University of Michigan Health System
Mott Children’s Hospital Operating Room

Observation and Analysis of Weekend Processes in the Mott Children’s Hospital Operating Room

Final Report

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Executive Summary

Mott Children’s Hospital Operating Room has had an increase in the number of weekend cases. Weekends used to be reserved for only emergent/urgent cases but now accommodate cases that could not be done during the week. With the increase in cases but maintaining the same number of staff, the standard of nursing care on the weekends does not meet the level of care that a patient would receive during the weekdays. This project focused on the Mott Children’s Hospital Operating Room weekend activities regarding the flow of patients and the scheduling of cases and staff on the weekends. Therefore, Team 12, an engineering student team, was asked by the Operating Room Nurse Manager of Mott Children’s Hospital to observe and document the current state and provide recommendations for standardizing the weekend patient handling process. The area of analysis began when a case was booked and ended when the patient was discharged from recovery or transported to an inpatient unit, but does not include the actual patient medical care. Lack of documentation of standardized weekend processes and the current staffing model on the weekends have caused inefficiencies that lead to physician and nurse dissatisfaction, communication breakdowns between staff, excess stretcher and bed pileups, and variability of weekend processes from Saturday to Sunday.

To eliminate the weekend problems, the team has received and analyzed historical weekend data, documented weekend observations, and created a detailed flow chart and a value stream map of the weekend operations. Using the chart, map, and data, the team determined several process wastes and developed recommendations to convert the weekend system to an efficient process with a standard of care equal to that of the weekdays. This report presents Team 12’s methods, findings, and conclusions that led to the team’s recommendations for this project.

Background

The Mott Children’s Operating Room process was originally designed for operations occurring during the work week. On-call operating teams were sufficient to handle weekend emergencies with minimal in-house staffing. Recently the weekend OR activity has increased to an average of seven operations per weekend but with high variability. The current on-call staffing is not equipped to handle consistent weekend demand due to a lack of a standardized weekend processes. Problems with the weekend processes have become a normal occurrence in the Mott OR. These problems have lead to confusion of responsibilities between weekend staff, increased wait times for weekend patients, and surgery delays. The weekend process has become dependent on the personal judgment of knowledgeable weekend staff, which becomes a serious problem when new hires have to work on the weekend. Increasing demand on the weekend has made it important to improve the weekend process to ensure patient satisfaction and safety.
Methodology

The following are methods Team 12 used to gather information and document weekend Mott Operating Room processes.

- Conducted weekend observations of the current process in the Mott Hospital Operating Rooms. The team completed a total of 58 hours of weekend observation of the clerk, Pre-Op/PACU processes, flow of patients, and stretcher, crib and bed pileup.
- Analyzed historical data of case information. This data contained the number of weekend cases and the amount of time spent in PACU.
- Interviewed people directly involved with the weekend process. The Weekend Clerk, OR/PACU Office Manager, Chief Anesthesiologist, PACU Nurse Manager and Chief Surgeon.
- Created a flow chart of the current weekend process. The flow chart includes the detailed patient flow into and out of the system, from the Mott OR’s perspective. The chart also identifies the staff member responsible for completing each step of the process.
- Created a current state map of the weekend process. This map includes the overview of the current process and the areas that need improvement.
- Created a Weekend Clerk Orientation Packet. This packet was created to combine all the relevant information for the weekend clerk into one location so that it can be easily found.

Findings and Conclusions

The following details the findings found by the team after conducting observations, interviews, and performing data analysis.

Lack of in-house Pre-Op/PACU staffing on the weekends
The lack of in-house Pre-Op/PACU staffing on the weekends has made other staff take on additional responsibilities that they are not best suited to deal with and this concern has been consistent in every interview the team conducted. Having staff do a job that they are not properly trained to do will result in inefficiencies and errors. Not having Pre-Op staff could be creating safety issues within the Mott OR. Clerks sometimes sit with patients because no one else is available and this situation a liability issue because the clerk is not qualified to handle a patient if they crash or if there was a medical emergency. The standard of care during the weekend is not the same as the standard of care during the week because a part of the process is missing.

Weekend clerk job tasks are not clearly defined
Another finding of the weekend process is the weekend clerk job tasks are not clearly defined and material relevant to the position is not easily accessible. This situation has made it difficult to staff clerks on the weekend because the job is noticeably different on the weekends then on the weekdays. This means clerks currently have a long learning
curve to be able to work on the weekends and fulfill their responsibilities as a weekend clerk.

*Equipment pileup in front of Mott OR doors*

The pileup of equipment in front of the Mott OR doors on the weekend can block the card reader that grants access into the OR area. This is a problem that affects patient transportation into OR area and is also a potential fire hazard.

*Lack of documentation of the standardized weekend processes*

Lack of documentation of the standardized weekend processes has become a more serious issue with the increase in weekend demand which has made it difficult to expose waste in the system and is a major cause of process inefficiency. Some of the documentation on the weekdays has not been enforced on the weekend which creates a problem of visibility of the weekend process.

**Recommendations and Expected Impacts**

Team 12 evaluated the current weekend process at the Mott Hospital Operating Rooms and developed recommendations to improve it. The following are the recommendations of Team 12:

- *Incorporate an in-house PACU team on the weekend.* The PACU team would consist of two PACU nurses and one Medical Assistant on the weekends. The in-house PACU team would be staffed during the standard shift hours of 7AM – 3:30PM. By implementing this solution, problems associated with staff taking on Pre-Op roles will be eliminated. This will also match the standard of nursing care on the weekend to the weekdays.

- *Implement the use of the Weekend Clerk Orientation Packet.* Team 12 developed a Weekend Clerk Orientation Packet which would clearly define, document, and help in the training of the new weekend clerk when the current one leaves Mott in a few months. This packet was developed by first compiling documents that were relevant to the weekend clerk’s duties. Documents were reformatted and any documents containing overlapping information were combined.

- *Address the equipment pileup in front of the Mott OR card reader.* Team 12 recommends coordination between the OR and PACU nurses to develop a process that will delegate cleaning and storing responsibilities of the equipment. In addition, a sign should be located near the card reader to notify staff not to leave equipment in front of the card reader. If an in-house PACU team is implemented, the newly hired Medical Assistant would share responsibility with the PT in cleaning and storing the equipment.

- *Use Nurse Arrival Logs to continue record keeping.* By using the nurse arrival logs developed by Team 12, there will be continuation of record keeping of nurse response times by the Mott OR clerk during their shift. This will eliminate gaps in nurse response data that are not currently recorded when the Mott OR clerk is working.
Introduction

Mott Children’s Hospital Operating Room (OR) has had an increase in the number of weekend cases. With the increase in cases but maintaining the same number of staff, the standard of care on the weekends does not meet the level of care that a patient would receive during the weekdays. Team 12, an engineering student team, had been asked to observe the current state of the Mott Children’s Hospital Operating Room and provide recommendations to standardize the patient handling process on the weekend. The process begins when a case is booked and ends when the patient is discharged from recovery or transported to an inpatient unit. Currently, all weekend surgeries are supposed to be emergent/urgent cases but surgical operations on the weekends have become a normal occurrence in the Mott Operating Room. Lack of standardized patient care and the current staffing model on the weekends have caused inefficiencies that lead to physician and nurse dissatisfaction, communication breakdowns between staff, excess stretcher and bed pileups, and variability of weekend processes from Saturday to Sunday. The Operating Room Nurse Manager of Mott Hospital asked Team 12 to develop a standardized weekend process that eliminates the waste that is the source of the current process problems. This standardization was accomplished by collecting and analyzing weekend data through observations and by creating an accurate current state map of the weekend operations. Using this map and data, the team has identified several process wastes and developed the recommendations needed to correct those wastes. This report presents Team 12’s methods, findings, and conclusions that led to the team’s recommendations for this project which are also included in this report.

Background

The Mott Children’s Operating Room process was originally designed for operations occurring from Monday through Friday with adequate staffing levels. This was sufficient because emergency cases on the weekends were limited and on-call operating teams could handle weekend cases. Over time, the weekend OR activity has increased to a point where seven operations per weekend is the average but with high variability as seen from historical data. The increase has created standardized patient care problems within the Mott OR due to loosely followed weekend processes and staff taking on additional duties. The current operating staff on hand consists of a clerk, a perioperative tech, two OR nurses, an anesthesia resident, and an anesthesia faculty member. Some weekends two operating teams are needed at the hospital and on other weekends there are no operations to perform. Therefore, the weekend is now viewed negatively by the staff because of the issues that arise from the weekend’s lack of structure. Patients have to endure long wait times and a great deal of confusion. Staff has to use personal judgment throughout the day to handle situations and this becomes a concern if newer employees of the hospital have to work weekends because they do not have an understanding of the process. Increasing frequency of weekend problems and the anticipation of more weekend demand has created a need for a standardized weekend process.
**Key Issues**

The following are key issues that have lead to the need to document the weekend activity at the Mott Children’s Hospital Operating Rooms.

- Gradually increasing number of cases on the weekends had caused a lack of standardized patient care to be more noticeable and required action
- Lack of pre-op process had lead the anesthesiologist, OR nurses and the clerk to take on additional responsibilities
- Lack of documentation had made it difficult to identify waste and issues with the current weekend process
- Stretcher and bed equipment pileup had lead to cluttered hallways and complaints about who was responsible for putting the equipment away

**Goals and Objectives**

The primary goal of this project was to create an efficient, standardized, and safe weekend process that accommodates the increasing number of cases in the operating room. To determine the problems with weekend staffing, staff communication breakdowns, and equipment pileups, Team 12:

- Observed and documented the current weekend process
- Interviewed managers who make staffing decisions on weekends
- Identified sources of waste and non-value added work
- Investigated the stretcher, crib, and bed pileup problem

Using this information, the team developed recommendations to:

- Improve weekend patient pre-operation processes
- Determine the number and type of staff (anesthesia, OR nurses, Post Anesthesia Care Unit (PACU) and Pre-Op nurses, and clerks) that are needed to efficiently accommodate weekend activity
- Prevent stretcher, crib and bed pileups

**Project Scope**

This project focused on the weekend activities of the Mott Hospital Operating Rooms. The current state of the weekend processes has been observed and systematically documented through flow charting and value stream mapping. The current state process includes two elements: 1) the flow of staff and patients from when a patient enters the OR system from one of the three entering points as indicated on the flow chart (see Appendix A) to when the patient leaves the recovery area and 2) the scheduling of cases and staff
on the weekends. After thorough analysis of the current state, the team has developed recommendations to improve the current weekend processes.

This project was limited only to the Mott Operating Rooms on the weekends. The team did not document actual patient care and the surgery processes but rather the scheduling and flow of staff in the operating, pre-op, and recovery areas. The primary staff members involved in this project include clerks, pre-operation (Pre-Op) nurses, operating room (OR) circulating nurses, anesthesiologists, surgeons, charge nurses, various technicians, administrative/nurse managers, and patients.

**Methods**

The team has performed the project in four main phases: observations, historical data, interviews, and process documentation.

**Observations**

Weekend observations have been conducted in the Mott Hospital Operating Rooms from 02/07/2009 – 03/29/2009. A total of 58 hours of observations were conducted. The team also had four hours of observation during the weekdays to identify differences from weekday to weekend. Observations were of the patient flow from when the patient arrives at the Mott OR until the patient exits the recovery area along with staff interactions with patients and the effects on the process.

**Historical Data**

The team received an Excel spreadsheet from the coordinator that contains data of cases from April – December 2008 from the ORMIS database. The spreadsheet has details on patient care information including day of week, time of surgery and recovery start and end times. The sample size the team used was 244 cases which was the total number of cases on Saturday and Sunday. This historical data was analyzed and the analysis was used to develop recommendations.

**Interviews**

Staff members related to the weekend processes were interviewed for information regarding their perspective on how the process should be from their point of view and what they perceived as the major problems on the weekend. Any questions that the team had for each staff member were also answered during these interviews. The following staff members were interviewed:

- Surgeon-in-Chief
- Chief Anesthesiologist
- OR Nurse Manager
- PACU Nurse Manager
- OR Nurse Supervisor
• OR/PACU Office Manager
• Weekend Clerk

Process Documentation

After observations and interviews, the team created a flow chart and current state map. The flow chart, Appendix A, details the patient flow from the Mott OR perspective and identifies who is responsible for completing each step of process. The current state map exposes the waste and shows a general overview of the weekend process.

Findings and Conclusions

The following findings and conclusions have been developed after conducting observations, interviews, and analyzing historical data. The observations the team conducted supported findings from the interviews: lack of documentation of the standardized process and staff taking on additional responsibilities which led to increased wait times and confusion.

Observations Show Different Standard of Nursing Care on Weekends

After observing 58 hours of weekend activity, the team has developed these conclusions:

• The standard of nursing care on the weekends is different from the weekdays. This difference in standard of nursing care is due to the lack of in-house pre-op nurses staffed on the weekend to complete the pre-op process.
• Staff is forced to take on additional responsibilities on the weekend because pre-op nurses are not in-house like they are during the weekdays. This disrupts the standardized process and makes it difficult for the weekend staff to work efficiently.
• Clerical job tasks are not clearly defined and information pertaining to the clerical tasks is difficult to locate. This has made it difficult to staff the clerk position because the position depends heavily on the clerk’s weekend work experience within the Mott OR.
• The standardized Mott OR process is being loosely followed. There is a lack of documentation in certain areas concerning the weekend process. Data on when the nursing teams are called in and when they arrive is not being recorded.
• Equipment such as stretchers, cribs, and beds are being piled up in front of the entrance to the Mott OR area. This has created some issues with staff being able to reach the card reader that grants them access into the Mott OR.

Historical Data Analysis Shows Weekend Nurse Work Times

The team received an Excel spreadsheet that contains patient case information: including day of week, time of surgery, and recovery start and end times.
After eliminating all of the weekdays from the analysis, the team determined the average number of cases per weekend day by counting the number of cases on Saturday and the number cases on Sunday, 142 and 125 respectively. The number of cases on each day was divided by 39 (39 Saturdays and 39 Sundays from April – December, 2008). The findings the team calculated after this analysis are as follows:

\[
\text{Average number of cases on Saturday} = \frac{142}{39} = 3.6 \text{ cases} \quad (1)
\]
\[
\text{Average number of cases on Sunday} = \frac{125}{39} = 3.2 \text{ cases} \quad (2)
\]

To determine how much PACU time is needed per case the team calculated the total PACU time, the sum of PACU phase I stop time – PACU phase I start for each case, then divided it by the total number of cases. Average PACU time per case was then multiplied by the average number of cases per weekend to get the average total weekend PACU time. The values the team found are as follows:

\[
\text{Average total weekend PACU time} = (3.2+3.6)*0.868 = 5.9 \text{ hours} \quad (3)
\]

After taking observations and speaking with the relevant staff, the team found the average amount of time needed to complete the Pre-Op and PACU process per case to determine the amount of weekend Pre-Op and PACU work. After speaking with the PACU nurse manager, the team was told to assume the Pre-Op process would take approximately one hour to complete. This assumption was based on prior cases, paperwork that needs to be filled out, site markings done by surgeon, and pre-surgery medications. Adding one hour to each case led the team to the following results:

\[
\text{Average total weekend Pre-Op and PACU time} = (3.2+3.6)*(1+0.868) = 12.7 \text{ hours} \quad (4)
\]

To determine the distribution of work for the Pre-Op and PACU process, the team created histograms (Figures 1 and 2). These histograms show that 66% of the cases for Pre-Op and PACU are between 7:00 am and 3:30 pm, when grouping the time by eight-hour work shifts.
Figure 1: Pre-Op Start Time

Figure 2: Recovery Start Time
Interviews Emphasize Problems With Lack of Pre-Op Weekend Staff

The team interviewed staff members that are directly involved in the weekend operations in the Mott OR. The staff that were interviewed was the Chief of Surgery, Chief of Anesthesia, OR Nurse Manager, PACU Nurse Manager, OR/PACU Office Manager, OR supervisor, and the weekend clerk.

The findings from the interviews are as follows:

- Lack of Pre-Op nurses to complete the Pre-Op process causes problems on the weekend. Pre-op nurses are not staffed on the weekend like they are during the week which leads to the following problems: delays in start of surgery, potential increase in Pre-Op errors, and breakdown in communication between staff. Issues discussed during the interviews may occur because the process is designed for Pre-Op tasks to be completed by the appropriate personnel. Instead, Pre-Op tasks are being completed by in-house weekend staff which has lead to an inefficient weekend process and a different standard of nursing care for the patients that visit the Mott OR on the weekends.
- Wait times on weekends are longer then necessary due to confusion about the Pre-Op process and other issues that stem from a delayed start of the surgery.
- Patient’s families are not being attended to in a timely manner due to confusion in the weekend process. The communication between the family and the staff is not optimal on weekends because the Pre-Op process is handled by staff that does not normally perform the Pre-Op process.
- Equipment pileups in front of the Mott OR card reader have been noticed on the weekends. The pileups are caused by the demand during the weekend being lower than the demand during the weekdays. Weekend staff is not currently responsible for storing the excess equipment, therefore, the equipment not being used sits in the hall until Monday (see Appendix D).

Recommendations and Expected Impact

The following recommendations and expected impacts for each recommendation have been developed based upon the teams collected data, observations, and interviews. The team recommends implementing an in-house PACU team, using a Clerk Orientation Packet, addressing the equipment pileup problem, and developing nurse arrival logs.

Implement In-House PACU Team

The following details the recommendations and expected impacts for the in-house PACU team.

Recommendation
Implement an in-house PACU team on the weekends that would perform the Pre-Op and recovery process. The team recommends staffing two PACU nurses and one medical assistant. According to the data collected by Team 12, there has been an increase in the number of cases being reported on the weekends. This increase in cases has caused problems to arise around the lack of in-house staff on the weekends as well as the decrease in the standard of care provided by the Mott Operating Rooms on the weekend. In order to address the majority of the problems Team 12 has found during this project, an in-house PACU team is suggested to supplement the current in-house team. By adding this in-house PACU team, the major concerns of the interviews will be addressed including staff taking on additional responsibilities and the lack of pre-op nurses in the current process.

In order to support this recommendation, Team 12 has found that the current average total weekend Pre-Op and PACU time to be 12.7 hours. According to the PACU Nurse Manager the nurses should have at least five hours per day of actual patient care work and then the remainder of their eight hour shift can be supplemented by nursing projects and MLearning training. The PACU Nurse Manager has also informed the team that hiring two nurses to work the weekend shift is already in the budget for FY09 and therefore it would be easier to get administrative approval even though there is currently a hospital wide hiring freeze. Once it was decided that a PACU team was needed on the weekend, Team 12 created a histogram (see Figure 1) which shows the number of cases based upon the Pre-Op start times. This graph shows the best time to schedule the PACU Nurse’s shift times, from 7:00 am to 3:30 pm, in which 66% of the total cases fall into.

Implementing this recommendation first requires that there is enough money set aside to hire additional staff for the weekend. The PACU Nurse Manager has already budgeted money to hire about three more weekend staff. Since a minimum of two Pre-Op nurses are required to comply with safe patient care practices, the second step needs to address reasons why money must be used to hire the two Pre-Op nurses and one medical assistant. Most of the problems that the team observed and were told about during interviews would be resolved if an in-house Pre-Op was staffed on the weekends. Additionally, the team has been repeatedly told in interviews that the general consensus has been to have Pre-Op staff on the weekends. The last step would be hiring two in-house Pre-Op nurses for the weekend.

**Expected Impacts**

The following are the expected impacts for having an in-house PACU team:

- Eliminate the need for the clerk, anesthesia, and OR nurses from taking on additional responsibilities that they have taken on due to the lack of Pre-Op nurses.
- Increase in the standard of care for the patients on the weekend. They will have the same level of care as they would during the week. Currently, patient care would sometimes be compromised when the clerk would have to watch the patient while waiting for an OR room to be ready. In addition to this, relocating and taking care of the patient’s family would be handled better.
• Decrease in the number of problems resulting from loosely followed processes. Weekend processes should be consistent with every staff member since the weekends will now be staffed similarly to the weekdays.
• Decrease in wait-times due to the increased process efficiency since the Pre-Op nurses will work on the weekends.

Use Clerk Orientation Packet

The following are the recommendation and expected impacts of the Clerk Orientation Packet.

Recommendation

The team recommends using the Clerk Orientation Packet for all newly hired weekend clerical staff prior to their first working day. Based upon the findings that the job tasks of the weekend clerk are not clearly defined and documented, Team 12 has created a Clerk Orientation Packet, see Appendix E. In creating this packet, Team 12 has not only clearly listed all of the tasks that need to be performed by the clerk but has also put all relevant supporting documentation together into one binder. In doing so, the team also is trying to address the issue of the clerk duties information not being easily accessible. The current weekend clerk has been working in that position for two years and therefore does not have a problem finding information but they will be leaving the hospital in two months and a replacement will need to be trained. In order to efficiently train the replacement, Team 12 has created the orientation packet and will recommend that the Clerk Manager use it to supplement the current training package.

Expected Impacts

The following are impacts of having this recommendation implemented:

• Smoother transition for a new clerk who is not familiar with working on the weekends.
• Clearer understanding of the weekend duties for the clerk because questions can be answered before the clerk works on the weekend.

Address Bed, Stretcher and Crib Equipment Pileup Problem

The following are the recommendation and expected impacts for addressing the bed, stretcher and crib equipment pileup problem.

Recommendation

The team recommends coordination between the OR and PACU nurses to delegate responsibilities for cleaning and storing equipment. If the first recommendation to have
an in-house PACU team is implemented, the newly hired medical assistant would share the responsibility with the perioperative tech to clean and store the equipment. The team also recommends at least having a sign that reminds people to keep the card reader clear of equipment.

*Expected Impacts*

The following are impacts of having this recommendation implemented:

- Developed staff accountability for equipment storage
- Reduced number of instances of not being able to access the card reader
- Improved safety during patient transportation
- Increased staff satisfaction

**Develop Nurse Arrival Logs**

The following are the recommendation and expected impacts for developing the Nurse Arrival Log.

*Recommendation*

The team recommends developing and using nurse arrival logs to continue record keeping and eliminate gap in data for nurse response times. On this sheet, the clerk records the time that the nurse is called and told to come in and then the nurse signs in on the same sheet when they arrive at the hospital.

*Expected Impacts*

The following are impacts of having this recommendation implemented:

- Documenting times can be used when analyzing data on PACU nurses and for identifying problems.
- Eliminating gap in data for nurse response times
- Keeping a record of times will ensure that all of the nurses are reporting within the required time period.
Appendix A: Current State Flow of Weekend Processes in the Mott OR

Patient arrives at ED and case is evaluated.

- Patient is taken to EIR.
- Is the case emergent?
  - Yes: Schedule case for a later date during regular operating hours.
  - No: Send to the appropriate department in the UH.

ED clerk pages Anesthesia and contacts Mott OR clerk to let them know they are sending a patient to the Mott OR.

- Most O.R. clerk books case for the day.
- Clerk pages staff surgeon from relevant department.
- OR is prepared by nurses and anesthesia.

- Is the case from the ED?
  - Yes: ED staff member transports patient and patient family to O.R. hallway area and waits with the patient until first OR staff receives them.
  - No: P.T. directs patient’s family to closest available waiting area and transports patient to O.R. pre-op area.

- Nurse notices patient is in critical condition and pages surgery resident.

Surgical team stabilizes the patient and staff monitors the patient’s condition closely.

- Is patient in critical condition?
  - No: Patient waits in Pre-Op or O.R. hallway until requirements met.
  - Yes: Anesthesia interviews patient and takes them to O.R.

Anesthesia interviews patient.

- Are all surgery requirements met?
  - No: Surgeon interviews patient.
  - Yes: Surgery takes place.

Surgeon makes patient down to OR.

- Does Most OR have room for patient?
  - Yes: Surgeon makes patient down to OR.
  - No: Patient leaves Most PACU.

Transfer patient back UH.

- % patient under the age of 40?
  - Yes: Anesthesia notifies the clerk to call PACU for post operation recovery process closest before the end of surgery.
  - No: Clerk calls in on call PACU team.

Anesthesia monitors patient in Phase I recovery area after surgery.

- Does Most PACU need patient?
  - Yes: Anesthesia monitors patient in Phase I recovery area after surgery.
  - No: Patient leaves Most PACU.

Clerk pages anesthesia to review cases.

- Does anesthesia want to book case for the day?
  - Yes: Clerk pages staff surgeon from relevant department.
  - No: ED clerk pages Anesthesia and contacts Mott OR clerk to let them know they are sending a patient to the Mott OR.

- ED staff member transports patient and patient family to O.R. hallway area and waits with the patient until first OR staff receives them.

- P.T. directs patient’s family to closest available waiting area and transports patient to O.R. pre-op area.

- Patient leaves Mott PACU.
Appendix B: Current State of Weekend Mott OR
## Appendix C: Call Log Sheets

### Nurse Arrival Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Nurse Name</th>
<th>Clerk Name</th>
<th>Time Called</th>
<th>Arrival Time</th>
<th>Case Start Time</th>
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Appendix D: Picture

Equipment pileup near Mott OR card reader.  

Source: Team 12, March 2009
Appendix E: Clerk Orientation Packet

Front Desk in the Mott OR

Weekends/Holidays

Day Shift Duties

1. First thing in the morning, un-forward phones, then call the Main OR to let them know you are here (call 6-8470)
   a. Get a verbal report from Main to see if there are new cases that were scheduled during the night (call 6-8470)
   b. Be sure to tell the Charge Nurse immediately if there are any add-on cases or changes

2. Check add-on log and book any cases for the day, order registration cards, and stamp paperwork (see “ORMIS OR Scheduler” attachment)

3. 15 minutes before a surgery is scheduled to start, you should put the patient on-call (see “How To Put a Patient On Call and Sending” attachment)

4. Count the records from the previous day and count the number of records on the schedule making sure that they match

5. Print 3 copies of today’s schedule with the number of records on the top

6. Remove any schedules from previous regular weekday and verify DPCs from cases with nursing staff have been turned in. On Saturday, make 4 copies of Friday’s Final OR Schedule and place:
   a. The original is filed in the back of the file in the cabinet (labeled?)
   b. One copy in Karen Lam’s mailbox
   c. Two copies, all the DPCs, and any add-on sheets for Friday get banded together for billing and placed in the “Unclaimed Printing” for billing to pick up on the next regular day.
   d. One copy and the anesthesia schedule from the prior regular day are clipped together and left on the upper right hand corner of the desk.

7. Make all changes for Monday’s schedule which include adding on anesthesia personnel and stamping up paperwork. Make changes on the board.

8. Print out last weeks cancel logs from Saturday to Sunday (two copies) and put in Karen Lam’s Inbox. Karen’s Inbox is under Mott Cancel log. (see “ORMIS OR Scheduler” attachment for cancel logs)

9. Stamp up and book all cases for the day and put appropriate staff on-call and send as instructed (see “How To Order Red Cards and Stamp Paper Work” attachment)
10. Call in recovery team when notified by operating room. Note: Recovery team gets 45 minutes to come in and you may have to remind the room of this if it’s a short case. (see “Recovery Team Phone List” attachment)

11. Calls might come in to cancel Monday cases. In this case, if the canceled case leaves a gap or if it’s a first case change, please page the service and ask them to contact P.T.’s for coming in earlier and the name of the person you spoke to.

12. Please be proactive for specimens so when there is one, please page it out. They cannot get in when we are gone.

13. Send blood back. Have the P.T.’s check room 7 and 8 even if we did not use the rooms (sometimes it is forgotten from Fridays).

14. Put the pink sheets in the drawer in the back so that they are in order by date. Please make sure they are facing the same way.

15. **While you are working, you might be asked to help transport patients**

   a. If you have to leave the desk to help transport or you leave for any other reason, please let the charge nurse know. Forward the phones to where the charge nurse is or forward the phones to main. Always let main know if you are giving them the phone and what cases are going in what rooms as well as those phone numbers. It’s also helpful to give the charge nurse’s pager number in case of an add-on.

   b. Sometimes you may be asked to take parents to the vending room. The key is in the key box and it says “family waiting room” on the key. Instruct the parents to have one family member wait at all times. There is no pager available on the weekends.
ORMIS OR Scheduler

Scheduling a Case

1. Select Day (calendar is at top left corner)
2. Select Room and Time of procedure by placing cursor in correlating spot
3. All Red areas must be filled out before the procedure can be scheduled:

In CASE INFO Screen, enter:
- Main Surgeon (doctor performing procedure). If offsite, use “offsite” doctor.
- CPI number (registration number). Type a zero before the number.
- Select the “Patient Master File” button. Scroll to the bottom of the visits to select PATDEMO for OP and ADP surgeries. If the patient is inpatient, select the visit number assigned to the current inpatient admission. The visit number can be found in the Mainframe. It is very important to link the procedure to the correct visit number for correct orders processing. If the patient is AP but will be admitted the day before surgery, book the patient as AP and choose the PATDEMO line. Press the “Link” button on the top menu. Close the page. Check to be sure the patient’s name has transferred to the scheduling page.
- Patient status. If currently an inpatient, select “Inpatient” and indicate the current unit location in the “Incoming Inpatient Location” field. If outpatient or ADP, select accordingly
- If the patient will be admitted prior to surgery, indicate the number of days the patient will be admitted before the day of surgery in the “Admit Date Offset” field. One day before surgery is common.
- Anesthesia Type is almost always general. Please confirm with the caller.
- Incoming Patient Location is asking for the unit the patient is currently located.
- PM Service is the admitting service code. Codes are listed on the board above the scheduling desk. If offsite, select ANS for anesthesia.
- Notes, special requests, or instructions are entered in “Prints on Schedule” mode. In addition, if it is an offsite procedure, type in the detailed location of the procedure.
- Confidential information is entered in “Confidential Notes” mode.

In PROCEDURES Screen, enter:
- Procedure name. If Offsite, type “Offsite” and hit enter. Select the type of procedure from the list.
- Surgery Description. Change if different from procedure name or add detail regarding the procedure. Hit the “add” button. If there is a second procedure, type it in as a separate entry in the “Procedure” field and the “Surgery Description” field, then click “add”. You will need to free type in the detailed surgery description.
The card number (pick list) will be automatically loaded to match the procedure. If no card is generated, you need to problem solve to find an appropriate card for the procedure. Offsite cases have no pick lists.
- Check the “Do Not Merge Resource Cards For This Case” box.
- If there is a possible additional procedure, type in the additional procedure, hit the “Add” button, and change the “A/P Flag” to possible.
- Number of days before surgery the patient will be admitted, if any. Also indicate the length of stay following procedure, if known.
- Click the “Add” button.
- Pre-op Diagnosis

In PERSONNEL Screen, enter:
- Surgical Residents, Fellows and/or other doctors, if given. If an additional surgeon will be involved, add their name and select PROC SURGEON as the role. Hit the “add” button after typing each name.

In EQUIPMENT Screen, enter:
- Any additional equipment that is requested.

In CASE INFOII Screen, enter:
- Latex Allergy. If not sure, always select unknown.
- Ordering Doctor’s name and pager number.
- Day before phone. Very important to get since our pre-op nurse calls the day before to confirm the surgery and notify parents of NPO, etc.
- Length of surgery. Fifteen minutes should be allotted at the beginning and at the end of each procedure for set-up/clean-up. Procedure time is time of positioning and procedure.

4. Select the “Schedule” button.

**How to Book an Add-On Case**

The OR Clerk will need to schedule cases if the case needs to be added TODAY, or if it is past 11:00 a.m. and the case needs to be added TOMORROW. These are considered Add-On cases because they are added after the scheduling cut-off time.

To book an add-on case:
1. The Charge Nurse must speak to whomever is trying to book an OR case before you do anything. During the week this is non-negotiable. If the add-on is an offsite case (done in radiology or elsewhere), the Anesthesia MD in charge must approve the add-on before scheduling.
2. If the person wanting to add the case is physically in front of you, have them fill out the add-on sheet in the book on your desk (blue form). If they are on the
phone, ask for the info and fill it out as you talk to them (after approval from charge nurse or Anesthesia).

3. The information required is:
   a. CPI
   b. Visit number, if available (IP or offsite with existing EWS visit #)
   c. Patient’s name
   d. Patient’s age
   e. Ordering doctor’s name
   f. Surgeon’s name (if offsite, type “offsite”)
   g. Procedure name (if offsite, type “offsite”)
   h. OR requested
   i. Length of surgery
   j. Diagnosis
   k. Latex allergies
   l. If ICU bed is needed (IPs and ADPs)
   m. Location of patient (if inpatient)
   n. Location of procedure (if offsite)

4. Schedule in ORMIS, just as you would for a regular case, except click on Add On in the Case Info page. If the charge nurse hasn’t specified the room the case will be going into, schedule it in the Wait room. Add the ORMIS assigned case number to the blue add-on sheet. *Note: If the procedure is a Picc Line Removal or Insert, it will be booked in APR, no matter what service is calling or what service has the room reserved.

5. Print a red card, a pick sheet, and the paperwork. Never leave a case unfinished.

6. Stamp the paperwork and put it in the Add On slot on the wall for the PTs

7. DURING THE WEEK call the other OR areas to inform them of the add-on:
   a. Call Nurse (Cathie or covering @ 68635)
   b. Pre-op 3-5828
   c. Recovery 3-2513
   d. Family Waiting 5-5116
   You can also use GroupWise instant messaging to notify your co-workers.

How to Cancel a Surgical Case

Cases are cancelled for a variety of reasons. You may be notified from a variety of people, depending on the reason for the cancellation. Parents call the clinics and pre-op to cancel. Lab results, new medical problems for the patient, or other issues will be told directly to you by the medical staff, anesthesia, or nursing.

If a case is cancelled:

1. Locate the case on the schedule and open the block.
2. Check the “cancel” button.

3. Select the reason for the cancellation from the drop-down menu. Type in a free text reason if further description is required (always applies to Other reasons).

4. Click the “ok” button.

5. Notify staff of the cancelled case:
   e. RN in charge
   f. Anesthesia in charge
   g. Surgeon.
   h. Pre-op/PACU/Family Waiting
How to Find an H&P and Surgical Consent on CareWeb

From your Desktop, select the CareWeb button along the top menu bar.

When CareWeb is open, click on the “Patient Search” button along the left side. Type in the patient’s registration number and press the “Search” button or hit enter.
Click on the blue registration number of the patient.

If the Demographics page opens, select the “Documents” button on the left of the page.
In the Medical Documents page, select the H&P note. If no document is marked H&P, look for a note that contains any of the following:

- History
- Allergies
- Vitals
- Systems Assessment
- Referral

If the H&P is signed and dated within 30 days of today’s date, it is a valid H&P.
Click on the “Legal and Consents” tab. If there is no consent under this tab, click on the “Imaged Docs” tab.

Click on Informed Consent. To be a valid consent, it:
- Must be signed by parent and physician
- Must be dated within 6 months of the surgery date
- Must list the correct surgery
How to Put a Patient On Call and Sending

1. Look on the patient pick up slip to see where they are (what floor, unit, etc)
2. If the patient is in the PICU (Pediatric Intensive Care Unit) use the following procedure. If the patient is NOT in the PICU, skip to #3
   a. As of this writing, there is a new procedure in place for PICU patients. I have reproduced Dr. Lewis’s (he is an anesthesiologist) instructions below:

The plan for picking up patients is as follows: 7:30 cases will be ready in the PICU by 7:15. The Anesthesia Care Providers are expected to be there at least by 7:15 to get report from the PICU Nurse. There is no need to call unless there is a delay. On Thursdays this is 8:15. If there are any delays, the Anesthesiologist doing the case should call or alpha page the PICU Charge Nurse.

With other cases, the PICU would like a 30 minute call [that is, 30 mins before patient needs to be in the OR]. It is very important to have this be as accurate as possible. This 30 minute call should be directed by the anesthesiologist who is scheduled to do the case. He/She will ask the OR Clerk to call the PICU. The Clerk will direct their call directly to the PICU Charge Nurse. The Clerk will write the time that she/he called in a log book. Anesthesia will sign the log book just before getting on the elevator so that we can track the accuracy of our times.

   b. The procedure calls for the nurses to keep in contact with each other, but you will likely be asked to make the calls, although you will not need to decide when to do them.
   c. The PICU log book is separate from the regular transport clipboard
   d. Usually, PICU cases are anesthesia transport (meaning the PTs do not transport) because the patient is on a ventilator or other machines. We say “usually” because there are always exceptions to every rule.

3. If a patient is NOT in the PICU, you call the floor that is indicated on the patient pick up slips.
   a. Tell the clerk that you are calling from Mott OR to put patient ______ on call. You will be transferred to the patient’s nurse.
   b. Ask who you are speaking to, and write it down on the transport log.
   c. Tell them the patient is being put On Call to come to the OR
   d. Ask if the patient is intubated
       i. If the patient is, that is anesthesia transport. Write that on the bed slip, and tell the Charge Nurse right away
   e. Ask if the patient has any other precautions you should know about. These include MRSA or other contagious illnesses, and allergies to latex or medications. If you say “any precautions?” the nurses know what you are asking so you don’t need to run through a list
   f. If there are precautions, write it on the bed slip and be SURE to tell the Charge Nurse and the PT who is transporting

4. Tape the bed slip to the side of your computer monitor
5. When the OR Charge Nurse tells you to “Send for the patient,” you get on the walkie talkie and say “Patient Pick Up At the Front Desk.”
   a. Say it 2 times
6. After you’ve announced the pick up, move the bed slip with tape for that patient from your monitor to the clipboard
7. The PT will come and sign the log and take the bed slip
   a. Keep your eye on the log to make sure someone does come. If 10 minutes goes by and no one has come, repeat your radio call.
8. Call the Maize Charge Nurse at 216.5404 to let them know of the on-call status.
How To Order Red Cards and Stamp Paperwork

Each case has paperwork that needs to be stamped using the red cards that contain information such as patient name, CPI number, visit number, allergies, etc.. The PTs take this paperwork and put it into the OR rooms as this is how the doctors order tests that they need and keep track of supplies that need to be billed.

Each evening, the clerk stamps paperwork for the next day cases. In the case of an Add-On, the papers are stamped by whomever schedules the case. Paperwork is to be stamped for all cases that are onsite (no MRI or offsite cases) with the exception of APR.

Ordering Red Cards

1. Click on Mainframe
2. Type in your User ID in brackets next to “Signon ID”
3. Type in your level 2 password in brackets next to “Password”
4. Press enter.
5. On “Application Menu”, tab down to the space to the left of “HQ1”
6. Type letter “s” and press enter.
7. On the Patient Management screen, tab to “Patient Profile Print”
8. Type the letter “s” and press Enter

9. On the “Patient Search Parameters” screen, tab to “CPI/Visit Number”
10. Type in the patient’s CPI number (no zero)
   11. Press Enter
12. In the “Visit History Selection” screen, select the appropriate visit number:

   a) At the “Select Line Number” option, type the number of the line with the correct visit number by choosing from the displayed list (01, 02, etc.).

13. Press enter.
14. In the “Profile/Plate Generation” screen, type in the following information:
   a) Profile: 00
   b) Plates: 01
   c) Printer: f20r

15. Press enter.

16. The cards are printed in admitting:
   a) Call the admitting desk (43314) and ask them to tube the cards to the OR.
   b) Send a tube to N-4.
Stamping Paperwork

Once you have a red card, all case paperwork needs to be stamped with the card. The packet is then paper clipped together and put into the appropriate slot on the wall.

Every case will include:
   c) a row of labels
   d) 2 index cards
   e) the Count Sheet

For all the other cases, see the OR Reference binder up top to the right of the desk.

Also:
   ✓ Any time a piece of hardware or equipment is put into a patient, an implant sheet is required.
   ✓ If a biopsy is required, or any organic matter is to be removed from the patient, a micro form is necessary.
Printing a Barcode Wristband

CLICK ON START

CLICK ON MAINFRAME

TYPE IN YOUR USER ID IN BRACKETS NEXT TO “SIGNON ID”

TYPE IN YOUR LEVEL 2 PASSWORD IN BRACKETS NEXT TO “PASSWORD”

PRESS ENTER
**ON APPLICATION MENU SCREEN**

TAB DOWN TO SPACE NEXT TO “HQ1”

TYPE IN THE LETTER “S” NEXT TO HQ

PRESS ENTER
DEPENDENT ON WHAT SCREEN COMES UP NEXT........

****ON FUNCTION SELECTION SCREEN****

TAB TO “PPRF” HEADING AND TYPE IN THE LETTER “S” NEXT TO IT

PRESS ENTER
****ON PATIENT SEARCH PARAMETERS SCREEN****

TYPE IN CPI NUMBER and VISIT NUMBER IN SPACE NEXT TO CPI/VISIT NUMBER
(NOTE: IN RIGHT HAND CORNER NEXT TO FUNCTION IT MUST SAY “PPRF”)

PRESS ENTER

****ON VISIT HISTORY SELECTION SCREEN****

DECIDE WHICH LINE NUMBER YOU WANT AND TYPE IT IN THE SPACE NEXT TO SELECT LINE NUMBER
### Patient Profile Print

**UNIVERSITY OF MICHIGAN** 06/06/07 08:17

**AGASSI, KINGSLEY**

### Visit History Selection

Select Line Number

<table>
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<th>Visit Ppt Fe</th>
<th>Adm/Via Type</th>
<th>Dia/Dep</th>
<th>Dia Pav</th>
<th>Loca</th>
<th>Reference</th>
<th>Film Date</th>
<th>Reg Dte</th>
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<td>01. 6291 02 M 10/18/06 0</td>
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<td>MLA</td>
<td>E</td>
<td>10/18/06 PHYS, DEFAULT ATTEND</td>
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<tr>
<td>02. 6108 0V M 04/18/06 0</td>
<td>OUT</td>
<td>HQPO</td>
<td>E</td>
<td>04/18/06 PHYS, DEFAULT ATTEND</td>
<td></td>
<td></td>
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<td>MLA</td>
<td>E</td>
<td>02/13/06 PHYS, DEFAULT ATTEND</td>
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<tr>
<td>04. 5311 02 M 11/07/05 0</td>
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<td>MLA</td>
<td>E</td>
<td>11/07/05 PHYS, DEFAULT ATTEND</td>
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<td>OUT</td>
<td>USP</td>
<td>E</td>
<td>08/23/05 PARK, JOHN M</td>
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</table>

**YAS10NZ** User Id U946 Termid ZY76 Function PPRF

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****ON PROFILE/PLATE GENERATION SCREEN****
TAB DOWN TO “PRINTER ID” NEXT TO BARCODE WRISTBAND

TYPE IN “014A”

PRESS ENTER

CONTINUE WITH NEXT REGISTRATION WRISTBAND OR CLICK ON TOGGLE-CONNECTION UNTIL YOU ARE TOTALLY LOGGED OFF.
Front Desk Death Procedure

- Per hospital policy, Gift of Life (or OPO – Organ Procurement Organization) **MUST** be notified by physician or nurse **within 60 minutes of a patient death.** The GOL can be reached at (800) 482-4881 or (734) 973-1577.

- Transportation of the body to the morgue is the **OR’s responsibility.** Contact the following people in the order listed to take the body to the morgue –
  1. Medical assistant/PT
  2. Nursing staff

- A **chaplain** can be reached 24/7: M-F from 8am – 5pm please call 6-4041, between 5pm – 8am and on weekends please page the chaplain on call @ Pager # 3111.

- Check to make sure that all death paperwork has been filled out correctly. If it has not, page the resident involved with the case.

- If the nurse is unable to locate the R/C pack (Respirations Ceased Pack):  
  o If you are not in a rush – order it from Material Services Center Online Catalog, Stock # 6082 (to reach MSC, start at the UMHS Internal Home Page & click on Support Services).
  o If you need this pack **STAT** – please call MSC @ 6-6077 (between 7am – 11pm) or page #2574 (between 11pm – 7am)

What the front desk staff does with…

- **NOTIFICATION OF MEDICAL EXAMINER:** On evenings, midnights and weekends, the front desk staff is responsible for calling the medical examiner’s paging system. Call (734) 477-6313. This number is staffed 24/7 and the answering service will page the medical examiner on call.

- **DEATH PAPERWORK:** After checking to ensure that all paperwork is filled out completely, the front desk staff is responsible for tubing the appropriate death paperwork to Central Distribution (Tube Station A2). For details on death paperwork, see page 2.

- **THE PATIENT’S CHART:**  
  o If the patient is an IP – Locate the floor that the patient came from and have an MA/PT return the chart (with the appropriate death paperwork attached) to the appropriate floor.
If the patient is an AP/OP/ER – Gather all related paperwork and place on top of the patient’s chart. If the chart is not available, attach all paperwork to a history backer. Once all paperwork is gathered and attached to either the chart or history backer, call the OR chart room/Pre-op @ 3-5828 to have the chart clerk retrieve and close the chart (or leave a voice mail message for the chart clerk to retrieve the chart the next business day).

If you are asked to close a chart – Gather all related paperwork and arrange it in order on top of the chart or on a history backer. To see order of closed chart, see page 2.

DEATH PAPERWORK INFORMATION

Listed below are the forms and instructions needed when a patient dies. Forms 1-3 must be filled out by the physician regardless of whether or not consent is given.

**Death paperwork packets are kept in the file cabinet behind the desk along with history backers.**

If you need more history backers, please call the chart room @ 3-5828. If you are low on death paperwork packets, Pam is responsible for ordering them – please email her @ pamepete@med.umich.edu

**CD refers to central distribution. Phone # 6-6727. Tube Station A2**

**In the case of organ harvests:** Treat these procedurally as other deaths. There is no special paperwork – however, death paperwork may already be filled out and GOL contacted. Please continue to ensure that all paperwork is completed, sent to appropriate places and assist as needed.

1. **DEATH NOTICE:** White copy (original) stays with the chart. Yellow copy goes to CD.

2. **PERMISSION FOR AUTOPSY:** White copy (original) stays with the chart. Yellow copy goes to CD. Pink copy goes to next of kin by physician.

3. **BODY RELEASE & FUNERAL DIRECTOR NOTIFICATION:** **ALL** copies go to CD. *****Make sure that the physician completes the top portion and the**
nurse completes the center portion.

CLOSED CHART ORDER

The following is a list of the paperwork (if available/applicable) that should be included in a closed chart. “Closing” a chart means putting all paperwork in a specific order. The death paperwork will be on the top of the closed chart and then follow order.

1. Death Paperwork – Permission for Autopsy, Death Notice, Body Release & Funeral Director Notification, Any Organ Donation Paperwork

2. Medical Record Face Sheet

3. Advanced Directives – Durable Power of Attorney, Living Will

4. ER Forms – ER notes, Survival Flight record, ER Flowsheet, Triage Record, Physicians Orders

5. Inpatient Notes – Inpatient notes, discharge note/follow up orders

6. OR Paperwork – Surgery consent, Anesthesia record, Implant/Explant sheets, Bypass record

7. Reports – Radiology reports, EKG

8. Blood Paperwork – Blood transfusion record form, blood bank transfusion reaction consult

9. Outside Records