Aligning Forces for Quality: Value-Added Care

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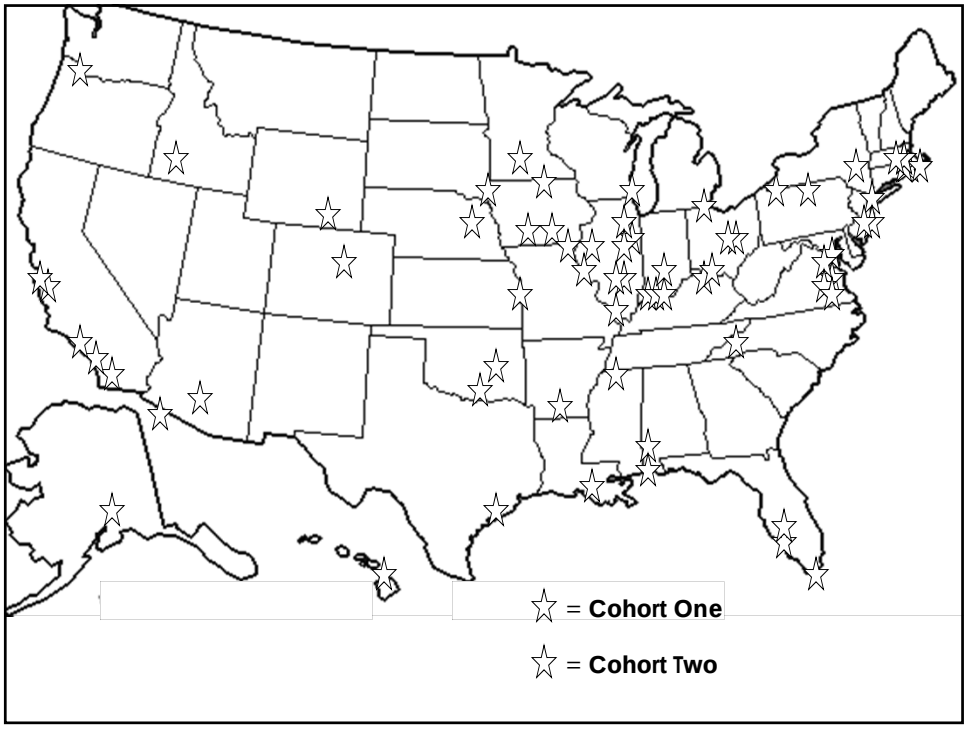
Objectives

- Participants will:
  - Have a greater understanding of value-added care
  - Define ways to measure value-added care
  - Identify one test of change and develop a plan for that change using the Institute for Healthcare Improvement's (IHI) Model for Improvement



TCAB Themes

- Safety and Reliability
- Vitality and Teamwork
- Patient-Centered Care
- Transformational Leadership
- **Value-Added Care**

Current State: Nurse time

- Medical / Surgical units
- Time in direct care: 31-44%
- Work system failures
- Inefficiencies

Future state: Value-Added Care

- All processes are free of waste and promote continuous flow
- TCAB Aim:
  - Clinicians will spend 70% of their time in direct patient care activities

How to Measure Time

- Personal Digital Assistant (PDA)
- Direct observation
- PDA paper tool

PDA (Time Study – RN)

	A	B	C
1	Patient Room	Nurse Station	On the Unit
2	Meds Room	Document Server	Off the Unit
3	Narcotic Storage	Kitchen	Conf Room
4	Supply Room	Clean Storage	
5	Equip Storage	Dirty Storage	
6			
7			

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	A	B	C
1	Bedside Procedur	Comm. w/ CareTeam	Document -ation
2	Vital Signs	Comm. w/ Patient	Teaching
3	Wound Manage	Patient Services	Meds
4	Incontin -ence	Emerg- ency	
5	ADL	Family Services	
6	Admit Discharg		Waiting Delay
7	Assess- ment		Other

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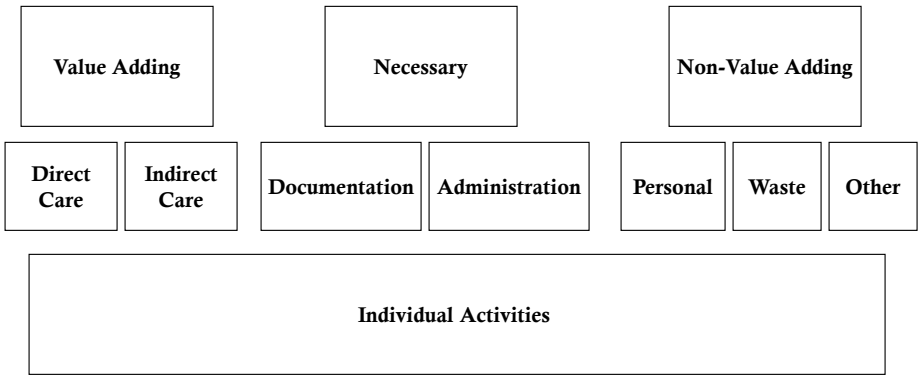
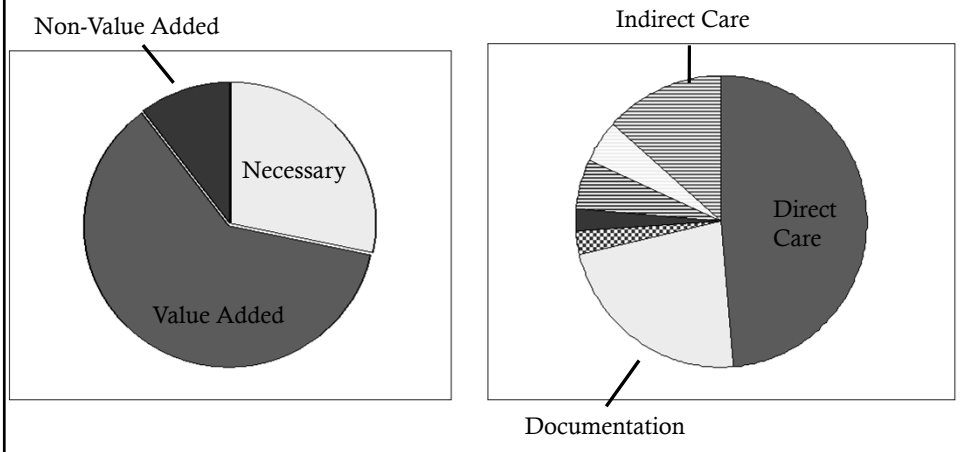
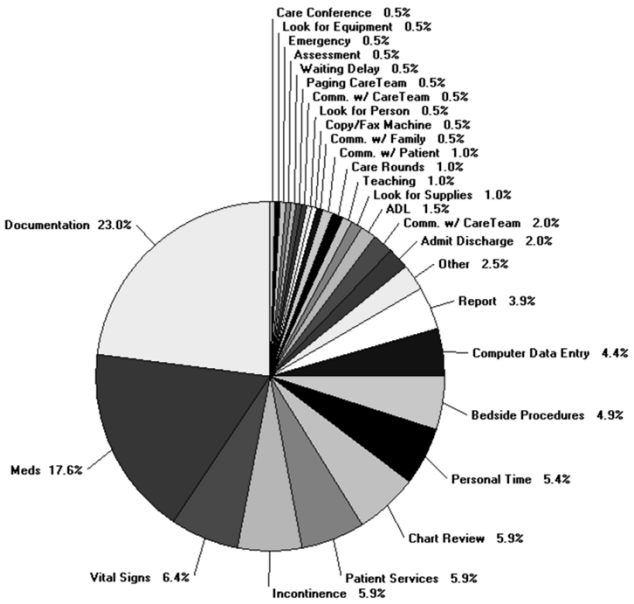
Activity Organization



Pie charts





Direct observation

- What is it?
  - Shadowing a clinician in real time to understand work processes
  - Recording time, location, activity, and interaction information
- Why observe?
  - To better understand work processes and the associated details (timing, interruptions, barriers, etc.)
    - Repeated calls to pharmacy
    - Number of trips to supply room, ice machine, linen cart
    - Volume of interruptions
    - Validation of challenges

Observation preparation

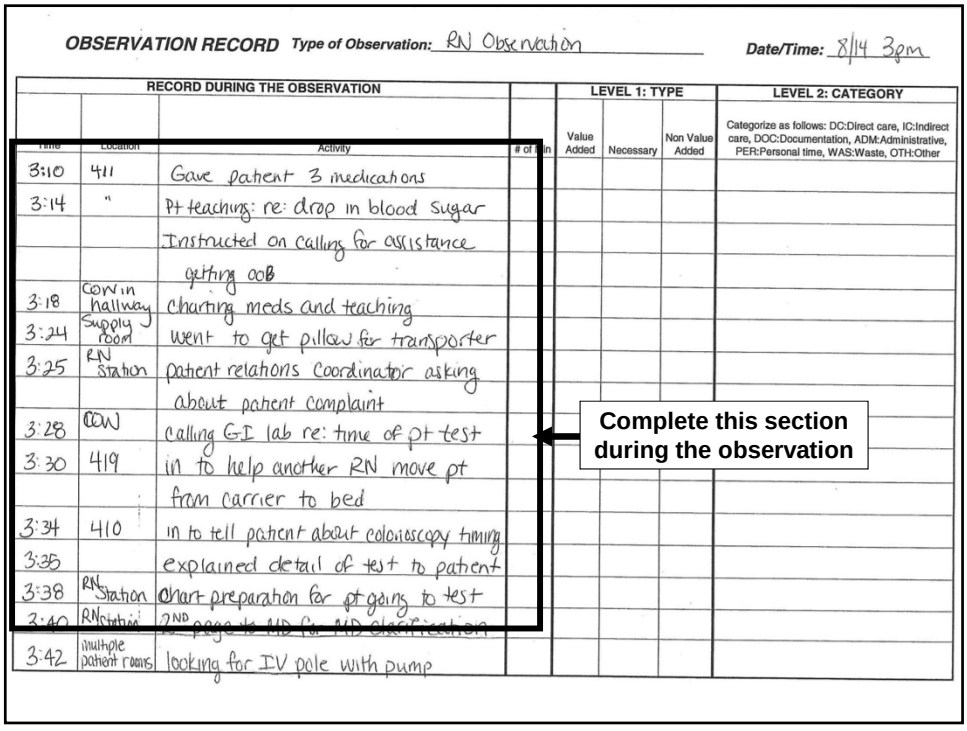
- Equipment
  - Observation record
  - Clipboard and pencil
  - Stop watch or digital watch
- Communication with clinician
  - Reinforce watching process, not the clinician
  - Answer any questions

OBSERVATION RECORD *Type of Observation:*_____ *Date/Time:* _____

RECORD DURING THE OBSERVATION				LEVEL 1: TYPE			LEVEL 2: CATEGORY
Time	Location	Activity	# of Min	Value Added	Necessary	Non Value Added	Categorize as follows: DC:Direct care, IC:Indirect care, DOC:Documentation, ADM:Administrative, PER:Personal time, WAS:Waste, OTH:Other

During observation

- Record events as they occur
  - Note time and location
  - Record statements made and others involved
  - Note particulars related to you purpose
- Avoid interrupting staff
- Record questions and ask later
- Understand you may need to observe a typical work sampling multiple times



OBSERVATION RECORD *Type of Observation:* RN Observation *Date/Time:* 8/14 3pm

RECORD DURING THE OBSERVATION				LEVEL 1: TYPE			LEVEL 2: CATEGORY
Time	Location	Activity	# of Pt in	Value Added	Necessary	Non Value Added	Categorize as follows: DC:Direct care, IC:Indirect care, DOC:Documentation, ADM:Administrative, PER:Personal time, WAS:Waste, OTH:Other
3:10	411	Gave patient 3 medications					
3:14	"	Pt teaching: re: drop in blood sugar					
		Instructed on calling for assistance getting oob					
3:18	CON in hallway	charting meds and teaching					
3:24	Supply room	went to get pillow for transporter					
3:25	RN Station	patient relations Coordinator asking about patient complaint					
3:28	CCW	calling GI lab re: time of pt test					
3:30	419	in to help another RN move pt from carrier to bed					
3:34	410	in to tell patient about colonoscopy timing					
3:35		explained detail of test to patient					
3:38	RN Station	Chart preparation for pt going to test					
3:40	RN Station	2ND page to MD for MD classification					
3:42	multiple patient rooms	looking for IV pole with pump					

Complete this section during the observation

Analysis of observation

- Tally the number of minutes spent on each activity
- Assign activities into a TYPE of work grouping:
  - **Value Added**: transforming goods or services to meet a patient need; what a patient would pay for
  - **Necessary**: preparatory steps required to provide value added care; what a patient may not recognize as important
  - **Non-Value Added**: anything that does not add value to the final product or service; what a patient would clearly recognize as not important

Analysis of observation (cont.)

- Assign each activity into a CATEGORY of work grouping
  - **Direct care:** tasks completed in the presence of and to the patient
  - **Indirect care:** necessary work to meet a patient's need; typically not done in the presence of the patient
  - **Documenting:** charting
  - **Administrative:** inservices, teaching students/coworkers, bed control, meetings, paging caregiver
  - **Personal:** breaks, personal calls, meals
  - **Waste:** retrieving equipment/supplies; waiting; looking for information, supplies or people
  - **Other:** everything else

Analysis of observation (cont.)

- Tally the number of minutes for each activity based on both the TYPE and CATEGORY of work
- Tally the total number of minutes in each TYPE and CATEGORY grouping across the entire observation
- Divide by the total number of minutes in observation to obtain percentage

OBSERVATION RECORD *Type of Observation:* RN Observation *Date/Time:* 8/14 3pm

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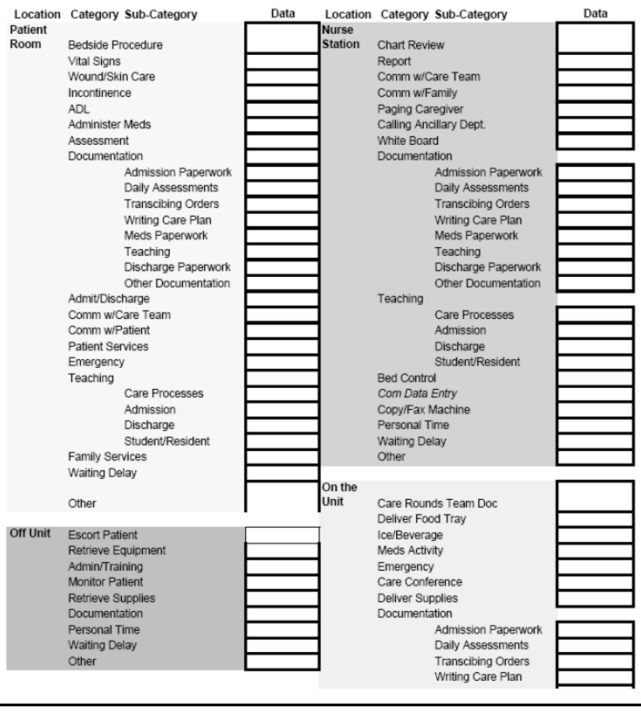
3:10	411	Gave patient 3 medications	4	X			DC
3:14	"	Pt teaching: re: drop in blood sugar	2	X			DC
3:16	"	Instructed on calling for assistance getting oob	2	X			DC
3:18	Corr in hallway	charting meds and teaching	6		X		DOC
3:24	Supply room	went to get pillow for transporter	1			X	WAS
3:25	RN Station	patient relations coordinator asking about patient complaint	3		X		IC
3:28	CCU	ot test	2		X		IC
3:30	419	ve pt from carrier to bed	4	X			DC
3:34	410	in to tell patient about colonoscopy timing	1	X			DC
3:35	410	explained detail of test to patient	3	X			DC
3:38	RN Station	chart preparation for pt going to test	2		X		DOC
3:40	RN Station	2ND page to MD for order clarification	2			X	WAS
3:42	Multiple patient rooms	looking for IV pole with pump	6			X	WAS

Complete this section after the observation

PDA Paper Method

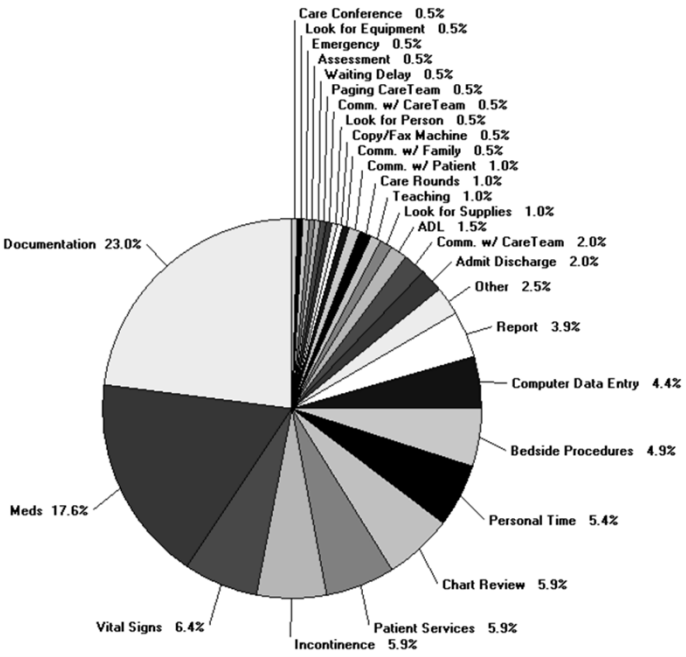
- Data Collection Methods:
  - Assign an observer to follow the clinician and record nursing activity at a designated rate, such as every five minutes. Observations may be customized for each unit.
- Three examples of how to accomplish this:
  - Observe the clinician for an hour per day, recording observations every five minutes. Rotate the hour each successive day until all 24 hours are observed over a month
  - Observe the clinician for four hours, collecting data every five minutes, and repeat six times a month until 24 hours are observed
  - Observe an entire shift



Location	Category	Sub-Category	Data
Patient Room	Bedside Procedure		
	Vital Signs		
	Wound/Skin Care		
	Incontinence		
	ADL		
	Administer Meds		
	Assessment		
	Documentation		
		Admission Paperwork	
		Daily Assessments	
		Transcibing Orders	
		Writing Care Plan	
		Meds Paperwork	
		Teaching	
		Discharge Paperwork	
		Other Documentation	
	Admit/Discharge		
	Comm w/Care Team		
	Comm w/Patient		
	Patient Services		
	Emergency		
	Teaching		
		Care Processes	
		Admission	
		Discharge	
		Student/Resident	
	Family Services		
	Waiting Delay		
	Other		
Off Unit	Escort Patient		
	Retrieve Equipment		
	Admin/Training		
	Monitor Patient		
	Retrieve Supplies		
	Documentation		
	Personal Time		
	Waiting Delay		
	Other		

Location	Category	Sub-Category	Data
Nurse Station	Chart Review		
	Report		
	Comm w/Care Team		
	Comm w/Family		
	Paging Caregiver		
	Calling Ancillary Dept.		
	White Board		
	Documentation		
		Admission Paperwork	
		Daily Assessments	
		Transcibing Orders	
		Writing Care Plan	
		Meds Paperwork	
		Teaching	
		Discharge Paperwork	
		Other Documentation	
	Teaching		
		Care Processes	
		Admission	
		Discharge	
		Student/Resident	
	Bed Control		
	Com Data Entry		
	Copy/Fax Machine		
	Personal Time		
	Waiting Delay		
	Other		
On the Unit	Care Rounds Team Doc		
	Deliver Food Tray		
	Ice/Beverage		
	Meds Activity		
	Emergency		
	Care Conference		
	Deliver Supplies		
	Documentation		
		Admission Paperwork	
		Daily Assessments	
		Transcibing Orders	
		Writing Care Plan	

Where is the waste?



Using Data to Improve

- Look at the baseline data and target an area for improvement
  - Increase direct time with patients, decrease redundant documentation (what can we stop doing?), simplify medication administration
- Plan tests of change that would help accomplish your goal
- Complete observations after each test to measure impact of change
- Track and share results with the team

Types of Waste

- Defective products
- Overproduction
- Waiting
- Transportation
- Inventory
- Motion
- Excess processing

Worksheet for Testing Change

Aim: Overall goal you would like to reach
Every goal will require multiple smaller tests of change

Describe your first (or next) test of change	Person Responsible	When to be Done	Where to be Done

Plan:

List the tasks needed to set up this test of change	Person Responsible	When to be Done	Where to be Done
1. 2. 3. 4. 5.			

Predict what will happen when the test is carried out	Measures to determine if prediction succeeds
1. 2. 3. 4.	1. 2. 3. 4.

Do: Describe what actually happened when you ran the test

Study: Describe the measured results and how they compared to the predictions
Act: Describe what modifications to the plan will be made for the next cycle from what you learned

Example: High-Use Supplies

- **Identified Problem:** Staff felt they were spending too much time "hunting and gathering" for frequently-used supplies.
- **Aim Statement (or Goal):** Relocate frequently-used clinical supplies into the patient's room, to decrease the amount of walking (non-value added), and increase the amount of time spent in patient care activities (value added).
- **PLAN-DO-STUDY-ACT:** Staff were educated on rapid cycle change and utilized this model to work on the identified problem

Planning Phase

Prediction

- Staff will spend less time looking for supplies
- Supplies will be easily accessible
- More time spent at bedside with patient and family
- Increased patient satisfaction
- No increase in nosocomial infections

Measure

- Staff utilized special personal digital assistants (PDAs) to track time and motion
- Staff feedback
- PDA measures of direct care time
- Patient satisfaction scores
- Nosocomial reports

PLAN-DO-STUDY-ACT

- **Planning:**
  - What supplies should be kept in the room?
  - What should they be housed in?
  - Who should stock the supplies?
  - When and how often should they be stocked?
  - What protocol should be used for accessing supplies?
  - What education is required?
- Small work groups comprising of all role groups assembled to design the new process
- Utilizing the TCAB principle of "small tests of change," supply bins were trialed in two rooms for one week.

PLAN-DO-STUDY-ACT

DO: Describes what actually happened when they ran the test

- Staff liked not having to leave the patient's bedside and walk to the supply room to retrieve a supply
- Staff were compliant with performing hand hygiene (using Cal Stat) prior to touching the supply bin
- No new nosocomial cases in the targeted 2 rooms
- Staff realized there were some supplies not included that would be helpful

PLAN-DO-STUDY-ACT

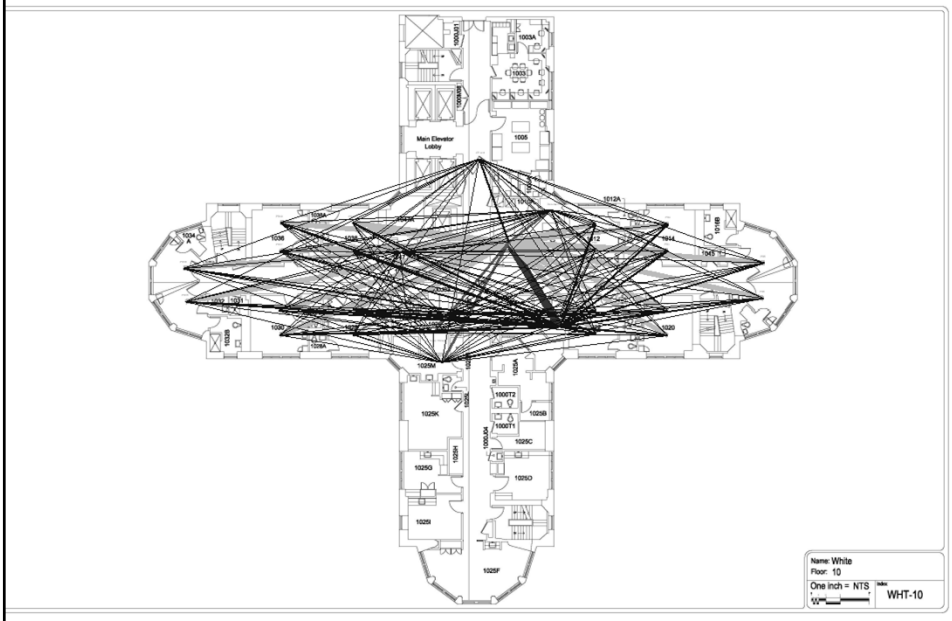
Study: Describes the measured results and how they compared to the predictions

Prediction	Actual Result
▪ Staff will spend less time looking for supplies	▪ Time spent looking for supplies decreased by over 80%.
▪ Supplies will be easily accessible	▪ Staff stated supplies were more accessible
▪ More time spent at bedside with patient and family	▪ Direct care time increased as non-value-added time decreased
▪ Increased patient satisfaction	▪ Patient satisfaction improved with decreased interruptions in care
▪ No increase in nosocomial infections	▪ No new nosocomial cases

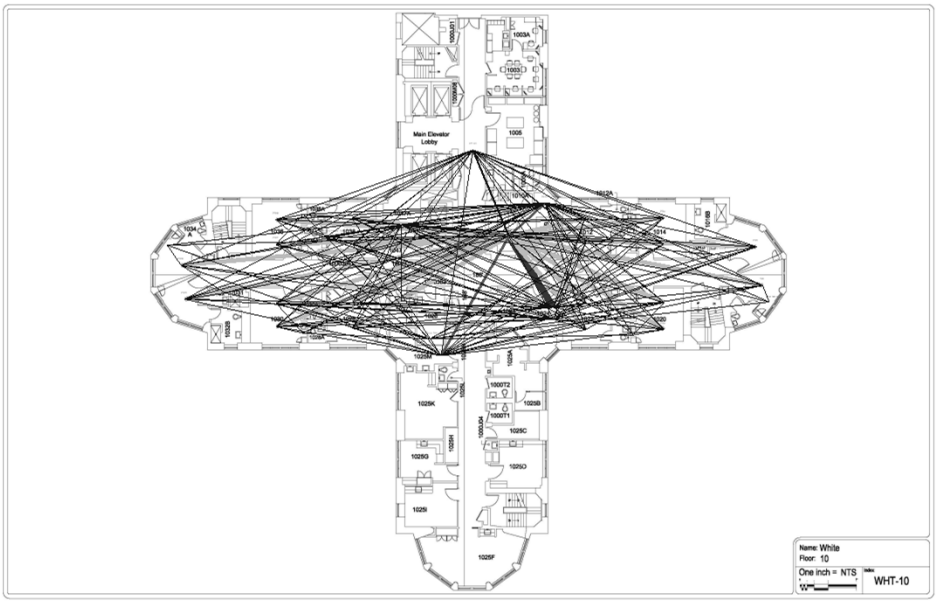
PLAN-DO-STUDY-ACT

- Act: Describe what modifications to the plan will be made for the next PLAN-DO-STUDY-ACT cycle from what you learned.
  - A family member and non-unit based care provider were observed accessing the bins without using CalStat. Signage on the bins was needed and added.
  - Drinking straws and Sharpie pens were added to the par list.
  - Bins would be rolled out to 3 more rooms, nosocomial rates would be monitored, compliance with CalStat, monitoring of supplies (do we have the correct ones, and the correct par level)
  - Bins rolled out to the remaining rooms

Central Supply – Actual Travel Distance: 15,791 ft



Distributed Supply – Actual Travel Distance: 14,908 ft



Comparison and Analysis

	Travel Distance (ft/hr):
Central Meds & Supply (where we used to be)	15,791 ft
Distributed Supply (how things are now)	14,908 ft (5.6% improvement) (savings of 4 miles/ 24 hrs or 1456 miles/ year)
Distributed Meds (if supplies centrally)	13,973 ft (11.5% improvement)
Distributed Meds & Supply (if meds were distribute)	13,080 ft (17% improvement)

Savings

- 2,711 ft/hr
- 12.3 mi/day
- 4,498 mi/yr
- Approximate Yearly Walking Distance = Boston, MA to Moscow, Russia.

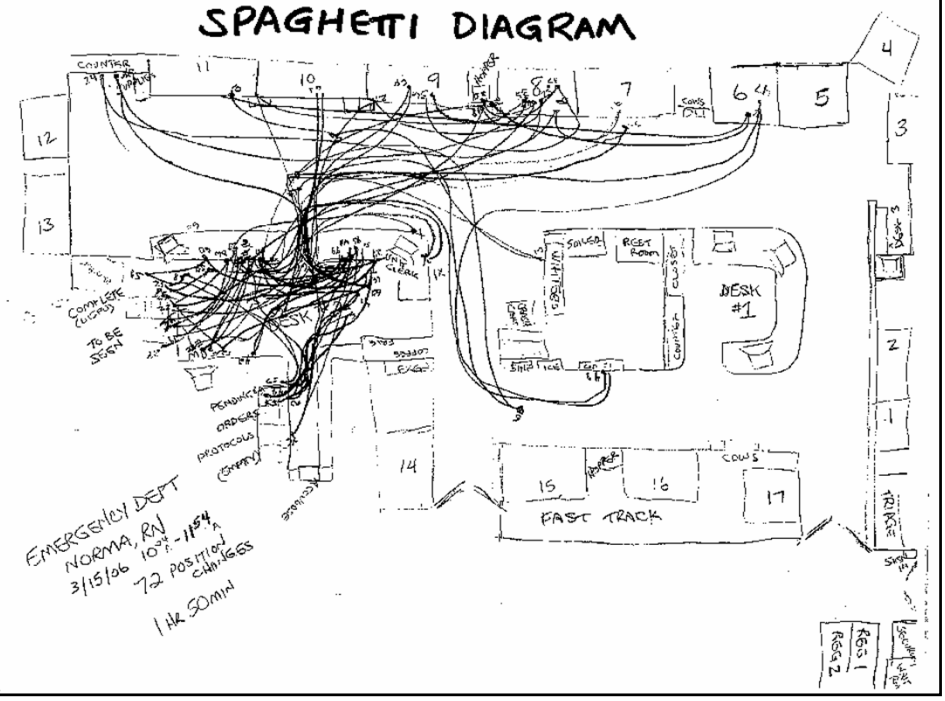
Sports Fans

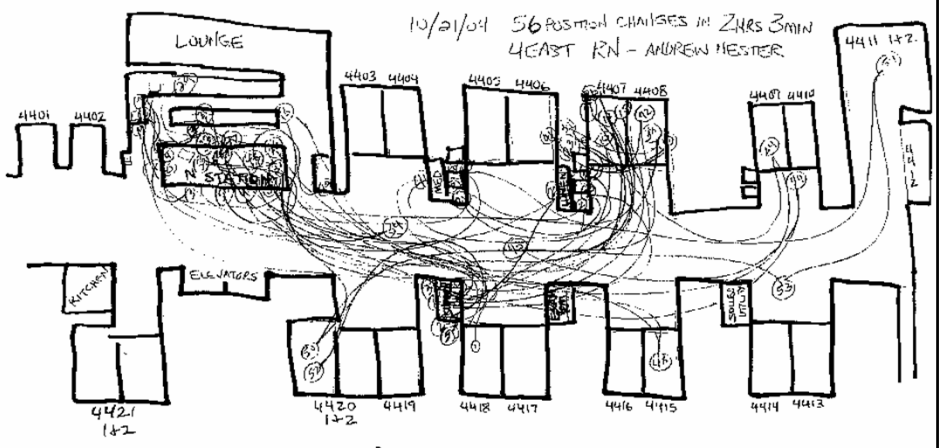
90 First Downs/hr

Spaghetti Diagram

- A spaghetti diagram is the visual creation of actual flow. The keyword is *ACTUAL*, not what it should be or is perceived to be
- It is a snapshot in time so it may not include all scenarios
- Items to get started: Overhead views of area, drawn close to scale and labeled

SPAGHETTI DIAGRAM





CHECK IT OUT! THIS IS EVERYWHERE A NURSE WENT IN 2 HRS!! SOME OF THE TCAB WORK WILL BE TO ↓ AMOUNT OF STEPS A NURSE TAKES OVER THEIR SHIFT!

—JUDY S.

Our Medication Practices

- Better understand the workflow of the nurse on White 10 as it relates to our medication practices
- Identify areas in which we could decrease time spent in non-value added activities (waiting for access to the Omnicell, walking)
- Increase time spent in Direct Care activities

A Morning in the Life of Michelle O'Laughlin RN, BSN

Morning Activities (0645-1000)

RED: Waste
or waiting delay
BLUE: Could delegate
GREEN: Interruption

0645 Retrieves assignment, gathers pens,and notes
0648 finds computer, starts report
0711 reading report complete, files data sets, hunts for gray chart
0715 verbal report from RN #1 (T.B.)
0720 waiting to talk to next RN
0721 looking for green book
0722 verbal report from RN #2 (K.C.)
0724 verbal report from RN #3 (J.M.), order clarification
0725 starting to sign off signature keys in green book
0726 resource asks if she needs help w boost for her pt.
0727 gown/glove in to room 28A
0729 need pad from linen cart
0732 done w boost, sxn, pad change
0733 back to nsg station to finish signing off signature keys
0734 to 36B to retrieve green book
0735 into room 30A – assist pt to bathroom
0736 into room 36B – "eyeball" pt while waiting for 30A
0737 pad added to 30A bed
0738 waiting for pt in bathroom "don't want to leave him, he is heart pt"
0742 into room 28A for boost, FS, VS
0747 cleans glucometer, into med room
0748 in med room for 36B, gathering meds
0755 into 36B after stopping for cup
0756 forgot insulin, back to med room
0758 overhead page "Michelle to rounds"
0759 back to 36B, another RN to rounds, explains FS, meds, insulin dose to pt
0803 28A needs third boost
0806 into med room, waiting for machine, signs off signature key
0818 30A for meds, forgot orange juice
0822 30A set up for breakfast
0825 central monitor station, looking at alarms
0830 into med room, 28A meds
0845 crushing meds in med room
0846 talking with psych consult at nsg station
0847 "Michelle phone call on 45" – call about pt for diagnostic test
0848 resumes psych conversation
0849 gown/gloves for med administration 28A
0850 boost #4 28A
0851 start med administration via NGT after confirming placement
0906 done with meds 28A
0907 nsg station, charting I&Os
0909 into rounds with medical team
0955 done with rounds

Report (40 mins)

"Check-in" with Patients (16 mins)

Medications (79 mins)

Rounds with MDs (46 mins)


Expected Medication
Turn Around Time from Pharma


PATIENT DOES
NOT TAKE THEM.-
The patients are charged
for them once they are
taken out of the SureMed.
Omnicell

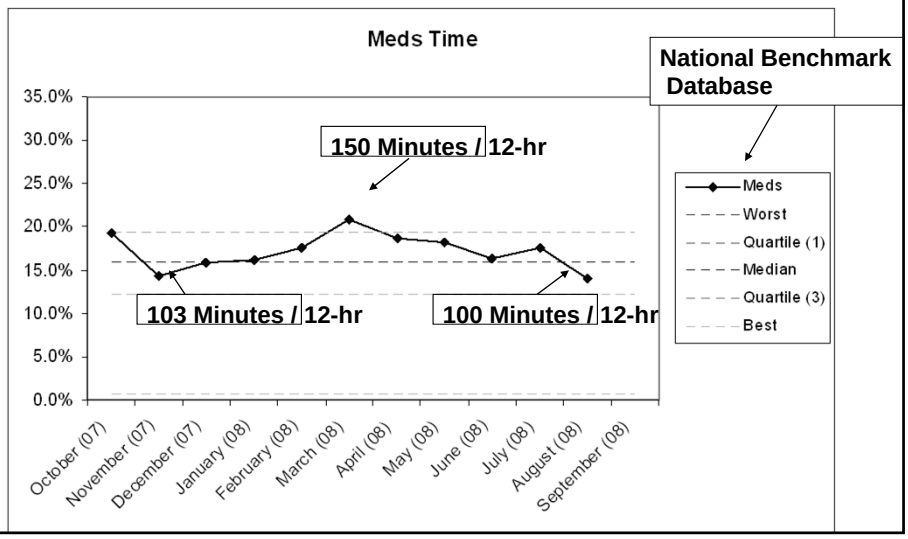

Keys


Keys

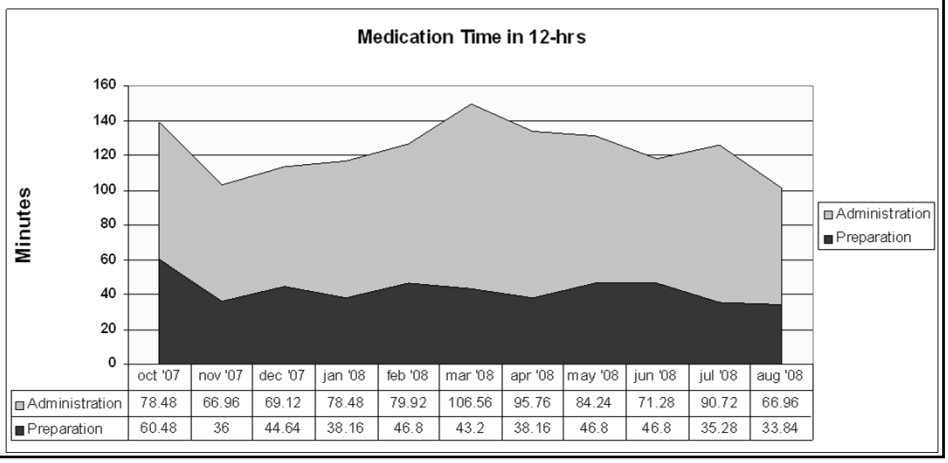

M.G.H


M.G.H

Medication Time



Medication Time



	oct '07	nov '07	dec '07	jan '08	feb '08	mar '08	apr '08	may '08	jun '08	jul '08	aug '08
Administration	78.48	66.96	69.12	78.48	79.92	106.56	95.76	84.24	71.28	90.72	66.96
Preparation	60.48	36	44.64	38.16	46.8	43.2	38.16	46.8	46.8	35.28	33.84

Medication Summary

- "Bottlenecking" of activities at beginning of shift
- Minimal direct care time at beginning of shift
- Many competing priorities
- Medications changed during morning rounds
- More chance for error when under pressure
- Centralized medication room contributes to more walking
- 33 – 60 minutes spent in medication preparation
- Waiting delays

Role of the Nurse Manager and Chief Nurse

- Remember it is staff driven
- Facilitate weekly meetings (TCAB Tuesdays, 52 Wednesdays, etc)
- Leadership, communication, negotiation
- "cut through the red tape"
- Reframe barriers
- Engagement of staff
- Data management
- Spread consultant, resource, mentor
- Celebrate success

Challenges / Obstacles

- Letting go (from management perspective)
- Engagement of the staff (unit-based and multidisciplinary)
- Competing priorities
- Changing culture

Tips for Success

- Start small!
- "one nurse, one patient, one shift"
- Weekly meetings
- Encourage staff champions
- While celebrating successful changes, remember the journey, remind staff of their impact
- Don't worry about failure, abandon and move on to the next change

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