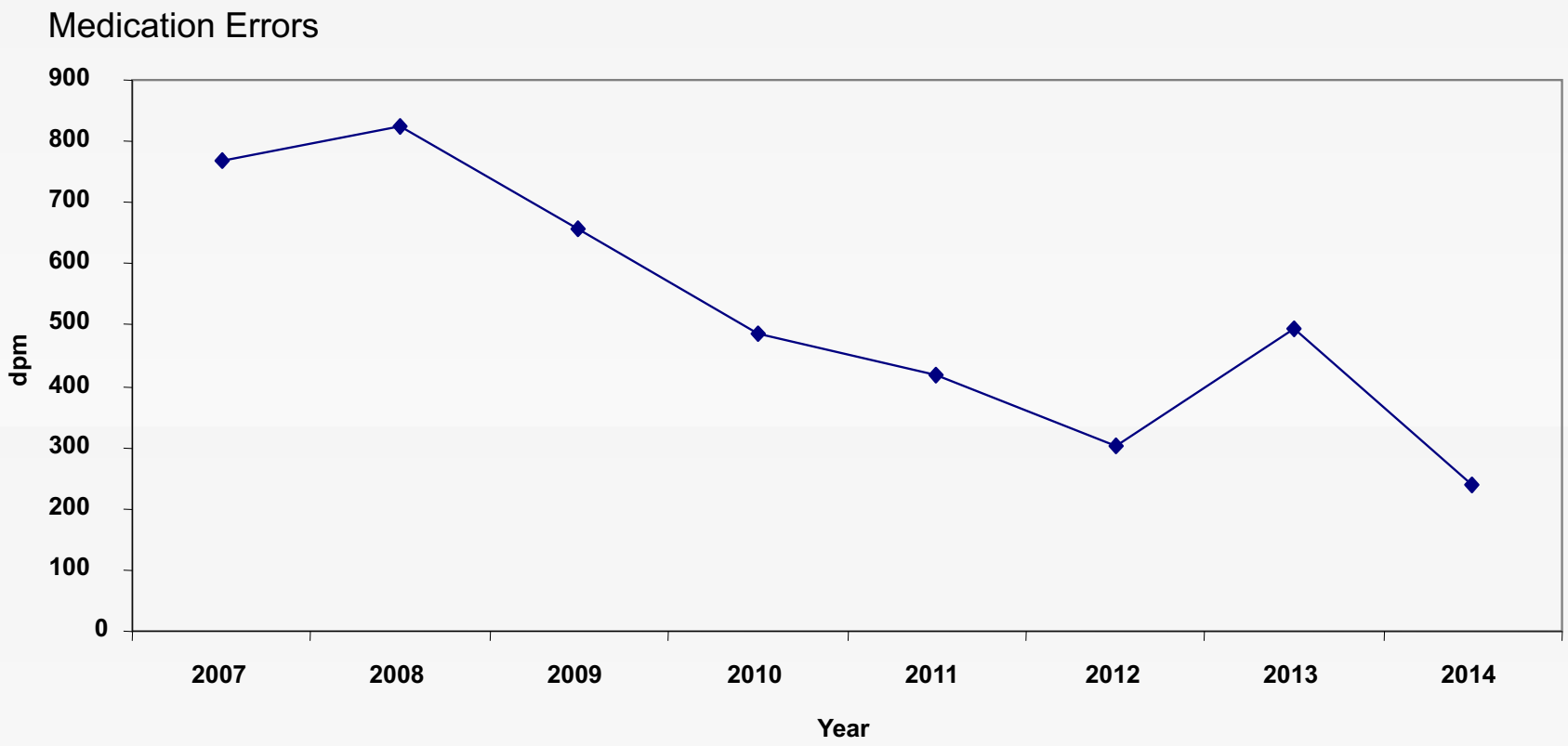


- Plot the path on a layout
- Identify each step on the layout
- Connect the steps
- Measure / estimate the distance

Travel distance by one nurse during a drug administration round

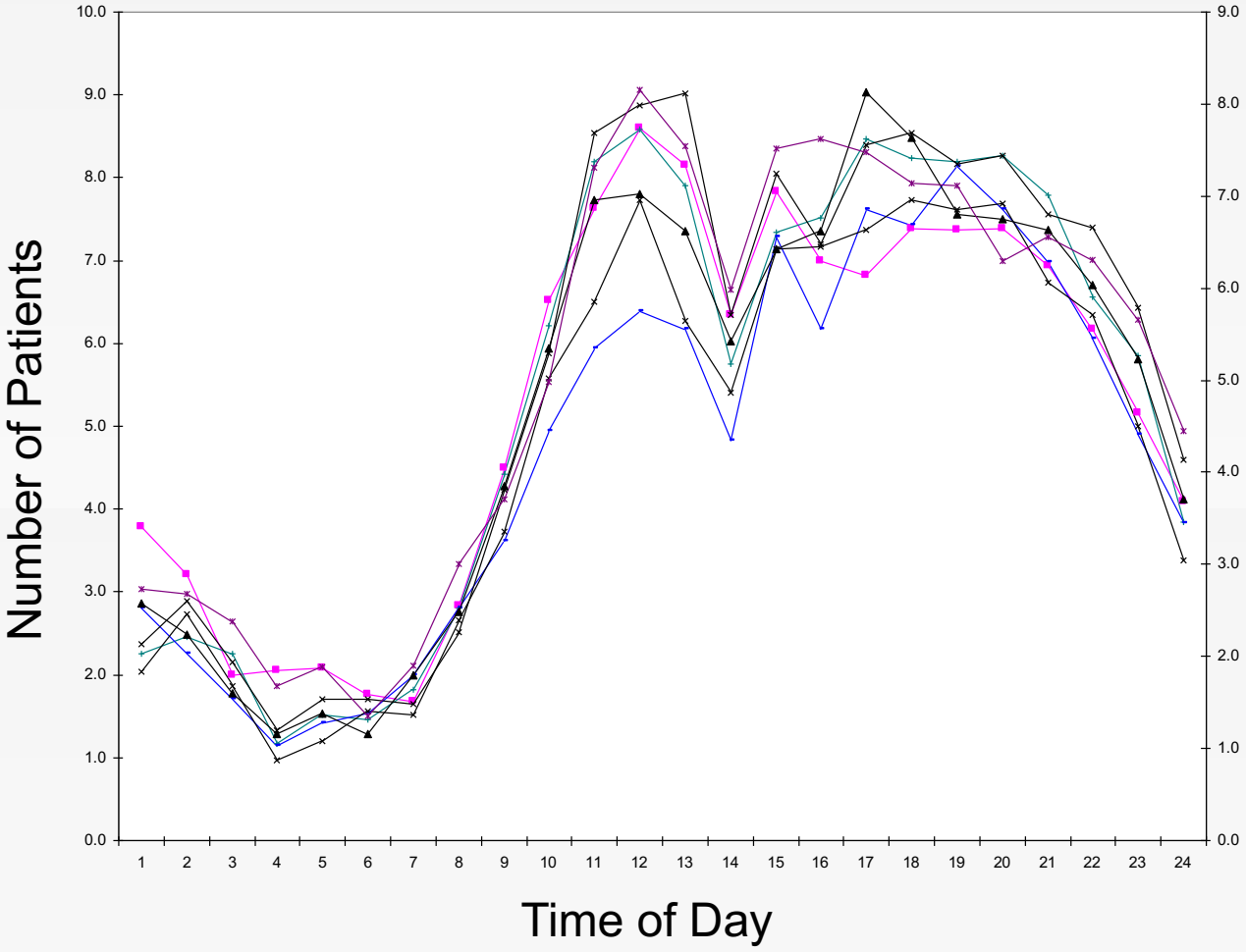
RUN CHART

Trend Chart



RUN CHART (cont.)

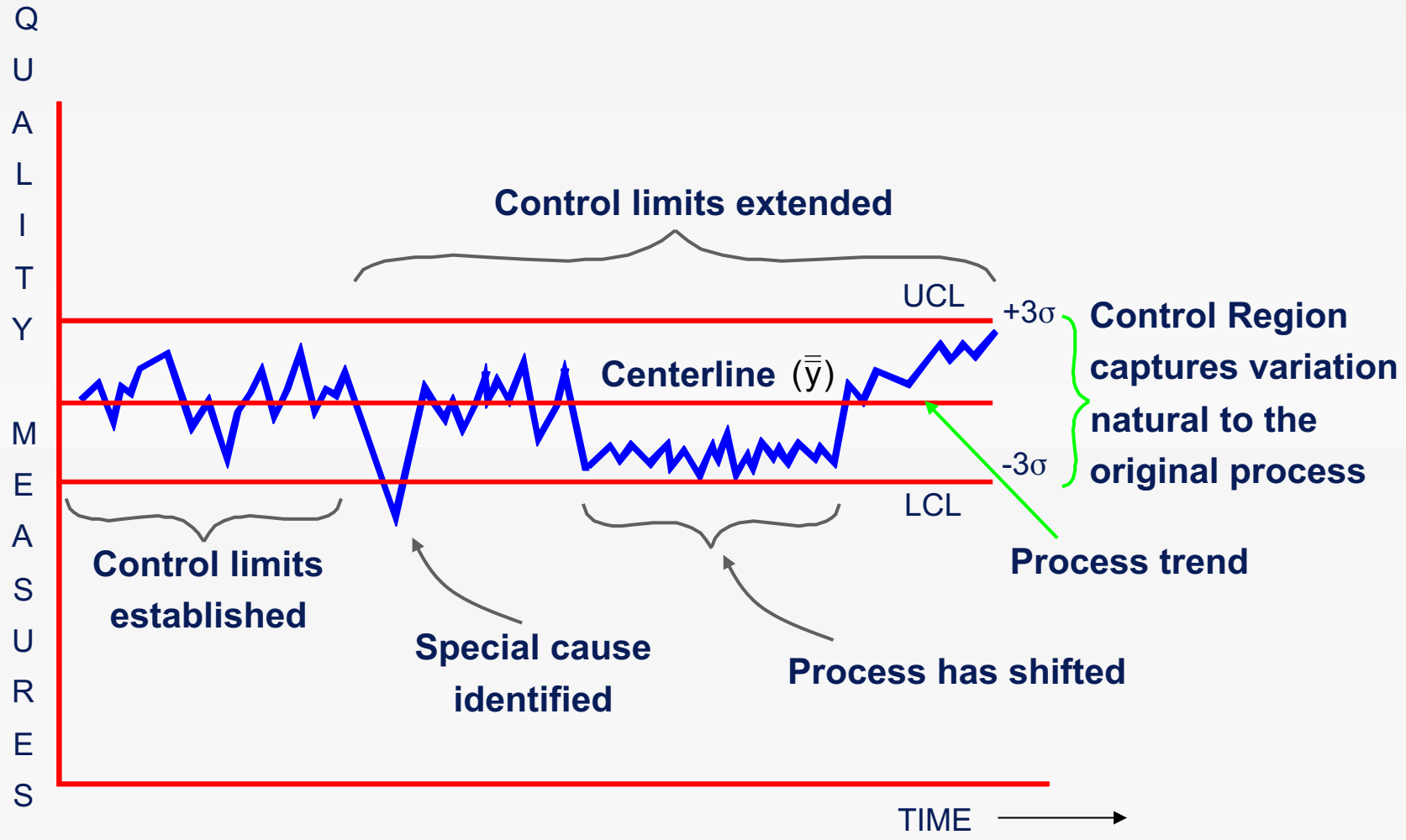
ED Traffic Example



Note: Each line is a different day of the week

CONTROL CHARTS

Voice of the Process (VOP)



CONTROL CHARTS

Another Way to Look at Data

- A management tool that monitors “health” of process
- Data plotted in time sequence
- Provide a systematic and efficient method for gathering data and transforming it into INFORMATION
- Allow managers to make decisions based on FACTS
- Highlight average, variation, outliers, shifts, and trends
- Warn of system degradations giving managers time to prevent defects
- Allow managers to be “predictive”
- Show evidence of process improvements and helps sustain the gains
- Signal problems but not their causes

See Appendix A

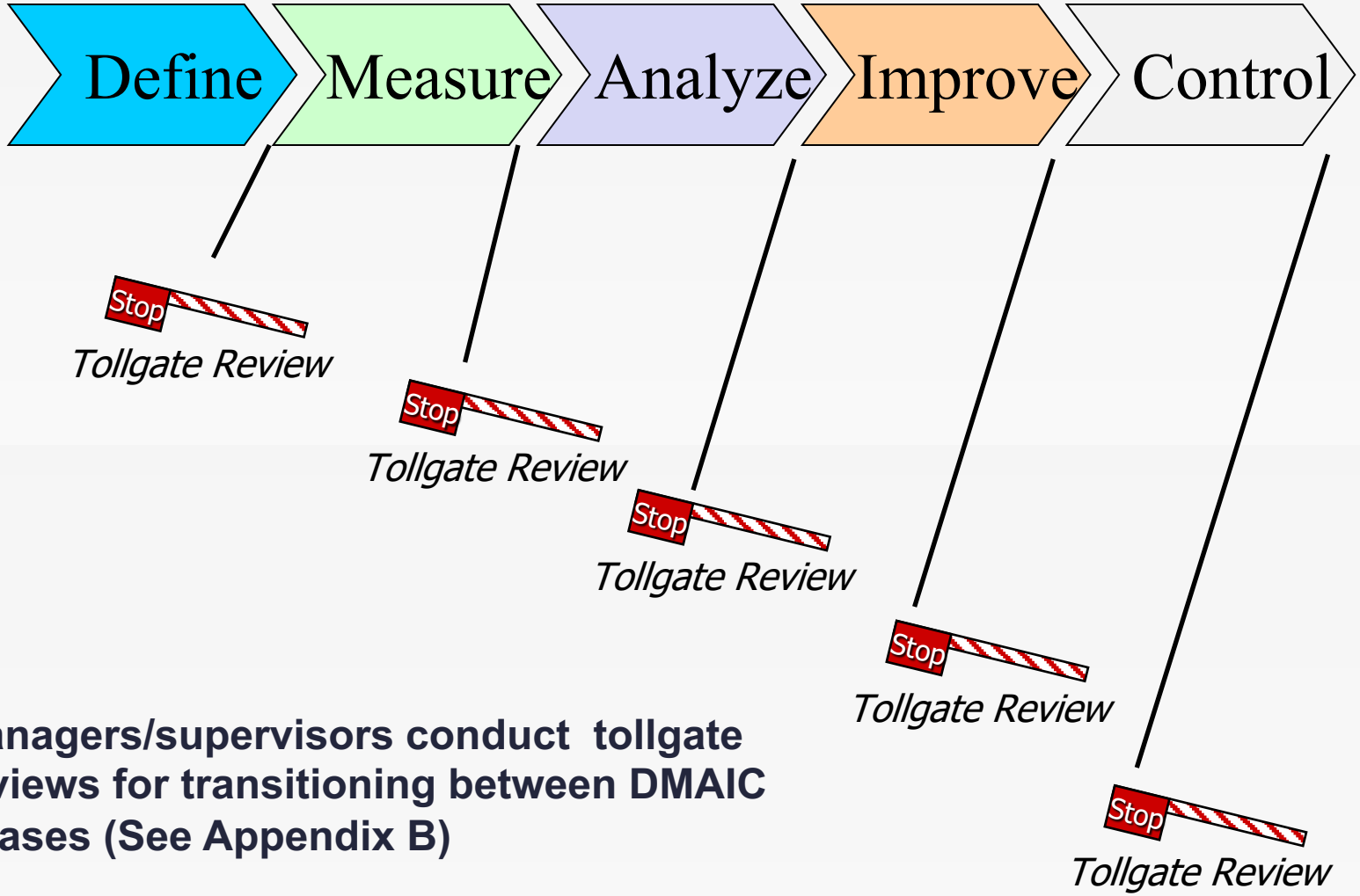
PROJECTS

Manager's Responsibilities

- Identify a key project that will benefit work flow/process, etc.
- Determine magnitude of project
  - Time, resources, depth, potential cost, etc.
- Align a belt (team leader) with the project and determine team members
- Set goals for the project
- Create and maintain project momentum
- Meet with the belt regularly to ensure project completion
- Conduct a tollgate for transitioning between each phase

PROJECT TOLLGATES

Keep Projects on Track



Managers/supervisors conduct tollgate reviews for transitioning between DMAIC phases (See Appendix B)

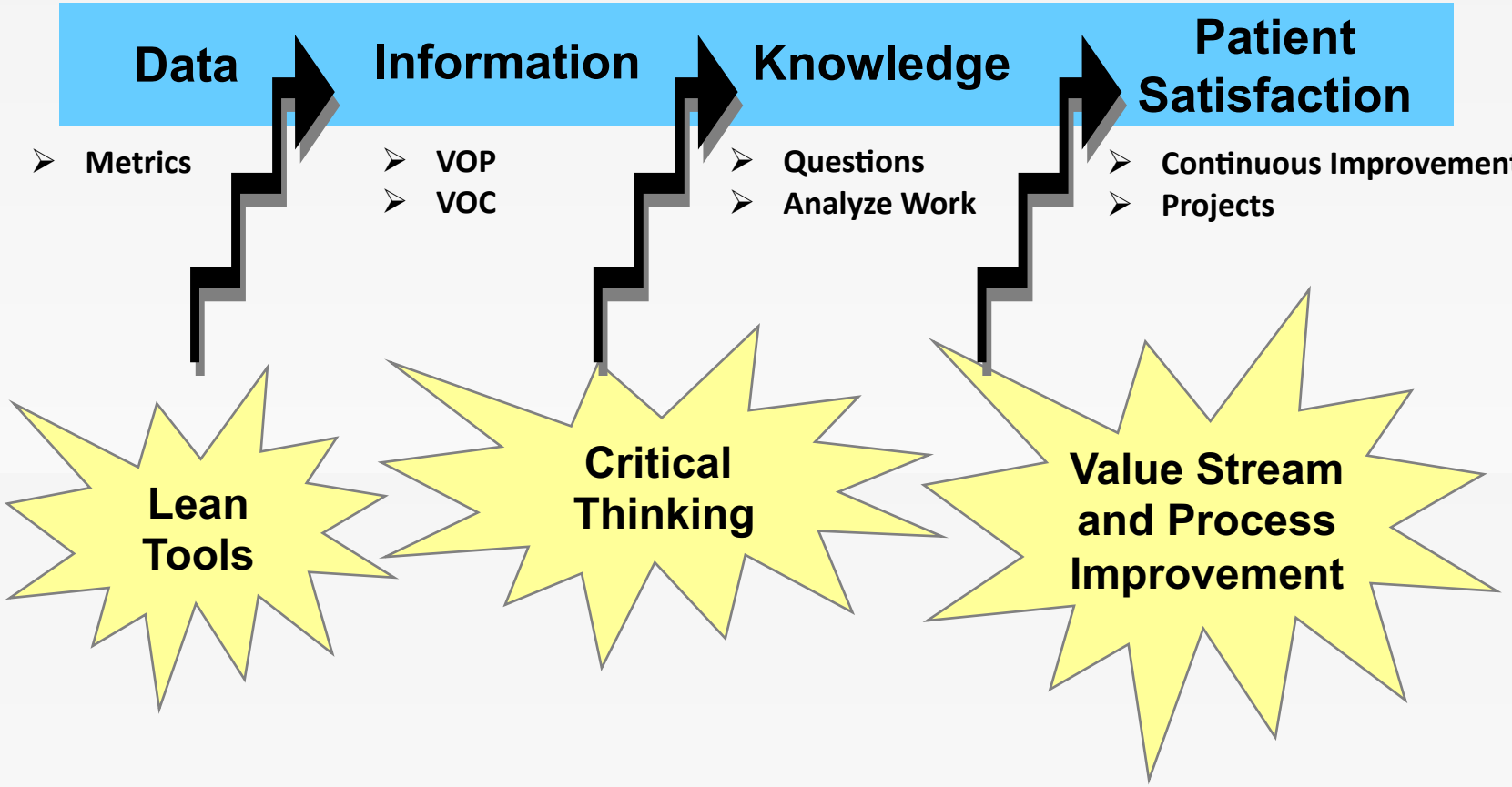
PROJECTS (cont.)

Manager's Responsibilities

- Assist in identification and capture of "Return on Investment"
- Break down barriers to project completion and push the project over the finish line
- Recognize and reward success
- Propagate success stories to generate cultural change

ACHIEVING THE GOAL

Putting It Together



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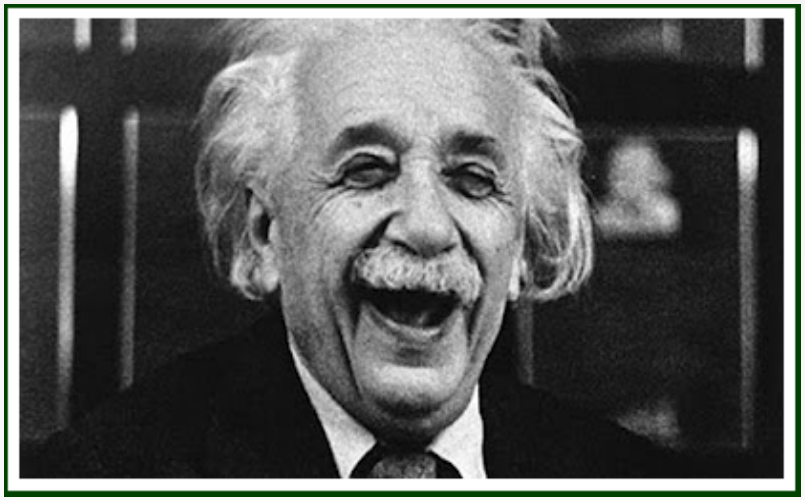
TIME TO DO THINGS DIFFERENTLY

Are You Hitting the Improvement Barrier?



Albert Einstein
(1879-1955)

Insanity:

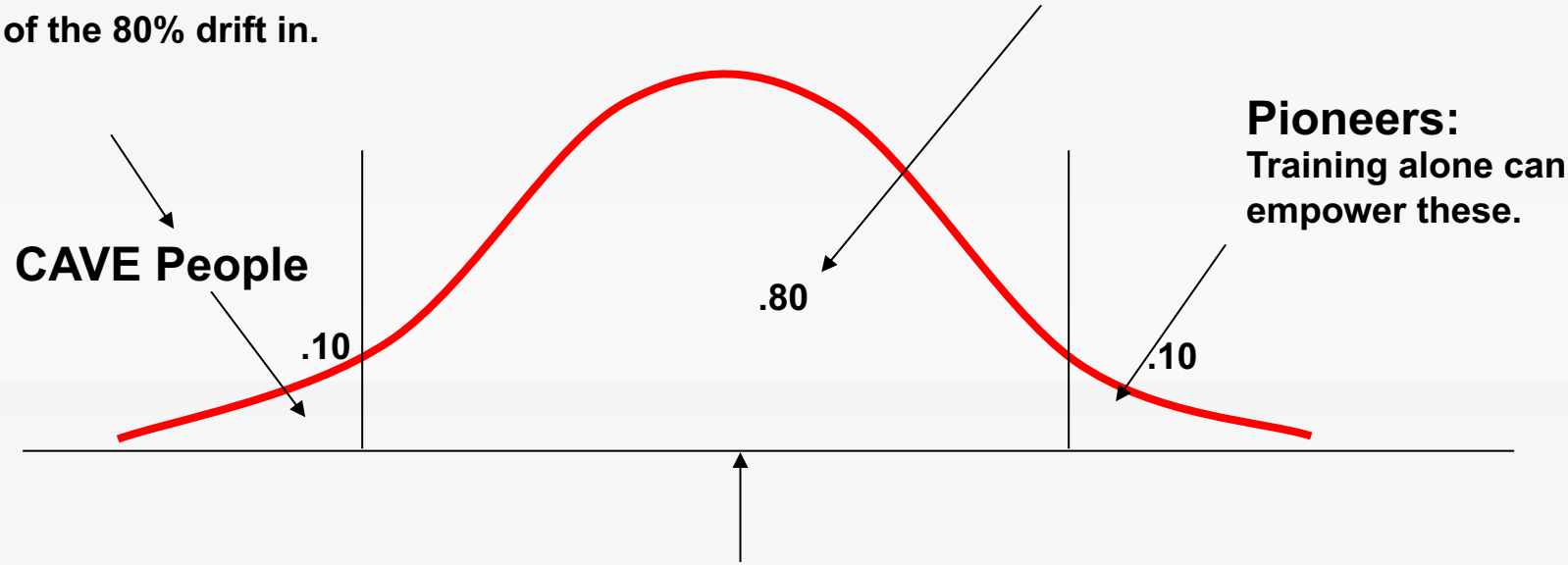
"doing the same thing over and over again and expecting different results"

READINESS FOR CHANGE

A Normal Distribution

CAVE People:
Nothing in the world will empower these. Seal off the cave so none of the 80% drift in.

Settlers:
Training alone will <u>not</u> empower these.



To move an organization forward, management must act on these, setting/declaring expectations and aligning the rewards and recognition strategy with accountability and expectations.

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SUCCESSFUL CHANGE

Key Ingredients

DD + VF + FS > R *

DD = Degree of Dissatisfaction (Need)

VF = Vision for the Future (Vision)

FS = First Step (Plan)

R = Resistance to Change

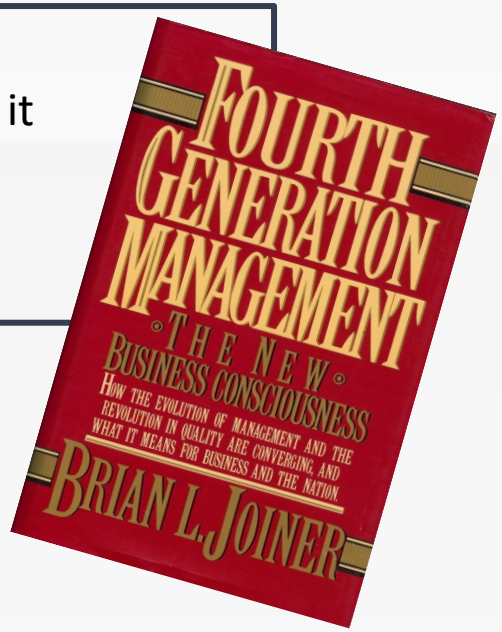
* *Change Model used with permission from Kelly and Frank Petrock.*

MANAGEMENT STYLES

Which is Yours?

- Management by Doing - (1st Generation)
  - Simplest, most primitive approach
  - Managers do the work themselves
  - Effective way to get things done; limited in capacity

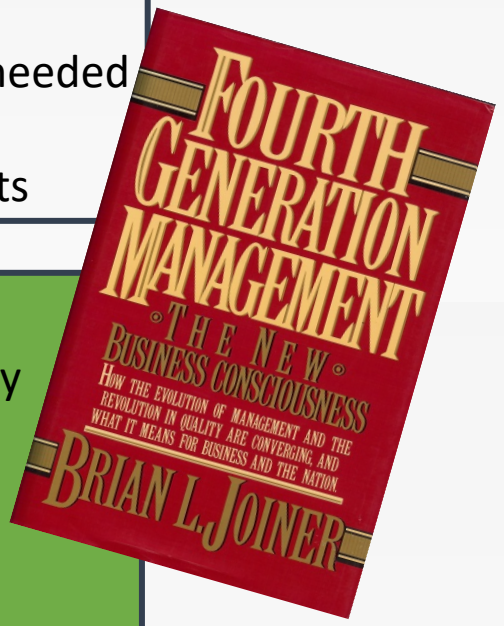
- Management by Directing – (2nd Generation)
  - Managers tell workers what to do and how to do it
  - Work performed by employees
  - Maintains strict compliance to standards
  - Close supervision and detailed directions



MANAGEMENT STYLES (cont.)

Which is Yours?

- Management by Results - (3rd Generation)
  - Managers tell employees what needs to be accomplished
  - Employees determine how to accomplish the work
  - Focus is on judging and rewarding people on outcomes
  - Workers seldom provided with the knowledge or skills needed to improve the system
  - Expected results achieved at the expense of other results



- 4th Generation Management
  - Managers care about results and know that the best way to achieve them is through fundamental improvement
  - Managers become the champions of customer needs
  - Managers become the drivers of real improvement
  - Managers work with process workers as “partners” to develop better methods to achieve better results

"ADDITIONAL" MANAGER ROLES

Drive Continuous Improvement

- Problem Solver
  - Enlist the "right" people
  - Determine the data to collect
  - Organize for data collection
  - Collect the data
  - Use the appropriate tools to solve the problem

- Motivator
  - By word and example
  - Out of the office and on the floor
  - Give credit where it's due
  - Talk the language of the process workers

"ADDITIONAL" MANAGER ROLES (cont.)

Drive Continuous Improvement

- Chief "Change Agent"
  - Perform self-assessment
  - Encourage questions
  - Communicate need, vision, and plan
  - Deploy necessary resources
  - Support change
  - Take time to coach (individuals and teams)
  - Teach Lean principles and methods
  - Be engaged!

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ROADMAP

Managers Create and Implement

- What is the need for Lean?
- What is the vision for the future?
  - Short-term (1 year)
  - Long-term (1-3 year)
- What is the plan to achieve the vision?
- How can our Lean deployment/efforts fail?
- What can we do to be successful?

- VSM
- Process Flow
- Kaizen/RIE
- Gemba
- Metrics
- Prioritization
- 5S

IMPROVEMENT REQUIRES BEHAVORIAL CHANGE

Lean Transforms

- Lean Challenges Us To:
  - Think Differently
  - Work Differently
  - Ask Questions and Challenge the Status Quo
  - Make Decisions With Facts and Data
  - Use New Principles, Tools and Methodologies

When Culture and Need for Change Compete …
Real Leaders and Managers are Needed

Thank You – For More Information, Please Contact:

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