

**A Study to Improve
the Delivery of Services in an Upstate New York
Emergency Department**

March 2001

Prepared by the
Center for Human Services Research
University at Albany
State University of New York
School of Social Welfare

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Elizabeth Misener
Lynn Videka-Sherman
Rose Greene

Center for Human Services Research
University at Albany
State University of New York

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CHAPTER ONE

INTRODUCTION

BACKGROUND

In the Spring of 2000, an upstate New York hospital approached the Center for Human Services Research to conduct a study of its Emergency Department (ED). The hospital was seeking information that would lead to improved effectiveness and efficiency in the delivery of services for the ED. The study was designed to assist the hospital's management in making informed decisions that would result in improved patient satisfaction, increased volume in ED admissions, and increased cost efficiency.

The study focused on the efficiency of ED procedures, internal flow, and waiting times. This included analyzing patients who left the ED without being seen by a physician. The study also examined personal interactions between hospital staff and patients and structural interactions among departments that work with the ED.

The study was designed to address the following research questions:

1. What factors contribute to ED bottlenecks?
2. What factors contribute to patients leaving the ED before completing the visit?
3. How can ED operations be streamlined to serve patients most efficiently?

METHODS

The study consisted of the following methods:

- **Literature Review:** The research team reviewed other ED studies and data provided by the hospital. This included a previous study that provided exploratory data for this study.
- **Interviews:** The research team interviewed various levels of hospital staff from key departments that interface with the ED. This included physicians, nursing staff, admissions staff, radiology and laboratory staff, and hospital administrators. The interviews were designed to gather information from a broad range of perspectives, as well as to obtain the buy-in of various stakeholders for the data collection phase of the study.

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- **Patient Shadowing:** The major portion of the study consisted of accompanying patients in the ED to examine patient flow within the ED and between the ED and other departments. During the shadowing researchers completed data collection instruments that recorded the times of activities and services that the patient was involved in during their visit. The instrument was reviewed by hospital staff, piloted, and revised to create the final form. (A copy of the instrument can be found in Appendix A)
 - **Observations:** In addition to collecting times of ED procedures, the data collectors made observations of ED processed and of staff and patient interactions.

SAMPLE

The research team drew a sample of 96 patients who visited the ED between July 28, 2000 and September 1, 2000. Researchers were assigned to specified days and shifts during the data collection period. While we attempted to cover a range of days and shifts, researchers were unavailable to collect data during the midnight to 8 AM shift. In addition, there were fewer patients shadowed on weekends.

Shadowing patients is a time consuming and resource intensive methodology. Wait time in the ED added to unproductive data collection periods. To overcome this we changed our data collection strategy mid-course and teamed two researchers to follow multiple patients. This resulted in less idle time and is recommended for future studies.

To be included in the study prospective patients were screened by the triage nurse (walk-in patients) or the resource nurse (ambulance patients) for competence and for absence of any serious condition. For example, patients in full cardiac arrest were screened out of the study. Once identified as eligible, the researchers informed patients about the study and obtained their consent to participate. When a patient indicated agreement to participate, the visit was observed from a distance. From 101 patients that were approached, 96 (95%) of the patients agreed to participate in the study.

Some of the more important descriptive information is summarized below and presented in Table 1.¹

- **Shift:** More than half of the sample (57%) was gathered from the 8 AM – 4 PM shift and the remaining 43% from the 4 PM - midnight shift.
- **Mode of Arrival:** Over two-thirds (69%) of the sample were walk-in patients and 16% arrived by ambulance.
- **Age:** The majority of the patients (85%) were over the age of 18; 15% were pediatric patients (under 18 years).

¹ It is important to note that the descriptive data on the sample may not be reflective of the usual ED patient pool or typical patient flow within the ED, but rather the availability of data collectors to conduct shadowing.

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- **Discharge Orders:** Over three-quarters of the sample (83%) were discharged home and 17% were admitted to the hospital. Two left the ED before being seen by a physician.
 - **Tests:** Sixty-five percent of the patients had at least one laboratory or medical imaging (MI) test performed and 35% patients had no tests. Specifically, 49% had laboratory tests and 48% had MI tests.
 - **Day of the Week:** The majority of the sample was collected on Mondays, Tuesdays, and Thursdays. Fewer patients were observed on Sundays, Wednesdays, Fridays, and Saturdays, due to shift coverage. However, the length of stay did not vary much by day of week.

KEY VARIABLES AND INSTRUMENTATION

The major source of data was collected by shadowing patients and completing a data collection instrument that recorded the times of activities and services that occurred during the patient's visit. The instrument collected data on the mode of arrival (walk-in vs. ambulance), time of arrival (day and shift), age of patient (pediatrics vs. adult) and key times throughout the visit as the patient progressed through the ED: admissions (first contact, registration, and triage), time into examination room, contact with physician, and discharge (home vs. hospital). Data on the laboratory and test times were also gathered. However, as discussed in Chapter 2, this data is not reported due to problems in data collection. A brief patient satisfaction survey was completed at the end of the visit. A sample of the instrument is in Appendix A.

TABLE 1
DESCRIPTION OF SAMPLE

	Frequency (N=96)	Percent (%)
Shift		
8 AM- 4 PM	55	57
4 PM- Midnight	41	43
Mode of Arrival		
Walk-In	67	69
Ambulance	15	16
Pediatric	14	15
Discharge Orders		
Home	80	83
Hospital	16	17
Tests		
Total Test	62	65
Lab Tests	47	49
MI	46	48
Day of the Week		
Sunday	1	1
Monday	23	24
Tuesday	20	21
Wednesday	15	16
Thursday	30	31
Friday	3	3
Saturday	4	4

CHAPTER TWO

FINDINGS

OVERVIEW

This chapter analyzes the time period of the patient's visit to the ED in four phases: (1) length of stay from admission through discharge, (2) the admission process, (3) waiting time to be seen by a physician, (4) physician time, and (5) discharge. We also analyzed two cases when patients left the ED before a physician saw them.

This chapter reports overall trends, percentages, and observational data. When possible, we compared the hospital's average (mean) times to national averages. The national averages are based on actual performance of a large number of EDs. It is recommended by the Clinical Initiatives Center that a majority of an ED's patients should meet the national average. We also compared the hospital's average (mean) times to the hospital's goal times, when established. We conclude this chapter by analyzing the hospital's data to national worthy goals as established by the Clinical Imitative Center. The national worthy goals are best practice goals determined by data from over a 1,000 EDs throughout the country.

LENGTH OF STAY: ADMISSION TO DISCHARGE

The first analysis was to examine the entire length of stay for the patient, from first contact until the patient left the ED. This was compared with national averages. First contact was defined as the time the patient had an initial interaction with ED personnel, usually the triage nurse or registration nurse. Figure 1 shows that 36% of the sample was in the ED for less than 2 hours and 27 minutes, the national average. The majority of patients (64%) were over the national average time. The average time spent by patients in the hospital's ED was 2 hours and 59 minutes, 32 minutes over the national average time.

When we examined the data more closely, we found that patients who were admitted to the hospital had disproportionately longer lengths of stay in the ED than those who were discharged home (See Figure 2). This would be expected because those who are admitted would have more serious conditions that require more time and care.

FIGURE 1
TOTAL TIME FROM ADMISSION TO DISCHARGE

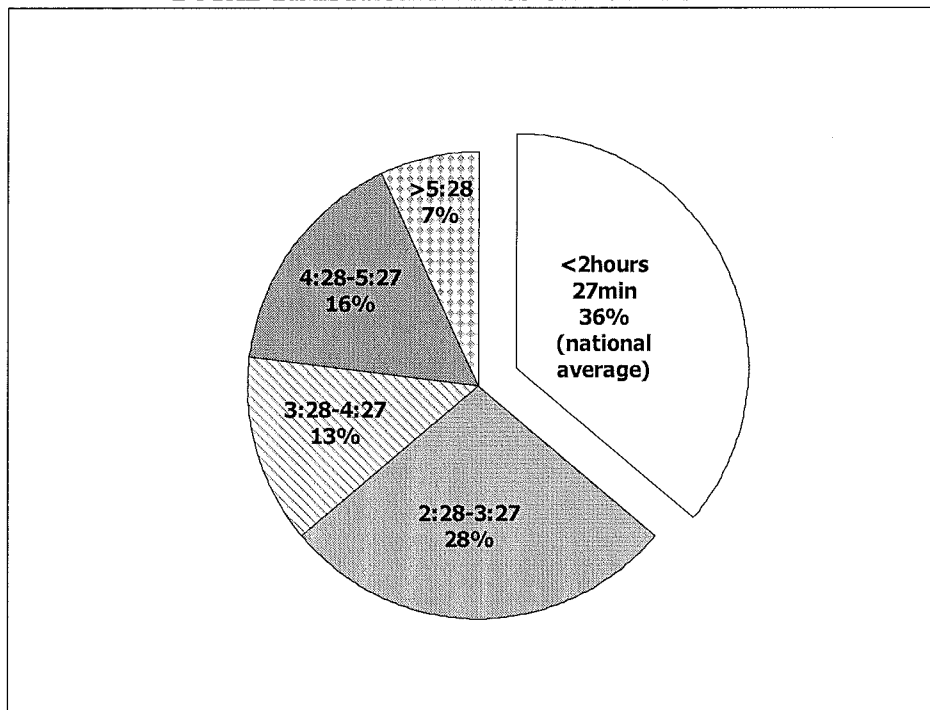
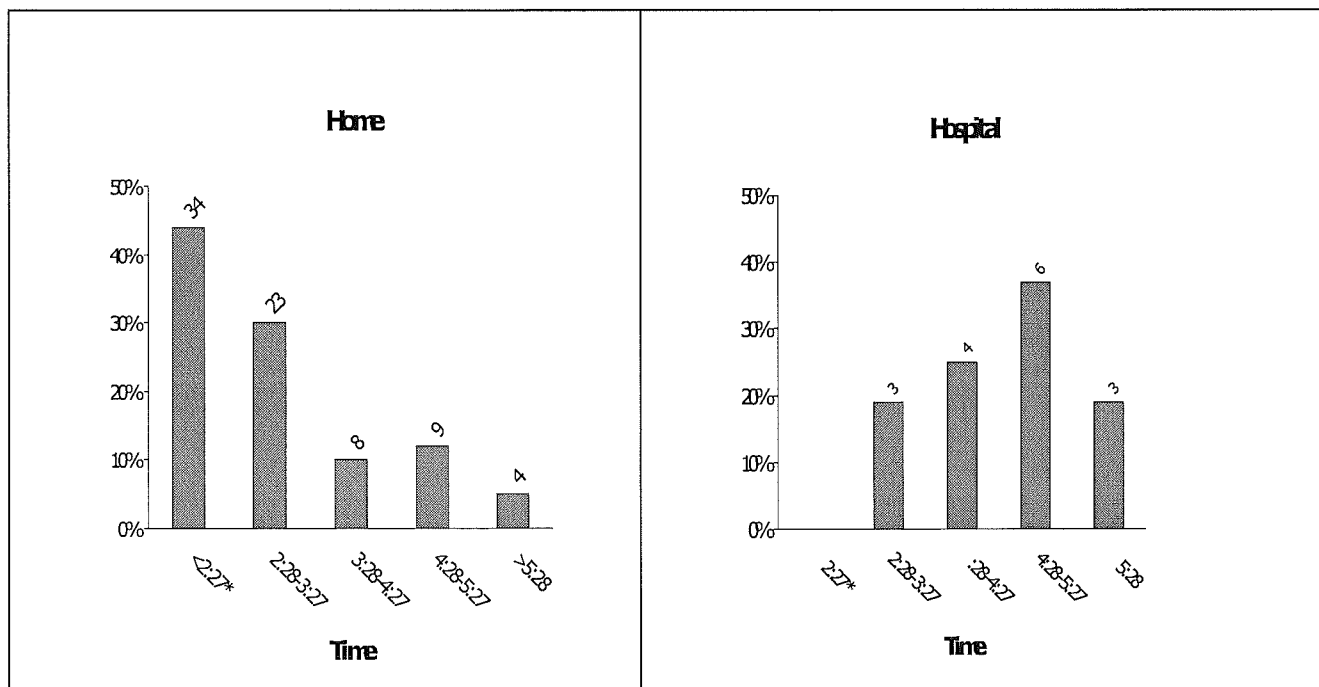


FIGURE 2
TOTAL TIME FROM ADMISSION TO DISCHARGE
BASED ON DISCHARGE ORDERS
National average times based on discharge were not available



ADMISSION PROCESS: DATA FINDING

The Clinical Initiatives Center notes that there are three primary bottleneck areas in the admission process: triage, registration, and emergency physician. A goal of this study was to explore if the hospital's ED had similar bottleneck areas.

The admission process was measured as the time between first contact to the time the patient was taken to an exam room. As displayed in Figure 3, the majority of patients (58%) completed the admissions process in less than 30 minutes, the designated hospital's goal. The hospital's goal is near the national average of 27 minutes. However, a sizeable proportion (42%) fell above the goal and 18% took over an hour to complete the admissions process.

To develop a clearer picture of the time spent in the admission process, we analyzed data from three phases: (1) first contact to registration, (2) registration to triage, and (3) time in triage. Overall, most of the time spent in the admission process was in the second phase – between registration and triage. As displayed in Figure 4, the vast majority of patients (76%) waited less than ten minutes between first contact and registration. However, only about half the patients waited less than ten minutes between registration and triage and 20% waited more than 21 minutes (see Figure 5). The time spent in triage was less than 15 minutes for 93% of the patients, the hospital's established goal (see Figure 6).

FIGURE 3
ADMISSION PROCESS: FIRST CONTACT TO EXAM ROOM

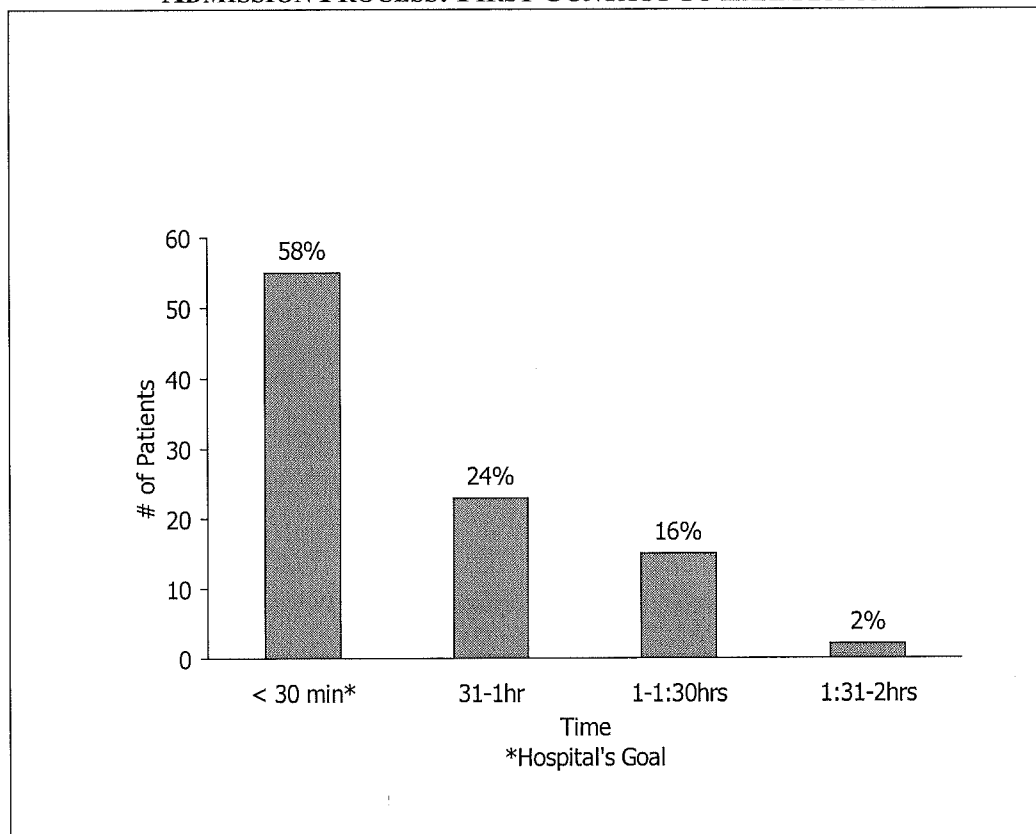


FIGURE 4
FIRST CONTACT TO REGISTRATION

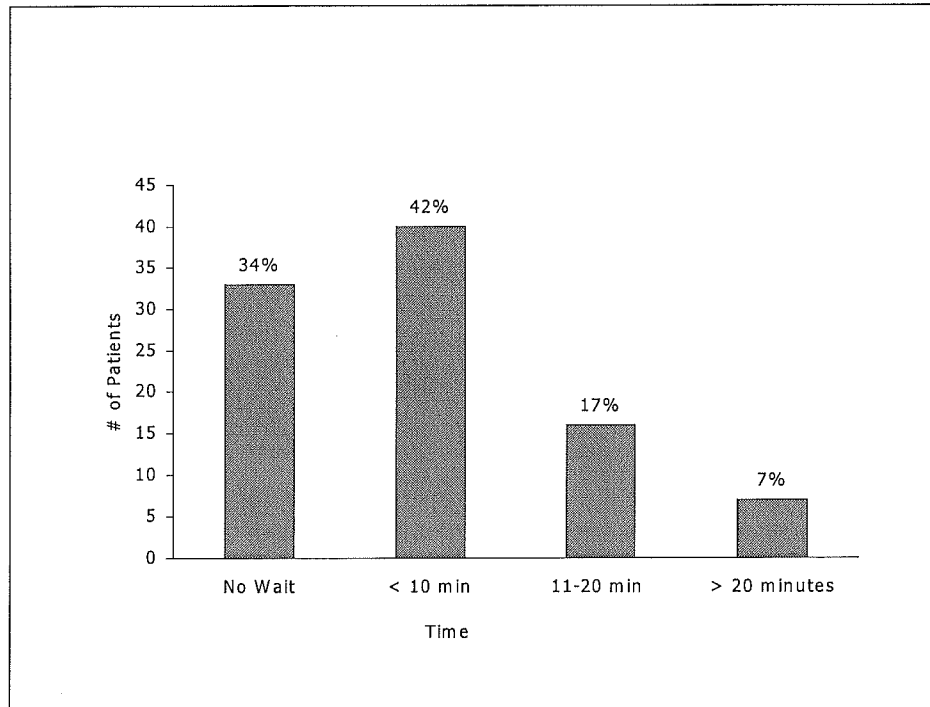


FIGURE 5
REGISTRATION TO TRIAGE

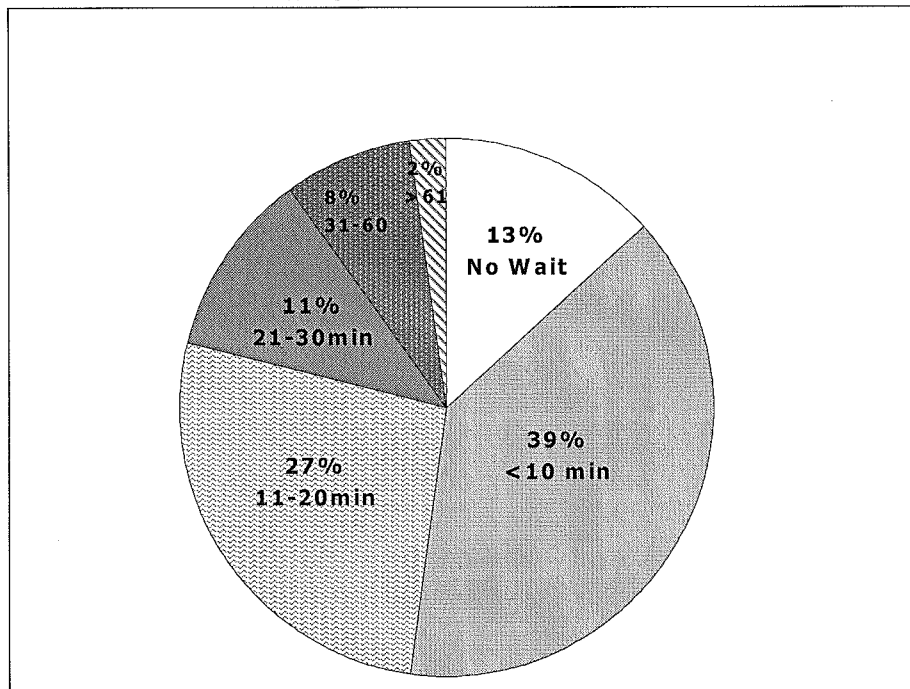
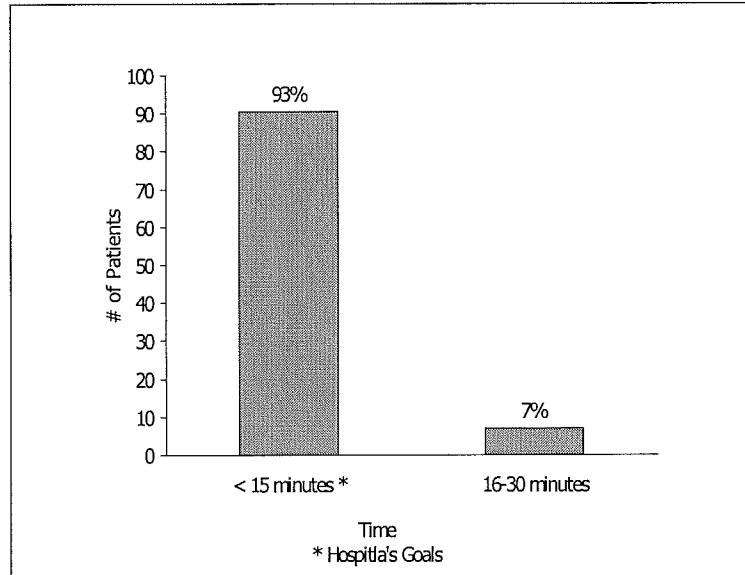


FIGURE 6
TIME IN TRIAGE



ADMISSIONS PROCESS: OBSERVATIONS

To fully understand the admissions component of the ED visit requires a closer examination of the steps involved in the admission process. Figure 7 details three models of admission flow: the national model, the hospital's planned model, and the hospital's observed model. These findings suggest that even though total wait time in the admissions process at the hospital was not excessive in many cases, the process was quite inefficient requiring patients to move back and forth among a number of locations before they ever got to the examination room.

The national model recommends a very simplified process: first the patient goes to the triage area for a preliminary screening and is then brought into an examination room for a bedside registration and full assessment. This model does not include a waiting area.

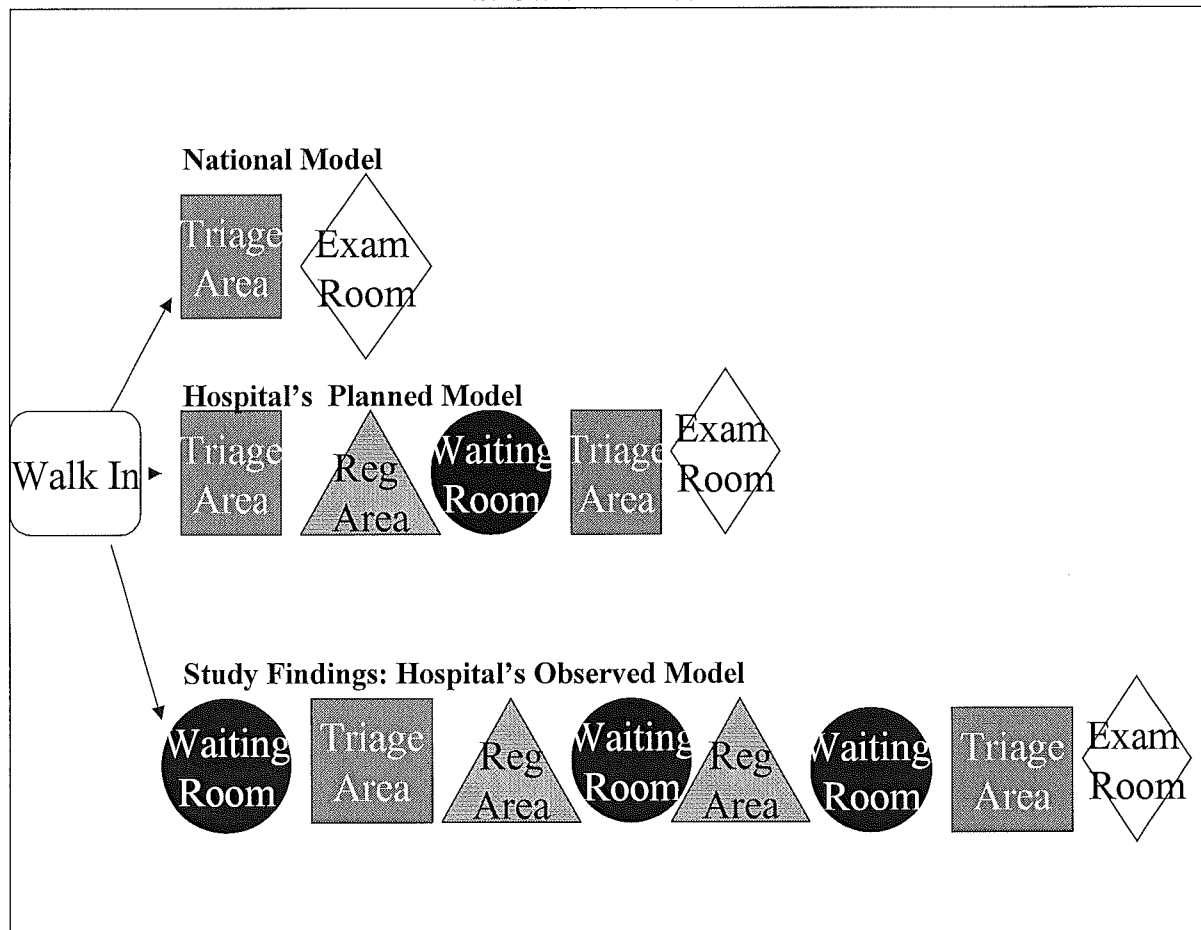
The hospital's model is similar to the national model, but the patient is required to go to the triage area twice – for the preliminary screening and then the full assessment. Unlike the national model, the hospital's model also includes waiting room time between registration and the secondary (full assessment) triage.

The study found a more complicated procedure in practice. Although the sequence of steps and waiting times varied among the patients, they were essentially required to move between a series of locations before they ever became “eligible” to enter the examination room and be seen by a physician.

Patients were often confused about where to go when they entered the ED. While the procedure should begin in triage, it was sometimes unclear if the patient should approach the triage nurse when the blind covering the window was partially drawn. In addition, the triage

station was unattended at times because the nurse was performing other tasks. Once patients figured out where to go (because either another patient told them or by asking ED personnel), they received a preliminary screening by the triage nurse. Then the patient was sent to the registration desk. This could also be delayed. Often the registration person was busy and the patient was sent back to the waiting area. After the patient was registered, they returned to the waiting room until the triage nurse saw them, a second time, for a full assessment. Finally, the patient was taken to the examination room, where additional information was gathered and then they waited to be seen by the physician.

FIGURE 7
FLOW OF ADMISSION



WAITING TO BE SEEN BY PHYSICIANS

The Clinical Initiatives Center notes that an important factor for patient satisfaction is the amount of time it takes a patient to be seen by a physician. The overall length of stay has less of an impact on patient satisfaction than the time they have to wait to see a physician. Figure 8 displays the time from first contact until a physician saw the patients. The national average time

was 47 minutes. About half of the patients waited less than an hour to be seen by a physician. Just over a quarter had to wait over an hour and a half.

Waiting time was less for ambulance cases versus walk-ins. About 41% of ambulance patients waited less than 30 minutes while only 15% of walk-ins waited less than 30 minutes. Two patients that arrived by ambulance waited over one hour to be seen by a physician (see Figure 9).

Figure 10 shows the time patients had to wait to be seen by a physician once the patient was in an exam room. The national average time is less than 20 minutes. The hospital's average was 30 minutes. In this study, 34% of the patients waited less than twenty minutes to be seen by the physician once they were in an exam room. A quarter of the sample waited over an hour to be seen by the physician once they were in an exam room.

One concern that patients raised in the patient satisfaction survey was that they could not understand why after waiting so long to be seen by the physician to have tests ordered, they then had to wait for a seemingly long time to see the physician again to be discharged.

Patients spent a great deal of time alone in the exam room. For example, we observed patients who waited over 30 minutes with no one checking the room. In one extreme case, a patient waited 1½ hours with no one going into room. In addition, many times the patients had to initiate contact with ED staff to find out the status of their test results.

PHYSICIAN TIME

The time physicians spent with patients ranged from one minute to 29 minutes. Physicians spent under 10 minutes with over three-quarters of the sample.

Compared to time spent with patients, physicians spent a great deal of time on indirect patient care (i.e. tracking down test results, documenting orders, and making phone calls). Researchers collected data on the time it took for physicians to make contact with a consultant. Consultants were called for 18 patients. On average, it took 8 minutes for the consultant to return the physician's call. For three-quarters of the patients, the consultant returned the call from the physician in less than 13 minutes.

Physicians called consultants for 56% of the patients admitted to the hospital and 11% of the patients discharged home. The average length of time it took the consultants to return calls for patients who were admitted to the hospital was 15 minutes; for those discharged home it was 11 minutes. (The consultant called back in less than 25 minutes for three-quarters of the patients discharged home.)

FIGURE 8
FIRST CONTACT TO PHYSICIAN

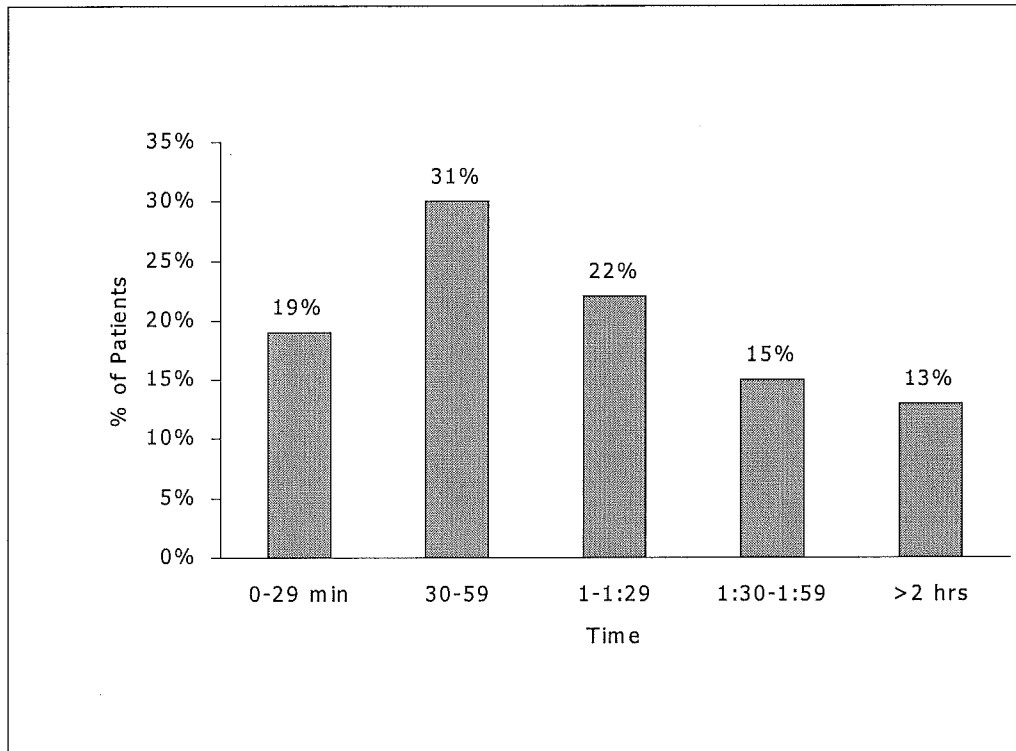


FIGURE 9
FIRST CONTACT TO PHYSICIAN: MODE OF ARRIVAL

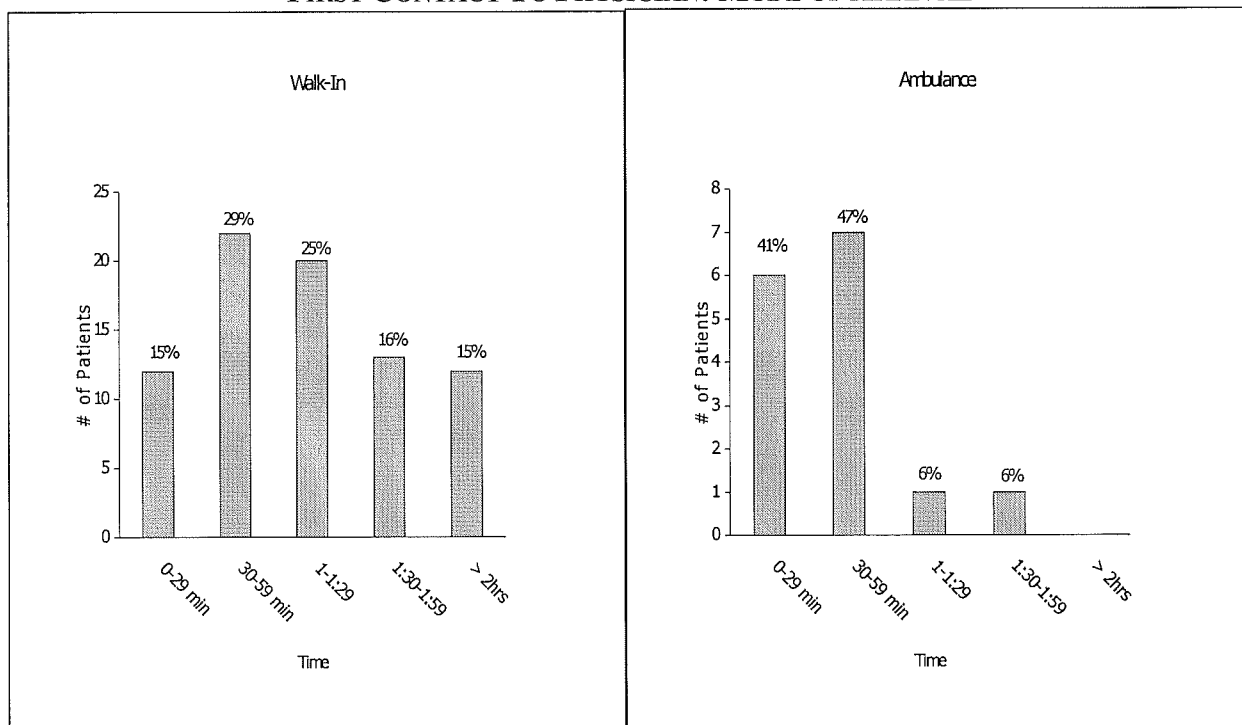
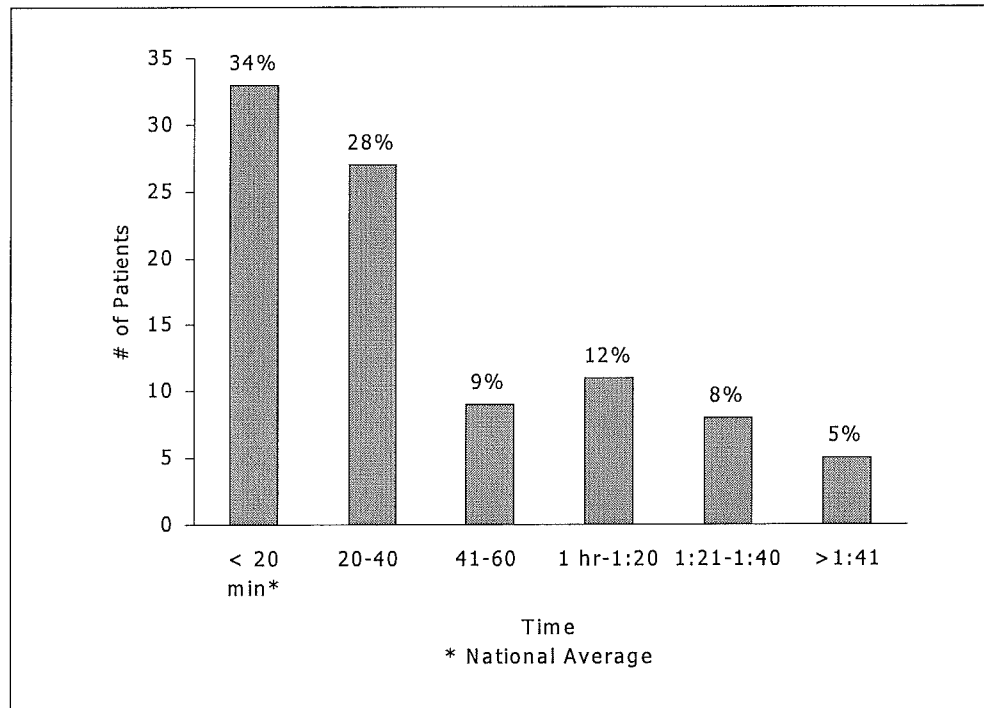


FIGURE 10
TIME IN EXAM ROOM UNTIL SEEN BY PHYSICIAN



We observed that there were interface problems when patients' own physician returned the calls of the ED physicians. The ED physicians were typically with other patients and could not take the calls. Consequently, the physicians had to make time to return the calls, at which point the other physician was not available for consultant. This usually resulted in repeated contact efforts and delays in accessing the consultant.

LABORATORY AND MEDICAL IMAGING

The data on cycle times for labs and tests are not reliable and are therefore not included in this report. These flaws centered on collecting accurate times when multiple tests were done. However, researchers observed that test order procedures were not followed consistently. The established protocol called for physicians to place the orders for labs and tests in a specified bin. Instead, physicians typically gave a verbally order and the patients clipboard to the secretary. This seemed to be more efficient.

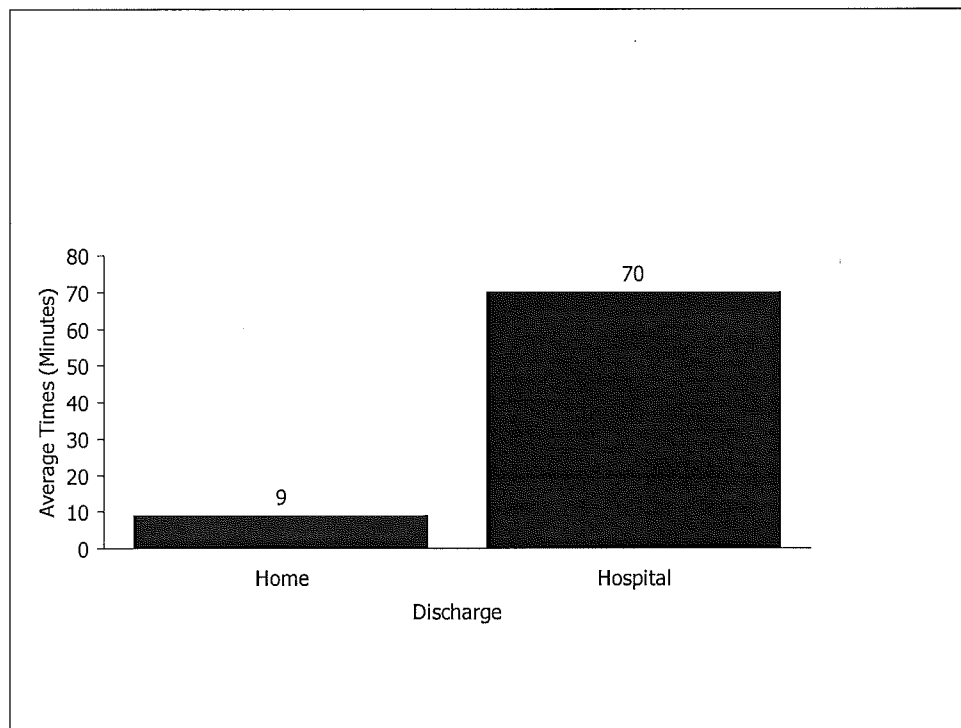
DISCHARGE

We measured the discharge time as the time from when the physician wrote the discharge orders to the time the patient was discharged from the ED. The majority of the patients (83%) were discharged to home. This was similar to the national data that reports approximately 84% of the patients that visit the ED are discharged home. The average time between discharge orders

and leaving the hospital, for patients being discharged home, was nine minutes. However, the average discharge time was much longer for patients being admitted to the hospital, one hour and ten minutes (see Figure 11). The national worthy goal for bed placement, which is the time between initial bed request until the patient leaves the ED, is 45 minutes: 56% of the sample was over the worthy goal. However, most EDs have a difficulty meeting this goal. Only 12% of the sample was over the national average time of 138 minutes.

We observed that in a few cases the long wait was because the discharged patient was waiting for a bed in the hospital. On other occasions there was a bed for the patient, but no one to transport the patient to the floor. This area requires further examination to explore if the delay can be attributed to the ED or interactions with the hospital.

FIGURE 11
AVERAGE DISCHARGE TIMES FOR HOME AND HOSPITAL



PATIENTS WHO LEFT WITHOUT BEING SEEN BY A PHYSICIAN

Of the 96 patients observed, two left the ED before being seen by a physician. This represented only 2% of the total sample. Both cases were walk-ins. We examined these cases closely to provide some insight into these circumstances.

The first case was a pediatric patient. The breakdown of wait times was as follows:

- First contact to registration: 13 minutes

-
- Registration to triage: 5 minutes
 - Time in triage: 9 minutes
 - Triage to exam room: immediate
 - Wait to be seen by physician in examine room to leaving ED: 39 minutes

The patient left a little over an hour from first contact. The parent said that she had to be at work at a certain time, so she would take her son to another ED.

The ED experience for the second walk-in patient was as follows:

- First contact to registration: 7 minutes
- Registration to triage: one hour (The researcher noted that there was no triage nurse in the room from 4:30 PM to 5:03 PM and again from 5:15 PM to 5:45 PM.)
- Time in triage: 4 minutes
- Wait room to leaving: 2 hours and 6 minutes

The patient left before going into an exam room, after waiting for a total of over 3 hours.

SUMMARY

The study found areas where the hospital's ED excelled. The data collectors noted that the ED operated especially well with high stress trauma cases. The waiting times for the most serious cases were minimal. When time allowed, the triage nurse was very attentive to the patients in the waiting room. Many patients commented that the ED was very clean. About 90% of the patients who took the satisfaction survey said they would return to the hospital for emergency care.

The data are summarized below in Table 2. The hospital's average times are compared to national average times and national worthy goals. The data suggest that the hospital's average times are above the national average times and national worthy goals, except in one area, bed registration to discharge. The hospital's average times were fairly close to the national average time in the overall admission process. On the other hand, first contact to physician showed a great discrepancy between The hospital's average and the national average. Similarly, 91% of the patients in this study were above the national worthy goal time. Another area of concern is the length of stay for patients admitted to the hospital-- 94% of the sample was over the 150 minutes established as the national worthy goal.

TABLE 2
ED TIMES: SELECTED DATA

	National Average	The Hospital's Means	National Worthy Goal	% Over National Worthy Goal
Total Length of Stay: Admission to Discharge	147 minutes	179 minutes	115 minutes	75%
Length of Stay: Hospital Admission	*	267 minutes	150 minutes	94%
Length of Stay: Discharged Home	*	162 minutes	100 minutes	77%
Admission Process: First Contact to Exam Room	27 minutes	30 minutes	5 minutes	79%
Exam Room to Physician	20 minutes	30 minutes	15 minutes	67%
First Contact to Physician	47 minutes	60 minutes	20 minutes	91%
Bed Request to Discharge	138 minutes	70 minutes ²	45 minutes	56%

* No national average time data available.

² This may be measured differently than the national average. We measured this period as the time between discharge orders written until the patient was discharged from the ED.

CHAPTER THREE

CONCLUSIONS & RECOMMENDATIONS

This study produced a seemingly representative description of the typical experiences and flow of patients through the hospital's ED. Several conclusions can be reached from the study findings.

CONCLUSIONS

Overall Patient Flow and Time Management

The study findings indicated that the hospital's ED operates at a slower pace than the national ED averages and substantially slower than the national goal as set by the Clinical Initiatives Center. Substantial proportions of patients seen at the hospital's ED spend more time in the registration and admission process, and waiting to be seen by a physician than national samples of EDs. The hospital's average times exceeded national averages on overall length of ED visit, average time of first contact, and time waiting to be seen by a physician.

A reason for the lengthier visits may be that the observed flow of patients in the hospital's ED includes more steps and more step repetition than either the national model or than the hospital's designated model. It is noted that while the procedures are in place for patient flow through the ED, no regular feedback information system exists to inform staff of the waiting status of particular patients. The lack of such a feedback system could contribute to the time the patients wait, because no one is responsible for regularly monitoring the overall waiting status of the patient.

Patient Contact

Contact with patients was irregular, especially upon entry to the ED and when patients were waiting to be seen by a physician. The ED triage area was unattended at times. This led to confusion for some patients regarding where to go upon arrival at the ED. The study found that some patients waited for long periods without human contact or information about the progress of their case.

Staff Attitudes and Demeanor

The researchers noted that staff were friendly and caring towards patients when they were in contact with them. Divided attention to multiple tasks sometimes took staff away from their stations or required extra effort to get information (regarding consults or lab results), adding to the overall time that patients had to wait.

Overall Patient Satisfaction

Despite the longer than national average stays in the ED, patients stated that they would return to the hospital's ED in the future. Patients commented on the clean environment and the attentiveness of the staff when they were in contact with the patient. The researchers noted that the entire ED staff was responsive to the most seriously ill or trauma patients.

RECOMMENDATIONS

The study suggests three major areas that should be addressed: the admissions process, waiting time to see physicians and communications with patients. Each area will be discussed in turn.

Admissions Process

As pointed out in the previous chapter, the admissions process at the hospital tended to have duplicated steps, decreasing efficiency of the overall ED experience. Patients were required to move back and forth among a number of locations before they ever got to the examination room. One option to reduce the overall time spent in the typical visit to the hospital's ED would be to conduct registration and the full assessment in the examination room. Clinical Initiatives Center points to the advantages of bedside registration:

- When patients are required to register early in the stay, it sends an unfavorable message to patients – that staff is more concerned with paperwork than in delivering care. Conducting registration and full assessment in the exam room would enhance patient satisfaction.
- The cost of the practice is minimal.
- Bedside registration has been found to increase overall ED patient throughput and reduce the number of patients who leave without being seen.

However, to recoup the benefits of bedside registration, the Clinical Initiatives Center points out that the ED must have available beds.

Another change in the admission process that the hospital might consider is to have a person greet the newly arrived patient, directing them and answering any questions the patient or family members have in the waiting room. We observed that there was very little contact between ED staff and the patients in the waiting room. This resulted in confusion among patients regarding who to speak to and where to go. A designated greeter would provide timely information and direction to the patient as well as inform them about what to expect to the ED.

Wait To Be Seen By Physician And Physician Time

Patients, especially walk-ins, waited long periods before a physician saw them. The problem did not appear to be that physicians were spending a lot of time with patients (average time spent with patient initially was 7 minutes), but that physicians spent a great deal of time on indirect patient care (i.e. tracking down test results, documenting phone calls).

The hospital's ED should carefully assess the costs and benefits of enhancing the timeliness of physician availability to patients. The following recommendations should be considered:

- More specific information should be gathered about reasons for physician unavailability. The data collected in this study indicate that physicians are efficient in the time spent with patients, but that they spend much of their time tracking down information and making contacts on behalf of the patient. The ED staff should assess whether there are other factors that affect physician availability to patients.
- Is it feasible to reconfigure support staff so that someone other than the physician is making telephone contacts and collecting laboratory and other information so that it is readily available for physician review?
- It is noted that the hospital has not established a goal for the amount of time that patients should be expected to wait for the physician. A realistic goal should be identified and used to improve efficiency in this area.

Other recommendations of Clinical Initiatives Center include:

- Have a dedicated communication nurse. Some hospitals assign dedicated emergency care-certified nurses to handle the majority of telephone communications. This person serves as a point person for the physician.
- Have a person to monitor and deliver relevant patient information immediately to physician.
- Have the Resource Nurse be aware of the length of stay of the patient and keep physician informed.

OTHER RECOMMENDATIONS

Communication

More consistent and timely staff-patient communication would ensure that patients did not feel lost or forgotten. More regular communication would also provide more timely information to staff about waiting status of patients. The ED manager should establish

procedures for contact with patient every 30 minutes. As previously noted, we observed that patients went for periods without being checked on. This can leave a patient feeling disconnected from their care.

Nurses should be assigned to specific rooms. These nurses would be responsible for communicating to patients in their rooms. No one took responsibility for updating the patients. The way the rooms were divided into two teams of nurses was very efficient because it provided quick access for the physicians to the right nurse if they had orders or any questions about a patient. The team structure should be retained. However, usually within those teams no nurse acquired primary responsibility for a particular patient. Such patient assignments could enhance the efficiency of the teams.

Reevaluating Goals

Based on the study findings, it is recommended that the hospital's ED review and revise its performance goals to meet realistic performance expectation. It will probably be helpful to focus efforts on sub steps in the ED process rather than overall length of stay. This study points to admissions process, waiting times to physician contact, and collating, tracking and assembling patient information (including lab and consult results) as specific steps whose efficiency could be improved.

CONCLUSION

Patients visiting the hospital's ED expressed satisfaction in the physical environment and with their interactions with staff. This study suggests that overall efficiency of the ED could be improved through reduction of duplicative procedures in the admission process, more consistent tracking of the status of individuals, and more careful adherence to procedures for transmitting and assembling information from labs and consults in the patient records.

INSTRUMENT

Ped
Reg
Amb

ED DATA COLLECTION INSTRUMENT

- Q1. ID of the patient: _____
- Q2. Medical Record Number: _____
- Q3. Date of Intake: ____ / ____ / ____
- Q4. Day of Week: 1 (Sun) 2 (Mon) 3 (Tue) 4 (Wed) 5 (Thur) 6 (Fri) 7 (Sat)
- Q5. Shift:
1 (8 am to 4 pm)
2 (4 pm to 12:00 pm)
- Q6. Status of Entry:
1 (Emergency)
2 (Urgent)
- Q7. Mode of Arrival
1 (Walk-in)
2 (Ambulance)
- Q8. Time of First Contact: ____ : ____ AM / PM
- Q9. Time of Registration: ____ : ____ AM / PM
- Q10. Time into Triage: ____ : ____ AM / PM
- Q11. Time out of Triage: ____ : ____ AM / PM
- Q12. Where did the Patient go?
1 (Waiting Room)
2 (Exam Room)
3 (X-Ray)
- Q13. Time into Exam Room: ____ : ____ AM / PM
- Q14. Time ER Physician sees the Patient: ____ : ____ AM / PM

Q15. Time Physician Exam Completed: ____:____ AM / PM

Q16. Is Lab Ordered?

0 (No)

1 (Yes)

8 (Patient Left)

Q17. Type of Lab Ordered:

1 (BMP)

2 (CMP)

3 (CARDIAC ENZYME)

4 (HEMAT)

5 (COAG)

6 (URINE)

7 (Other) Write in: _____

**If Lab is not ordered (Q16=0), skip to Q 22.
If the patient left (Q16=8), skip to Q43
Otherwise, please continue.**

Q18. Time Lab Ordered by Dr./Nurse: ____:____ AM or PM

Q19. Time in to Drawn Blood: ____:____ AM or PM

Q20. Time Blood Sent in Message Tube: ____:____ AM or PM

Q21. Time Lab Results Printed Out: ____:____ AM or PM

Q22. Is a Medical Imaging Study (MIS) Ordered?

0 (No)

1 (Yes)

8 (Patient Left)

**If X-Ray is not ordered (Q22=0), skip to Q 29.
If the patient left (Q22=8), skip to Q 42.
Otherwise, please continue.**

Q23. Time MIS Ordered by Dr/Nurse.: ____:____ AM or PM

Q24. Time Patient Sent to Medical Imaging (MI): ____:____ AM or PM

Q25. Time MI Taken: ____ : ____ AM or PM

Q26. Time Dr. Takes MI out of in-box: ____ : ____ AM or PM

Q27. Time Patient Return to ED: ____ : ____ AM or PM

Q28. Type of MI Ordered:

1 (Plain Film Single View)

2 (CT)

3 (US)

4 (NM)

5 (Vascular Study)

6 (Other) Write in: _____

Q29. Respiratory Therapist Paged:

0 (No)

1 (Yes)

8 (Patient Left)

**If RT is not paged (Q29=0), skip to Q 33.
If the patient left (Q29=8), skip to Q 43.
Otherwise, please continue.**

Q30. Ask RT if Clear Page:

0 (No)

1 (Yes)

If 'No', What problem? _____

Q31. Time RT paged: ____ : ____ AM or PM

Q32. Time RT in ED: ____ : ____ AM or PM

Q33. Respiratory Functions Ordered:

0 (Not ordered)

1 (Nebs)

2 (Gases)

3 (Other) Write in: _____

8 (Patient Left)

**If Respiratory Functions are not ordered (Q33=0), skip to Q 35.
If the patient left (Q33=8), skip to Q 43.
Otherwise, please continue.**

Q34. Type of Other Diagnostic Testing Ordered:

1 (EKG)

2 (Vascular Study)

3 (Other): Write in: _____

Q35. Is Attending/Consultant Called?

0 (No)

1 (Yes)

8 (Patient Left)

If Consultant not called (Q35=0), skip to Q 39.

If the patient left (Q35=8), skip to Q 43.

Otherwise, please continue.

Q36. Type of Attending/Consultant Called:

1 (Attending)

2 (Resident)

3 (Consultant/Specialist)

4 (Other) Write in: _____

Q37. Time Consultant Called: _____:_____ AM or PM

Q38. Time Consultant Called Back: _____:_____ AM or PM

Q39. Time Discharge Order Written by Dr.: _____:_____ AM or PM

Q40. Time Patient Discharged: _____:_____ AM or PM

Q41. Discharge Orders:

1 (Home)

2 (Home via Ambulance)

3 (Admission to Other Departments) Please specify: _____

4 (Other): Write in: _____

Q42. Time Patient Left ED: _____:_____ AM or PM

Q43. When did Patient Leave ER before Process Completed:

1 (Before Triage)

2 (After being placed in ER Room)

3 (Before seeing Doctor)

4 (After seeing Doctor)

5 (Before Test run)

6 (Other) Write in: _____

Q44. Reason why Patient left ER:

-
- 1 (Too slow)
 - 2 (Have to go to appointment)
 - 3 (Feeling Better)
 - 4 (No reason given)
 - 5 (Other) Write in: _____
 - 6

Q45. Name of ER Physician:

- 0 (Patient Left before seeing Doctor)
- 1
- 12 (Other) Write in: _____

SHADOWER OBSEVRATION

Q1. Did ER Physician complete patient chart in patient's room?

- 0 (No)
- 1 (Yes)

Q2. Did nurses or Physician have any problems finding supplies in ER room?

- 0 (No)
- 1 (Yes)

Q3. Comments & Observations:

PATIENT SATISFACTION SURVEY

Q1. How would you rate the quality of services you have received?

- 1 (excellent)
- 2 (very good)
- 3 (good)
- 4 (fair)
- 5 (poor)

Q2. Overall, did you feel the care was delivered in a timely manner?

- 0 (No)
- 1 (Yes)

Q3. Did you get the kind of service you expected?

- 1 (yes, definitely)
- 2 (yes, generally)
- 3 (no, not really)
- 4 (no, definitely not)

Q4. Please rate the overall service of the nurses.

- 1 (excellent)
- 2 (very good)
- 3 (good)
- 4 (fair)
- 5 (poor)

Q5. Please rate the overall services of the ER Physician.

- 1 (excellent)
- 2 (very good)
- 3 (good)
- 4 (fair)
- 5 (poor)

Q6. What was the worst part of your visit?

Q7. What was the best part of your visit?

Q8. If you had to come back to an ER, would you come back to this one?

- 1 (yes, definitely)
- 2 (yes, generally)
- 3 (no, not really)
- 4 (no, definitely not)