Problem Solving A3

Cardiac Cath Supply Chain & Procedure Work Flow A3

Owners:	Kim Eng, Lisa Hird, Pam Kennedy, Alice Lee			
Date	11/11/09	11/25/09	1/28/10	2/26/10

I. Background

The Cath Lab performs ~4,000 procedures per year and expends ~$9.1M per year in supplies. Optimizing material flow for these procedures is critical in order to deliver the right supply to meet the clinical needs, in the right amount, and at the right time and place.

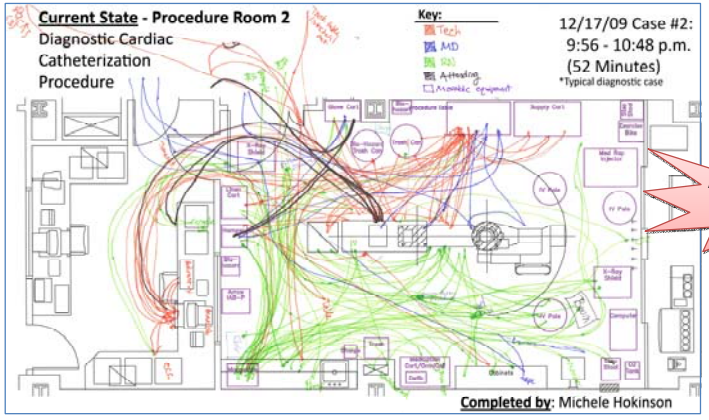
- Demand (patient volume) varied by time of day and day of week
- Semi-emergent atmosphere
- Type of supplies needed unknown until procedure begins
- Varying levels of supplies on hand (0 – 150 days on hand)
- Incidences of stock outs and expired supplies
- Non-standard supplies, supply locations, and procedure rooms
- Supply locations not proximally located to procedure rooms
- Clinical staff search for supplies during procedure cases
- Multiple vendors for same product line (balloons, wires, sheaths)

Project Sponsors:
- Donald Cutlip
- Rick Markello
- Cynthia Phelan

Team Leads:
- Lisa Hird
- Pam Kennedy

Project Team:
- Julie Bonenfant
- Kimberly Eng
- Eric Harrington
- Michele Hokinson
- Alice Lee
- Kenny Lee
- Belinda Morse
- John Pineiro
- Duane Pinto
- Kristin Waldeck
- FuSheng Wu
- Support Services (ad hoc)

II. Current Condition (Procedure Room 2)



# of Steps per Case	Diagnostic Case	Interventional Case
RN	640	1420
Tech	1410	3200

Average time to fetch supply from store room: 102 secs

Average # of 3 trips to store room (max=14 trips)

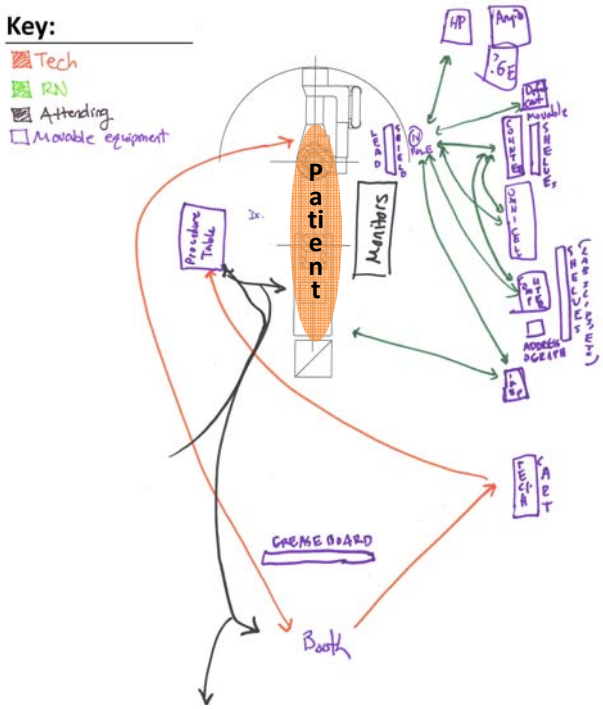
	PROBLEMS		EFFECTS
1	Needed supplies & equipment not proximally located to work flow	PUSH	Wasted time spent locating items needed before & during a case; Searching pulls staff away from the patient on the procedure table & breaks their concentration during a case
2	Infrequently used items stored in procedure & control rooms		Searching & less space for frequently used items
3	Expired supplies (no FIFO)		↑ cost; Wasted time spent returning expired supplies

III. Goals/Targets

1. Standardize the supply chain flow to eliminate waste, increase productivity, and reduce supply costs.
2. Define store locations and inventory requirements part by part based on consumption rate and delivery lead time
3. Engaging staff in improvement work by empowering them to solve problems

Metrics	Baseline	Goal
Inventory (Days on Hand)	0 – 150 days	4 days
% of Expired Inventory	7%	< 2%
% of Charges Captured	79%	>98%

IV. Ideal Condition



Ideal State Attributes:

"If you were to redesign the process with no constraints, what would it look like?"

- Work flow not intersecting with other staff's work flow
- Work flow limits the need to leave the procedure room
- Reliable nursing documentation station furthest from the radiation zone
- Easy access to defibrillator, Omnicell, medication supplies, and IV for the nurse
- White board visible to all
- Imaging and patient monitors visible to nurse at all times
- Patient visible at all times
- Control room monitor workstations positioned to match workflow
- Supplies located at point of use
- Visual supply replenishment pull system
- Controlled inventory levels
- Ensure radiation safety for staff

V. Implementation Plan

	9-Nov	16-Nov	23-Nov	7-Dec	14-Dec	21-Dec	28-Dec	4-Jan	11-Jan	18-Jan	25-Jan	1-Feb	8-Feb	15-Feb	22-Feb	1-Mar
M&I Flow - Current Condition			Complete													
Master List & Usage Data for All Supplies											Complete					
5S - Procedure Room 2 (Pilot room)						Current State				Ideal State	Radiation Testing					→
5S - Functional Storage of Supplies & Portable Equipment								Complete								
5S - Distribution Supply Room									Complete							
5S - Mobile Intervention Carts						Trial Cart Order Placed					Trialing Pilot Cart					→
Facility Improvements (Remove sink & shelving)			Request Placed			Request Placed			Project Manager Assigned					Project Approval		→
IS Automation - interface PeopleSoft, MacLab, Apollo, & CCC (streamline billing & inventory management)											Request Placed			Work Flow Meeting		→

For More Information Contact
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