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Forest Hills Hospital Patient Flow Project

July 2008

In March 2008, the nursing leadership and the RN union leadership at Forest Hills Hospital agreed to tackle the problem of overcrowding in the Emergency Department. It had been a persistent problem for some time, creating stress throughout the hospital, and jeopardizing the quality and safety of patient care.

At an initial meeting to discuss the issue, representatives from the union and from different departments (including nursing, emergency department, admitting, infection control, and environmental services) offered a variety of different perspectives on what was causing the overcrowding. The explanations included -- EVS taking too long to clean the rooms once patients were discharged, admitting not responding quickly enough when rooms were ready, nurses on the floor delaying taking new admissions, and new admissions being processed in batches.

Interviews conducted throughout the hospital in late March and early April, with managers and front-line staff, showed that individual departments were striving to be as efficient as possible in performing their particular functions, even keeping separate logs to prove that they weren't responsible for the delays. The interviews uncovered many opportunities for improving the current processes, but no clear indication of what changes would make the biggest difference.

The biggest obstacle to getting a good handle on the situation was the lack of useful and reliable data on the delays between when patients were being admitted to the hospital from the ED and when they were being assigned rooms on the floors. Both Admitting and the ED kept log books to record this information, but the information in the log books was incomplete and inconsistent. Some of this information was also entered into the hospital's IT system for managing operations,

but it was difficult to retrieve the information once it was entered into the computer.

During the first two weeks in May, staff in Admitting and ED made a concerted effort to keep full and accurate records of all admissions from the ED. Those data were then analyzed to identify how long the delays were between when patients were admitted and when they were assigned to a room, which patients were most affected by delays, whether certain times of the day were worse than others, and whether certain days of the week were worse than others.

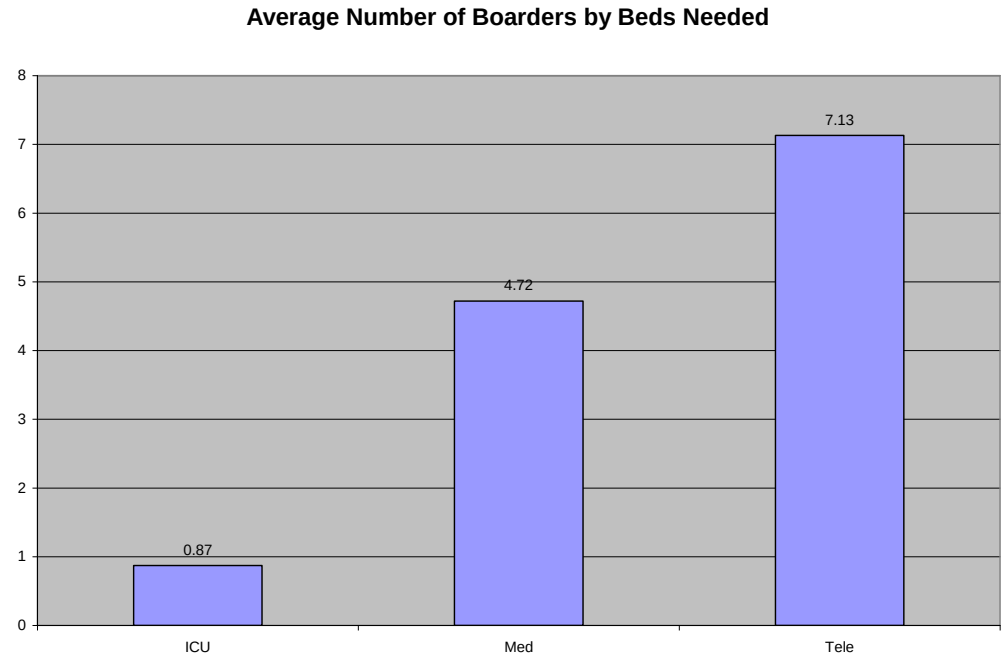
Findings

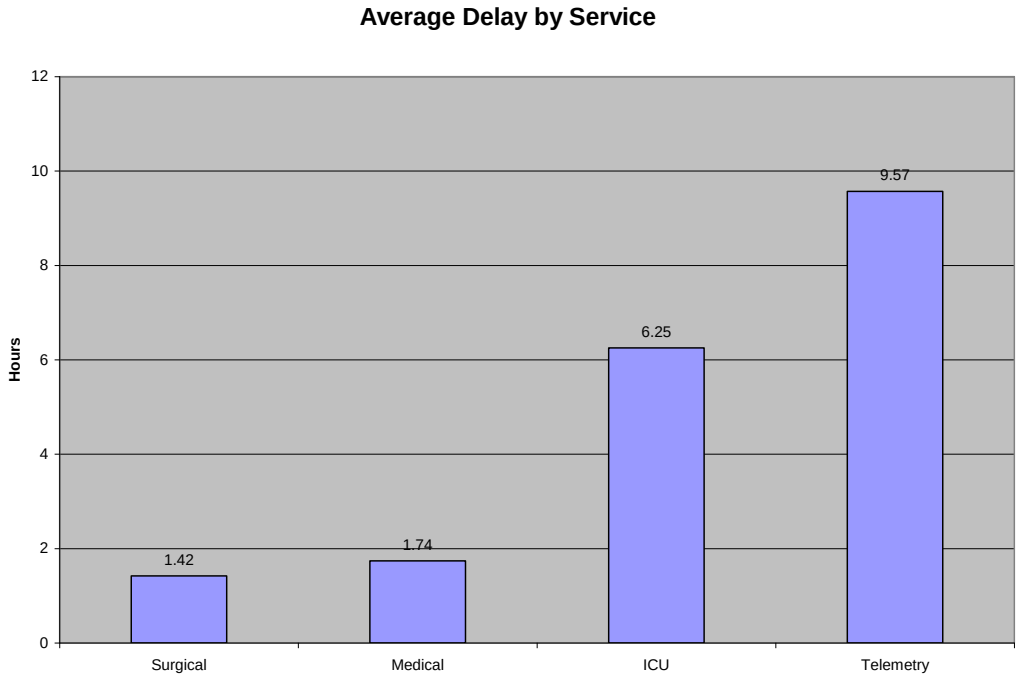
Based on the interviews and data collected, it was possible to draw the following conclusions:

1. **There are lots of little things that could be improved, but they wouldn't make a significant difference in the number of patients backed up in the ED**. It makes more sense to focus on the few changes that would make the biggest difference. For example, there is some batching going on both in the ED calling patients into Admitting, and in Admitting assigning beds, but the effect on patient flow is insignificant (minutes) compared to more structural delays in the system (hours). One change that would eliminate a lot of the little problems would be to automate the admissions process, which would eliminate a lot of redundant effort and provide real-time information to everyone involved. However, that change is on hold awaiting decisions by the hospital system.

2. **Most of the back-up of admitted patients in the ED is due to delays in finding telemetry beds for telemetry patients**. On average, there were 7 telemetry patients per day waiting an average of 10 hours in the ED for an inpatient bed, compared to 5 medicine patients waiting an average of 2 hours.

During the first two weeks in May, 7 telemetry patients had to wait more than 24 hours for an inpatient bed. And these data probably understate the problem, because some telemetry patients were boarded in the ICU when beds were available there, which may in turn have increased delays for ICU patients.

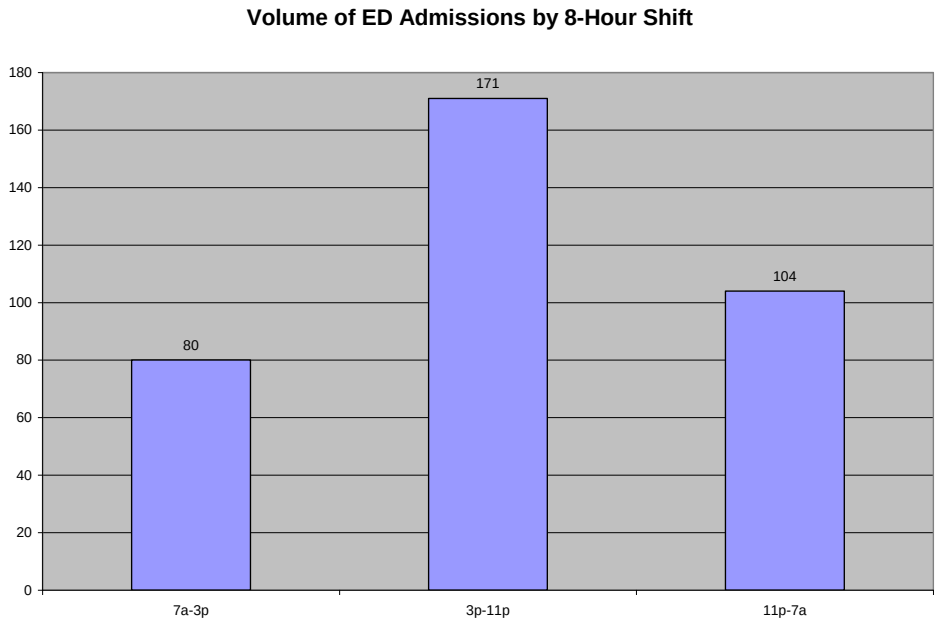




When the census fell in June, there were still 7-8 patients boarding in the ED waiting for telemetry beds, highlighting the structural nature of this problem. Although there are additional telemetry beds available in the hospital, they are being kept out of service in an attempt to cut down on physician overuse and misuse of telemetry beds. There has been a concerted effort in the ED to

make sure that admissions to telemetry beds are medically necessary, rather than just a physician preference. And nursing leadership and case managers have been making rounds on the floor to downgrade telemetry patients as soon as possible. The hospital has opted to step up these efforts to see if they could be more effective before deciding whether to put any additional telemetry beds into service. The nursing leadership fears that if more telemetry beds were made available, physician demand for them would only increase.

3. **Most admissions from the ED occur during the evening and night shifts, not on the day shift.** Nearly one-half of all admissions from the ED during the first two weeks in May took place between 3-11pm. Nearly one-third took place between 11pm-7am. Only 22 percent took place on the day shift. Most discharges also take place late in the day, so patients are still in the beds needed by newly admitted patients boarding in the ED.



Although more admission and discharge activity takes place in the evening than on the day shift, the staffing patterns in Admitting, EVS, and on the floors are heavily weighted toward the day shift. In response, the nursing department is hiring an "admitting nurse" to work the 3-11pm shift Monday through Friday, and two additional nursing supervisors to work the evening shift. The other departments are reviewing their staffing patterns to address any mismatches that are contributing to delays.

4. **There is a lot of movement of patients once they get to the floors**. During the 3 days that transfers were tracked, there were between 8 and 15 inpatient transfers between rooms per day. This was mainly due to the need to isolate contact patients. On average, there are 40-45 contact patients in the hospital per day that require isolation. Between 20-25 percent of them are flagged on admission. Others need to be moved once they are identified. It's likely that the number of patients requiring isolation will increase, given the spread of MRSA and other infections, as well as the number of patients admitted from high-risk facilities.

The hospital is responding by establishing an isolation unit with around 45 beds. That should cut down significantly on the number of transfers. However, new guidelines are expected to more than triple the amount of time needed to clean these rooms, putting an additional burden on EVS.

5. **No one person currently has all of the necessary information, or the authority, to make a decision about assigning a bed when there are competing objectives**. These competing objectives include:

- Putting male patients in rooms with other male patients, and female patients with other female patients
- Matching patients with the right staff with the right skills and experience to care for them
- Reducing the number of boarders in the ED, because research shows that boarding in the ED reduces quality of care and increases overall length of stay
- Isolating high-risk patients, because the state is tracking and reporting hospital acquired infections, and insurers are unwilling to pay for them, not to mention the harm done to patients that get infected as a result of their hospital stay
- Responding to patient needs and preferences, because patient satisfaction scores are now being reported and will soon factor into reimbursement levels
- Responding to staff needs to isolate difficult patients on the floor, because staff satisfaction is key to quality patient care and to reducing turnover

Somebody needs to understand and be able to balance these competing objectives, and make judgment calls when necessary. At one time there was a bed czar that played that role, but that person left and the position was eliminated. The Admitting Department is identifying someone to take over that function.

Lessons Learned

There were several lessons that were learned or confirmed in the course of this project that might be useful to others:

- It's very important to do a reality check on what people assume is the problem by gathering some data up front. Otherwise, people will end up trying to solve the wrong problem, wasting a lot of time and resources. In this case, there were many different perspectives on what the problem was at the outset, none of which turned out to be decisive.

- ED overcrowding is not an ED problem. It is a hospital-wide problem. Therefore, the problem can't necessarily be solved by the ED or even in the ED.

- A systemic problem like patient flow, which cuts across departments, is unlikely to be solved by improving performance within individual departments. It is more likely to be solved by looking at the connections (or disconnections) among the departments. In this case, each department was taking steps to improve its own efficiency, and documenting that it wasn't at fault. But that wasn't having much impact on the number of boarders in the ED. It helps to have someone responsible for managing patient flow who can work across departments.

- There need to be reliable data on admission delays easily available to identify where the system is breaking down and to track progress in making improvements. Ad hoc special studies can provide a snapshot of what's happening, but ongoing measurement is needed to identify the trends and patterns that offer a more useful perspective on the system.