Managing Late Day Work in the Ultrasound Department: A Quality Improvement Project

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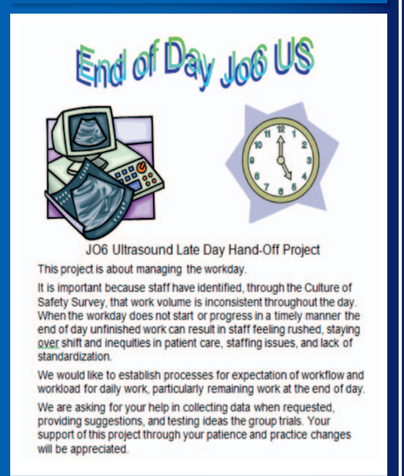
DEFINE → MEASURE → ANALYZE → IMPROVE → CONTROL

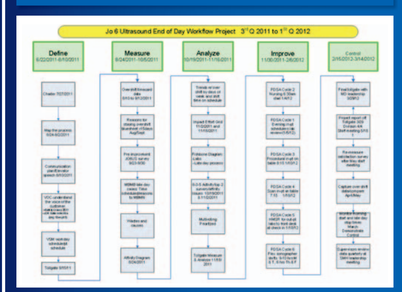
Define

What, By How Much, By When

Elevator Speech



Gantt Chart



Charter

Mayo Clinic Enterprise Project Management Standards

Project Name: Managing Late Day Work in the Ultrasound Department

Brief Project Description *(What will this project do?):*
For all job roles on JO6 US this project intends to construct a defined handoff/transition process for the end of the day shift's remaining work (patient care, etc.) to be transferred to late/evening shift. This process will (1) reduce the frequency of an ultrasound employee staying over shift at end of their scheduled workday 20% by 4th Q 2011 and (2) increase employee satisfaction (or decrease the "hassle" factor) with late day coverage expectations (work life balance and employee's perception of the patient's care quality standardization) in the area (JO6) by 20% by 4th Q 2011.

Business Need *(Problem or Opportunity Statement / Background of Need)*
(Background information and specific problem, issues or opportunities that are being addressed, implication of not proceeding with this project. Is there a required timeline to realize the benefits? Is there a financial return, revenue stream increase?)
Increasing demands for overtime work on JO6 Ultrasound is generating dissatisfaction and workload stress for the staff. Variability in workload leveling is creating unplanned late day work when staffing levels are lowering. Frontline employees express their frustrations about the frequent occurrence of shift overtime extending their scheduled day and disrupting work/life balance.
Employees perceive the end of day workload situation as a suboptimal working environment when staff support for patient care decreases and planned or unplanned patient volume is still significant. They acknowledge this has the potential to create decreased quality of patient care and does increase cost to the department as a result of overtime salary.
Decreasing overtime, increasing employee satisfaction by generating a healthy work environment, providing equal levels of quality care at all times, and reducing overtime expenses requires a preplanned response to promptly address the changing staffing requirements at the end of the work day.
Deeper insight is needed to identify reasons shift end times are extended frequently and why late day staff feel overwhelmed with remaining workload. Strategies to work load level will require quantitative and qualitative data to identify the reasons shift end times are extended. Historical data will provide information on peak demand times/days, recognize patient flow issues, and break down workload demand into fixed and moveable components. This data can be used to forecast future demands for workforce staffing, establish efficient shift times, and work redesign.
Developing and implementing a process that will clearly define the expectation of staff for addressing issues and challenges of late day work will support ongoing quality patient care and employee satisfaction.

Business Value Impact

Transform the business:	*Generates new business opportunities that dramatically enhance our mission and strategic direction and position Mayo competitively for the future.*
Grow the business:	*Creates growth or improvements in current services and business areas.*
Run the business:	*Maintains current operations through efforts focused on basic infrastructure and regulatory compliance.*

Business Value *(choose only one):* ___ Transform _X_ Grow ___ Run

Brief Description of Business value (how transform, grow, or run):
Redesigning the work and staffing models can provide efficient employee coverage based on work demand and the ability to respond promptly to staffing related needs. Understanding and developing workload leveling processes over time will assist in planning for future needs. Optimizing shifts and creating employee satisfaction will reduce turnover of staff.

Project Value– Quantitative and Qualitative Metrics of Success

Critical Success Factor (CSF) (describe what must be met in order for the project to be considered successful)		
Objective *(includes internal and external customer goals/expected benefits, time number of objectives to the top 5)*	***Metrics/Measurements*** *(Performance, production, quality, customer satisfaction metrics when applicable; correlate to Balanced Scorecard when applicable)*	**CSF? (Y/N)**
Employee satisfaction of work/life balance and perception of standardized quality of care	Employee survey pre/post re' issues perceived/hassle factor	Y
Show a 20% decrease in frequency in end of day staying after shift and/or over shift work overtime	Employee time card or tick sheet data pre/post comparison Collect for several weeks prior to improvement	Y

Communication Plan

JO6 US End of Day Management Project Communication Plan

Project Name	Name JO6 End of Day Management	Date Plan Approved	July 1, 2011
Project Executive Owner(Sponsor(s)	Dr. Callstrom		
Project Administrative Sponsor(s)	J. Taubel, C. Carlson		
Project Manager	Brian Bushman		
Leadership Oversight Group	US operations/Nursing Leadership		

Project Initial Communication: Goal may be to seek approval or to create awareness. The objective is to ensure all stakeholders understand the project scope, high level timeline, and how the project may affect them.

Stakeholder / Audience	Goal / Message	Method(s) / Vehicle(s)	Owner	Start Date	Date Completed
Sonographer	Project announcement to staff for awareness Communication: Elevator Speech Document	e-mail/posted JO6US	Mike	8/11/2011	8/18/2011
Nursing		e-mail	Deb P	8/24/2011	8/31/2011
PA		e-mail	Deb N	8/24/2011	8/31/2011
InPt schedulers		e-mail	Paulette	8/11/2011	8/18/2011
MD		US division meeting	Jerome T	September	September
PSR		NA at this time			
All Staff		US Townhall mtg	Brian B.	9/16/2011	9/16/2011

Project Ongoing Communication: Goal is to understand the current activities and overall health of the project.

Stakeholder / Audience	Goal / Message	Method(s) / Vehicle(s)	Owner	Start Date	Frequency
Sonographer	Data collection sheet: announcement of the sheet to collect info when staff stays over shift. Collected in box on US desk JO6	e-mail	Mike/Morgan	8/11/2011	8/24/11Mike
Nursing		e-mail/posted RN desk	Deb P.	8/11/2011	Q2weeks during project
PA		e-mail/posted RN desk	Deb N.	8/11/2011	
InPt schedulers		Paulette	Paulette H.	8/11/2011	
MD		Post info in reding rm	Mike	8/11/2011	
PSR		NA	NA	NA	NA

Project Ongoing Communication: Goal is to understand the current activities and overall health of the project.

Stakeholder / Audience	Goal / Message	Method(s) / Vehicle(s)	Owner	Start Date	Frequency
Sonographer	Overshift time capture:	Timecard data weekly	Carrie C.	8/10/2011	3 weeks data
Nursing		Timecard data weekly	Brian B	8/10/2011	3 weeks data
PA		Timecard data weekly	Brian B	8/10/2011	3 weeks data
InPt schedulers		Timecard data weekly	Paulette	8/10/2011	3 weeks data
MD		?	?	?	?
PSR		NA	NA	NA	NA

Project Ongoing Communication: Goal is to understand the current activities and overall health of the project.

Stakeholder / Audience	Goal / Message	Method(s) / Vehicle(s)	Owner	Start Date	Frequency
Sonographer	MBNN late day read out transfer	Data collection sheet	Morgan Felton	8/11/2011	3 Weeks data

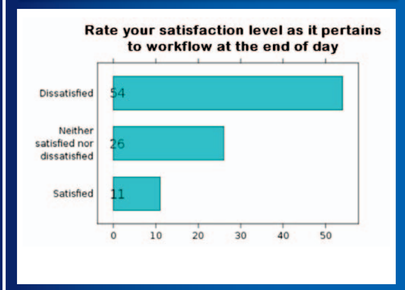
Project Ongoing Communication: Goal is to understand the current activities and overall health of the project.

Stakeholder / Audience	Goal / Message	Method(s) / Vehicle(s)	Owner	Start Date	Frequency
Sonographer Nursing PA InPt schedulers MD PSR Fellow/Other Residents	Survey Pre-Project/Improvement data collection Sent via Redcap survey tool 9/23/2011	RN Reading Sonographers DL Rad NV nurse DL Rad NV nurse Paula H. list of names Staff consultant list NA List from Rad. secretaries	Administrative Assistant to send, coordinate with Karen for tabulation	9/23/2011	Reminder 9/26/2011 Closed 9/30/2011

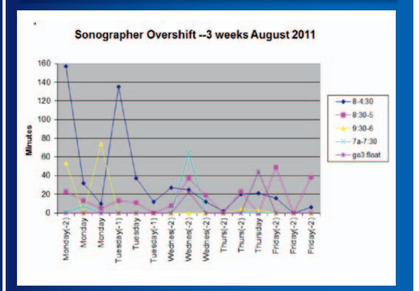
Measure

Determine baseline measurements

Survey Employees



Over Shift Measurements



Lists of Wastes & Causes

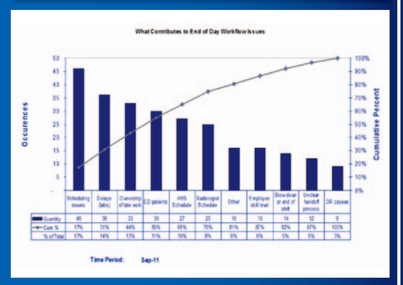
Lists of Wastes and Causes

Between which activities?	Possible Causes	Remarks
WAITING Outpatient arrival to procedure when labs not available	• No labs ordered • Insufficient time between lab draw & procedure •Ordering issue	•Scheduling & Order not standardized •Ordering in EMR does not reinforce labs required •Scheduler triage screen is not consistent with lab order expectations •Time frame between lab draw and results not included in scheduling process (1 hour turn around time)
In-patients scanned late afternoon wait longer for transport back to room	•Less transporters late in day	•Can transport staffing be increased for faster response time? •Can US get patient's scan completed before 5pm?
Sonographer stays with completed scan patient in lobby while waiting for transport	•Desk staff in lobby leave at 5pm •Late in-patient scanned patients have no one to monitor them in the lobby	•Can desk staff work longer hours or different hours? •Can US get patient's scan completed before 5pm?
Procedure time scheduled before lab draw time	Patient has labs ordered to be drawn after procedure	•Scheduling issue. Work with Shelly Berndt on Clincial assistants education.
OVERPROCESSING Labs being redrawn on site when pt. arrives because they aren't available from earlier draw.	Not enough time between draw and check in time	•Clinical Assistants education re' process •Triage process flow standardization required
INVENTORIES Too many patients in lobby waiting	Patient checks in right after draw, hoping to get in early	•Patient's need information that it takes 1 hour for lab results •Clinical assistants that schedule tests need to leave 1hour between appointments
TRANSPORT Lack of available transport to bring patients or take them back	Less transporters early & late in day Transporter called time one to start lobby when PSR leaves	•Track wait issue and work with transport supervisor-C-Rudd to address need
REPRIORITIZATION Shorter, easier cases scanned first and early in day. Difficult cases left to later in day.	In-patient schedulers don't know types of cases, no way to prioritize	•Sonographers develop a cheat sheet for schedulers
Sonographers pick cases during day.	Early staff reluctant to take long cases at end of shift. Ownership of patients.	•Set expectation for load leveled workflow
UNNEEDED MOTION	No standardization in acceptable lab values, date of labs, labs needed. Must check with each Radiologist.	•Protocolize labwork
	RN staff must check and recheck to see when labs show up on chart.	•Assign other staff to watch for results. •Design a pull or alert system when labs posted
MISUTILIZATION	What is RN work, what is not?	•Define job roles
	What is Sonographer work, what is not?	•Define job roles

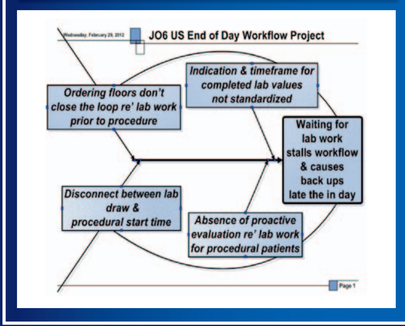
Analyze

Identify root causes

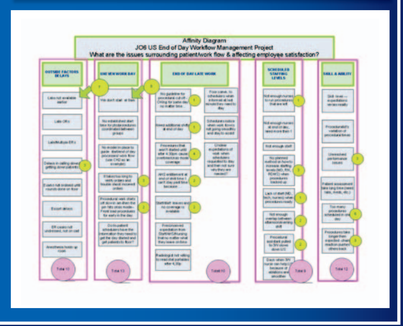
Pareto Chart



Fishbone Diagram



Affinity Diagram



Improve

Implement and support initiatives

PDSA

MAYO CLINIC
Cycle Number 1-Starting Patients Earlier
PDSA - Improvement Cycle Worksheet

Team Leader: Mike N. & Morgan F. for Scan Patients
Deb P & Manon M. for Procedural Patients

Team Members: Deb N, Kelly D, Julie D

Began: Jan 9, 2012 **Completed:** Jan 18, 2012

Overall Goal: Start scanning earlier:
1 inpatient scan ready to go by 7:15
1 inpatient paracentesis or thoracentesis on ready to begin procedure by 8:15

Aim of This Cycle: Get 2 patients ready to go in am to correspond with staff scheduled.

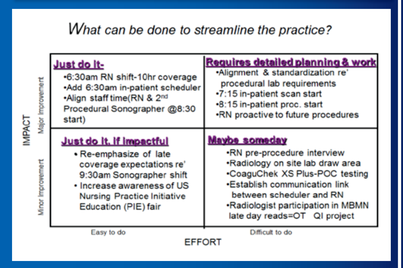
Expected Outcome/Hypothesis: Being proactive vs. reactive in getting patients for JO6 diagnostic and procedural scans. An earlier start for scanned and/or procedure patients will decrease scans and/or procedures running into late day.

PLAN
Who:
1. *Evening inpatient scheduler will review labs for ready procedural patient. (Paula, Kelly, Julie) 9-10*
2. *Evening inpatient scheduler will triage with floor re' identified early patients to alert to be ready.*
3. *Nightshift Sonographer (Karen or Dan) will coordinate via phone call with early shift in patient scheduler for first patient selection for a procedure and a diagnostic scan.*
4. *Early Sonographer (Morgan) will coordinate with early inpatient scheduler to get scan patient called.*
5. *Early nurse (6:30am) & early Sonographer will coordinate with early inpatient scheduler to get inpatient para/thora called.*

What
1. *Morgan starts scanning at 7:30 if no ED patients.*
2. *6:30 in-patient scheduler uses "quick scan list" and identifies scan only in-patient to call down and be in lobby by 7am*
3. *6:30 in-patient scheduler calls "green lighted" in-patient procedural patient to arrive by 8am*
4. *7am sonographer, reviews history, order, gets scan only patient from lobby, and begin scan by 7:15*
5. *6:30 RN reviews in-patient procedures, green lights in-patient if labs OK (goes outpatient review after in-patient or if no in-patient)*
6. *6:30 RN brings in-patient procedure patient into scan room and completes assessment, preps patient and room and is ready to start procedure by 8:15*
7. *8:00 Sonographer assigned to procedure reviews history on procedural in-patient in room and is ready to start procedure by 8:15*

Where: *Jo6—1 procedural room and 1 scan room*
When: Cycle Jan 9-18, 2012

Impact Effort Grid



Kaizen

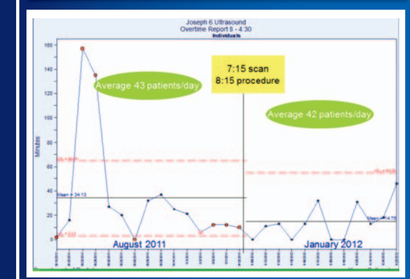
Kaizen Event Procedural Scheduling
5S
Making changes to improve productivity, safety & effectiveness--while reducing waste

Sort:	Scheduling triage screens cleared of outdated, inappropriate, unneeded information
Set In Order:	Scheduling triage screen organized into sections and mirrored on all triage screens
Shine:	Triage process steps numbered and bulleted to high light key information
Standardize:	Process flow charts developed and standardized to decrease complexity when scheduling and to aide in decision making
Sustain:	Periodic reviews using Scheduling triage screen dated with reviewed date to aide in maintenance

Control

Gains identified
Maintain and sustain

Control Chart



A3 Status Report

Design Table

Segment	Strategy Change/Rule	Structure Change	Process Change
RN	• RN Green light 1st procedure • RN room & assess 1st procedure • Team expectation-8:15 procedure start	6:30am RN Shift-10hrs 8:30 RN Shift-8hrs 8:30 Procedural Assistant-8hrs	• 10 hour RN shift, 8 hour shift later start Coverage earlier & later in day allows work to start earlier and provides coverage for late day work. • Defined role of RN to fulfill start time expectation of 1st procedure • Proactive evaluation of upcoming scheduled procedures and follow through
Sonographer	• Align 1st scan start time with sonographer start time • Late coverage Sonographer 9:30am-6pm shift.	• Next day room assignments completed by Lead Sonographer • 7:00am Sonographer 1st scan 7:15am • 8:00am procedural Sonographer-8:15procedure start • 9:30am Sonographer shift designated as late coverage	• Aligning work to staffing: matching workflow to employee schedule time • Sonographer shift staying late in day provides coverage for end of day cases
In-Patient Scheduler	• 6:30am In-patient scheduler responsible to identify & call for 7:15 scan patient & 8:15 green lighted procedure patient • In-patient schedulers call for patients to arrive aligned with sonographer shift start times.	• Second 6:30am In-patient scheduler	• List of preferred early scan patients used by in-patient schedulers to assist in determining who to call for early in-patients • Use as primary role to queue up 7:15 and 8:15 patients • Increase communication & awareness of added procedures to RN
WIP Blood Work prior to procedure	• Standardize procedural lab work required one MSS orders, EOP, Schedulers triage screen, Nursing protocol, Radiologist requirements	• MSC schedulers triage screen standardized & up-dated re' lab requirements • Mayo Support Center (MSC) Schedulers process & communication for same day add on procedures flow diagram mapped responsibility to alert RN re' lab work prior to procedure	• Standardization-Clarification • Proactive response to blood work required for procedures • Communication to RN re' added patient and lab work status

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