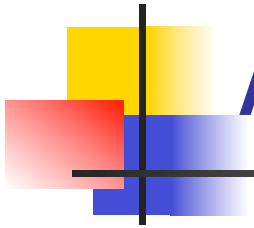
Lean Training

A3



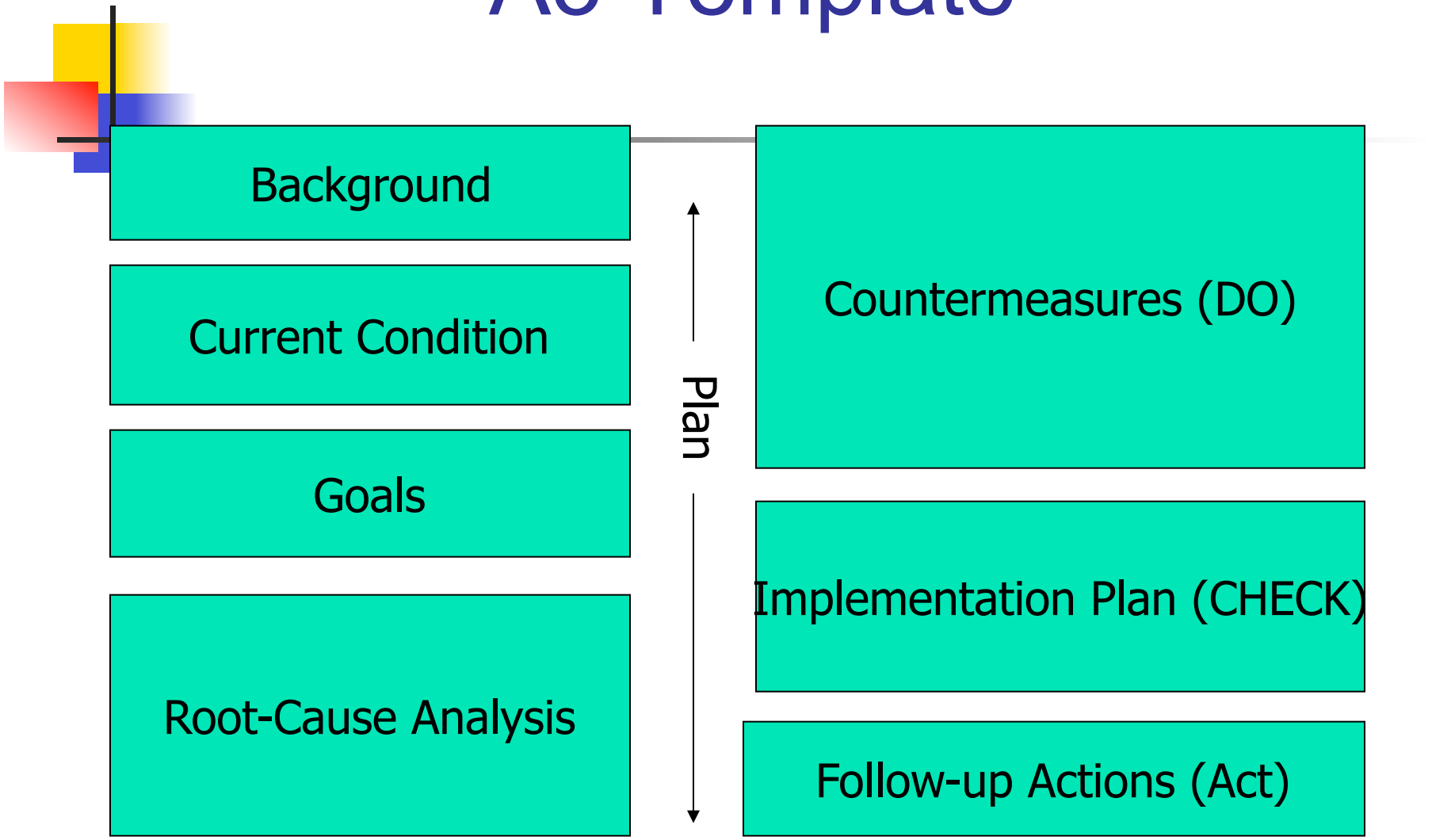
Agenda

- What is it?
- What's it for?
- How does it work?
- When do you use it?
- What's an example?

What is it?

- An 11 x 17 size piece of paper (A3 size)
- A method of thinking through a problem
- A concise summary of the problem and solution
- A communications tool
- A way of managing the improvement process
- Can be used for any kind of process in all parts of the organization

A3 Template


Background
Current Condition
Goals
Root-Cause Analysis
Plan
Countermeasures (DO)
Implementation Plan (CHECK)
Follow-up Actions (Act)

What's it for?

- The A3 tool is used for problem-solving
- It becomes a one-page story of a problem, including current condition, problem analysis, future condition, and actions to solve the problem

NOTE: A3's can also be used for strategic planning and other purposes. It is used most often, however, for problem-solving.

The A3 Process – Left Side

- Grasp the current condition
  - Patient or *customer's perspective*
  - Be sure it is worth solving. *Build consensus* and approval for solving it.
  - *Gather and study* data about the problem
  - Understand secondary effects of problem
  - Think deeply about the problem
- Identify the root cause
  - Go see
  - Gather data
  - Tools – 5 Whys, fishbone, pareto, design of experiments, takt, job analysis
  - Identify the *most likely causes*

A3 Root Cause Analysis

- Many tools to help separate a symptom from a root cause
  - Go see
  - 5 Whys
  - Fishbone diagram
  - Data plotting and analysis (Pareto, scatter, histogram, etc.)
  - Value Stream Mapping (VSM) – Are processes well understood, under control, is there standard work, etc.
  - What work-arounds and buffers are used?
  - Spaghetti diagrams

The A3 Process – Right Side

- Devise countermeasures and visualize future state
  - Evaluate possible solutions based on effectiveness, cost, and time to implement
  - Test solutions on a small scale if possible
  - Verify alignment with larger organization goals
- Create Implementation Plan
  - Short-tem temporary countermeasures
  - Long-term permanent countermeasures
  - Identify responsibility for implementation

A3 Template

Title:

Issue

Background

Current Situation

Problem Analysis

Target Condition

Countermeasures

Implementation Plan

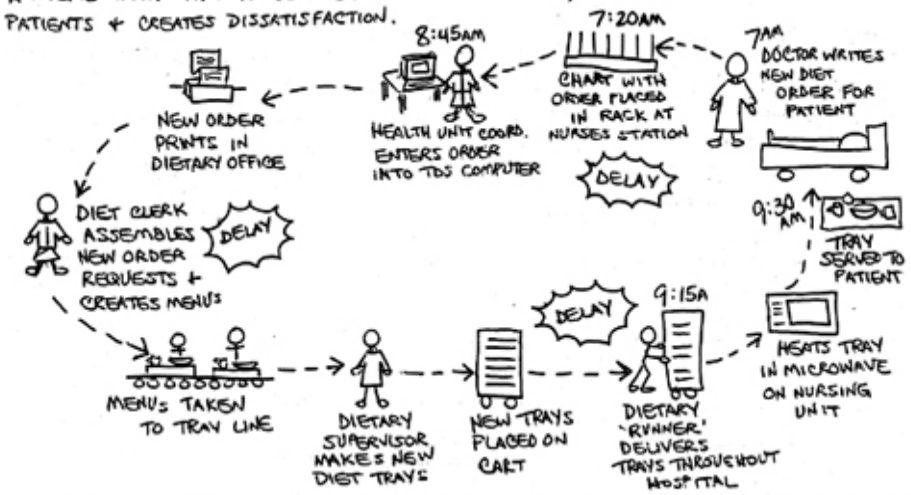
Follow - up

A3 Example

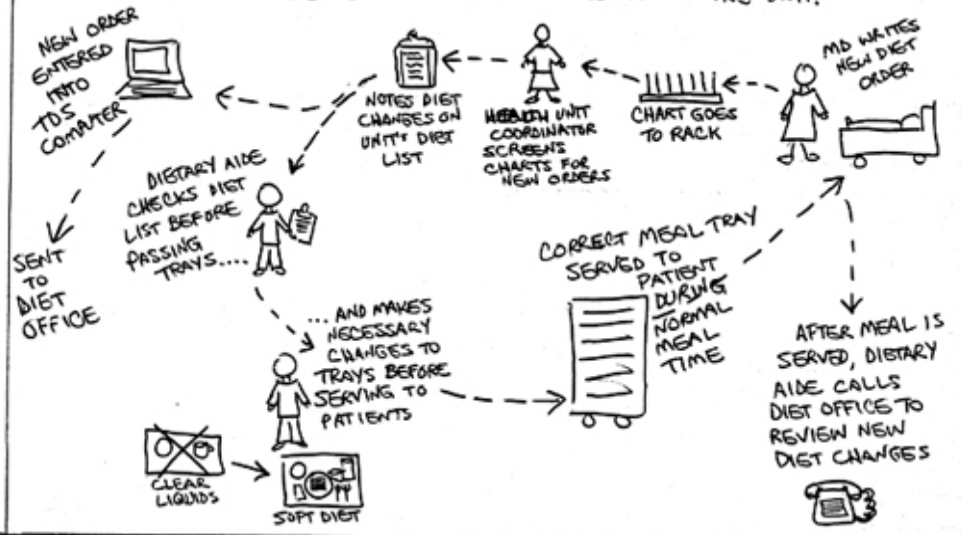
12/10/01 4MAIN LEARNING LINE – UPMC SHADYSIDE
OBSERVER: TINA DANZUSO, TEAM LEADER, AMY LORE RD FOOD/NUTRITION

NEW PATIENT DIET ORDERS + DIET PROGRESSION

CURRENT CONDITION: DIET ORDERS WRITTEN BY PHYSICIAN ARE ENTERED INTO TDS + TRANSMITTED TO THE DIET OFFICE, WHO THEN PROMPTS CREATION + DELIVERY OF A MEAL TRAY. THIS PROCESS CAN TAKE 2-3 HOURS, WHICH DELAYS SERVICE TO PATIENTS + CREATES DISSATISFACTION.



TARGET CONDITION: PATIENT WILL RECEIVE NEW DIET TRAY AT TIME MEALS ARE SERVED TO OTHER PATIENTS ON THE UNIT.



PROBLEM: NEW DIET ORDER WRITTEN AT 7AM, ~~PATIENT~~ DID NOT RECEIVED TRAY UNTIL 9:30AM, WELL AFTER BREAKFAST TRAYS WERE SERVED (8AM).

WHY? → PATIENT'S NEW TRAY WAS NOT READY UNTIL 9:15AM

WHY? → INFORMATION ABOUT NEW DIET WAS NOT AVAILABLE ON THE TRAY LINE WHEN BREAKFAST TRAYS WERE ASSEMBLED, + DIET STAFF BUSY SERVING BREAKFAST WHEN NEW ORDER ARRIVED.

WHY? → THE PATHWAY FOR PROCESSING NEW DIET ORDERS HAS NUMEROUS DELAYS + NO MECHANISM FOR EXPEDITING NEW ORDER INFORMATION TO THE DIETARY AIDE DELIVERING BREAKFAST TRAYS.

RULE 2: CONNECTIONS

RULE 3: PATHWAYS

COUNTERMEASURE:

WHAT	WHEN	WHO	WHERE	WHY	INTERNAL TEST
• HEALTH UNIT COORDINATOR UPDATES DIET LIST AS ORDERS ARE WRITTEN	WEEK OF NOV. 20	H.U.C.	4M LEARNING LINE BEDS	EXPEDITE NEW DIET ORDER TRAYS TO PATIENTS, LESS WAIT FOR MEAL TRAY	# OF TIMES NEW ORDER TRAYS ARE SERVED MADE + SERVED ON UNIT DURING MEAL TIMES.
(DIETARY HOSTESS TO DO FOR LUNCH + DINNER)	DEC. 10	HOSTESS			
• STAFF INSTRUCTION ON NEW PROCESS	WEEK OF NOV. 20	TINA DANZUSO, AMY LORE	4MAIN DIETARY	SO STAFF KNOW WHAT TO DO DIFFERENTLY	STAFF PERFORM AS EXPECTED
• CREATE TRAY OF EXTRA FOOD IN UNIT KITCHEN FOR NEW TRAYS	WEEK OF NOV. 20	AMY LORE, JOYCE SCOTT-SMITH	4MAIN KITCHEN	TO HAVE ENOUGH FOOD TO MAKE NEW TRAYS	HAVE ENOUGH FOOD AVAILABLE TO MAKE NEW TRAYS NEEDED

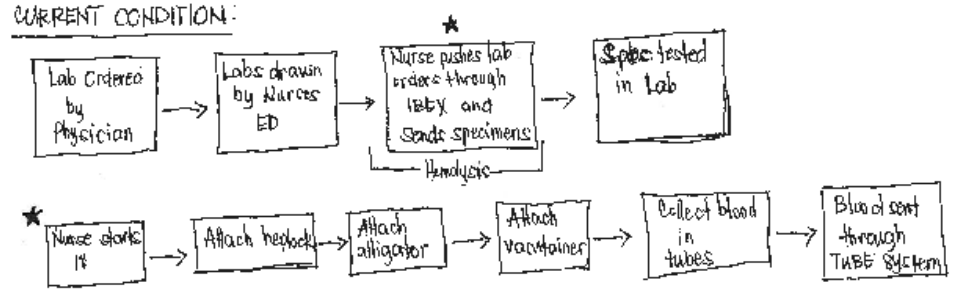
A3 Example

PROBLEM STATEMENT: INCREASING NUMBERS OF HEMOLYZED SAMPLES FROM ED

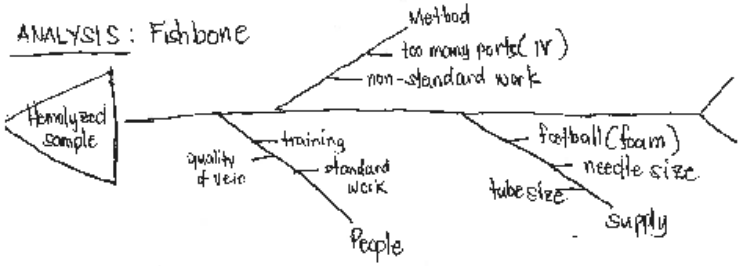
BACKGROUND:

- 35-40 % of samples received from ED are hemolyzed that would cause Lab to call ED for re-draw.
- ED draws samples through IV, 95% of the time which has been shown to increase hemolysis
- Redraws decrease patient satisfaction scores – increase patient frustration
- Redraws prolong patient care, diagnosis and treatment
- ICU draws, which are predominantly through CATH are known to have high degree of hemolysis.

CURRENT CONDITION:



ANALYSIS: Fishbone



GOALS:

- Decrease the number of hemolyzed samples
- Decrease patient Diagnosis and Treatment TATs
- Increase awareness of ED nurses regarding standard procedure on Blood Collection

COUNTER MEASURES:

- Educate ED nurses on proper blood collection
- Stop using large volume tubes and switch to smaller volume tubes to decrease suction
- Using only padded footballs
- Implement different process weekly to monitor and quantify hemolysis
  - Starting IV on AC area only
  - Using 18 g. needles only
  - Vacutainer attached directly to IV
  - Trying New collection device

IMPLEMENTATION PLAN:

	ACTION ITEMS	PERSON RESPONSIBLE	DUE DATE
1.	Monitor pilot groups' hemolysis rate	Lindsey, Donna	March 16
2.	Training /Education ED nurses	Lindsey	May 20, 2009
3.	Using smaller volume tubes	Lindsey	On-going
4.	Using padded footballs and getting more foam	Lindsey, Craig	
5.	Implementing weekly test runs	Lindsey & Lab team	
	a.) Starting IV on AC area		March 23 - 29
	b.) Using 18 g needles only		March 30 - Apr. 5
	c.) Vacutainer attached directly to IV		Apr 6 - Apr 12
	d.) Both B and C		Apr. 13 - Apr. 19
	e.) A, B, C		Apr. 20 - Apr. 26
	f.) Trying new collection device		Apr. 27 - May 3

FOLLOW-UP:

- Metrics used to monitor hemolyzed samples
- Continuous Education and Training on Standard Work

A3 Example

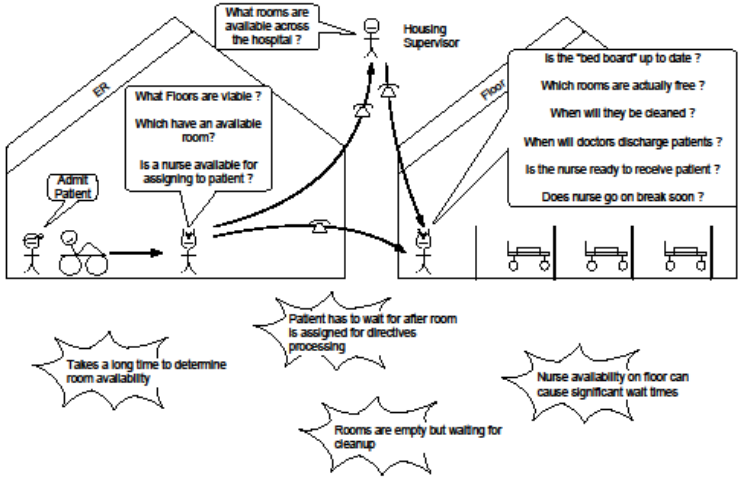
ISSUE : Long "Patient To Bed" (P2B) times causing patient distress

TO	Bill
BY	Jane
DATE	July 2006

BACKGROUND

once an ED patient has been admitted as an inpatient it takes time before that patient arrives in his/her room. When this time (P2B) is long it is causing added distress to patients.

CURRENT CONDITION



PROBLEM ANALYSIS

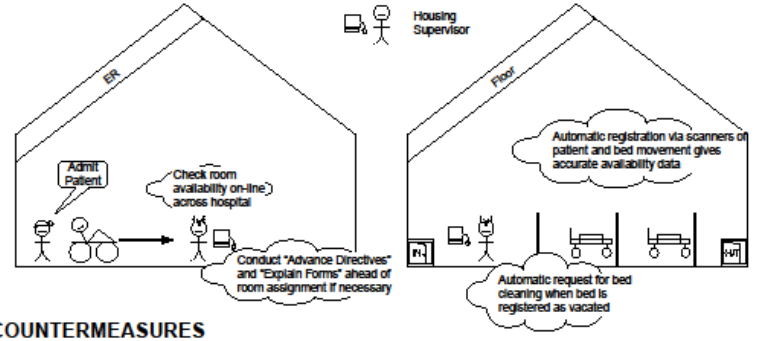
Problem : Takes a long time to determine room availability
- Why : Bed boards are inaccurate
  - Why : Patient discharges / Room cleanup is sporadic
    - Why : Partly because "out of hospital" doctors with variable discharge times
    - Why : Unaware (for a time) that bed requires cleanup

Problem : Patient has to wait even after room assignment
- Why : "Advance Directives" does not start until after bed assignment

Problem : Patient has to wait even if a room is available
- Why : Nurse is not on duty or not ready to receive patient
  - Why : Nurse can be on or near a break or be busy with another patient
  - Why : Particular problem near shift changeover because it impacts a large number of nurses

(See P2B value stream map for details)

TARGET CONDITION



COUNTERMEASURES

- Use admin or volunteer resources to check bed availability on a high frequency basis and update "bed board"
- Start "Advance Directives" before patient bed is assigned

IMPLEMENTATION PLAN

What	Who	When	Outcome
Use additional admin resources with "Go See" approach to keep bed boards accurate and initiate cleanup requests	John	Month of August	Collect wait time data and do before/after comparison on impact of accurate room availability information
Investigate automated bed availability and notification systems in use at hospitals. Visit a working hospital site.	Amy	Month of August	Cost and implementation details for an automated system for room availability hospital wide
Implement better room availability process based on results of August activities	Amy	Sept-Nov	Reduced patient wait times and staff times in finding rooms

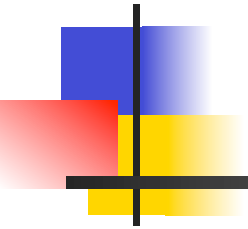
FOLLOW UP

- Monthly tracking of outcome values
- Monthly estimation of annual costs / savings
- Monthly update of VSM
- Report out in December

Costs / Savings	Value
Bed Availability System implementation cost (Projected over 12 months)	xxx
Staff time saved per year in tracking bed availability and converted to approx dollar savings	xxx

Outcome	July	Aug	Sep	Oct	Nov	Dec
Characteristic patient wait time (95% of patients have a wait time less than xx minutes)	xxx	xxx	xxx	xxx	xxx	xxx
Average patient wait time	xxx	xxx	xxx	xxx	xxx	xxx

From EVSM Website



Questions ?