SYSTEMS ANALYSIS:
PEDiatric WALK-IN CLINIC

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TABLE OF CONTENTS

A. EXECUTIVE SUMMARY 1

B. INTRODUCTION 3

C. CURRENT SITUATION 3

D. METHODOLOGY 3

E. FINDINGS AND CONCLUSIONS 4

F. ALTERNATIVE SOLUTIONS 10

G. RECOMMENDATIONS 11

H. ACTION PLAN 16

I. APPENDICES
   APPENDIX A: FLOWCHARTS
   APPENDIX B: DATA COLLECTION SHEET
   APPENDIX C: DATA ANALYSIS SUMMARY
   APPENDIX D: MOCK ENCOUNTER FORM
EXECUTIVE SUMMARY

At the request of Adele Rittmueller, Manager of Clinic Operations in the Department of Pediatrics, a project was conducted to improve the current service level within the Pediatric Walk-In (PWI) Clinic. The project was conducted with a twofold purpose in mind. First, to determine patient waiting times and the critical variables that affect these waits. Second, to evaluate and streamline the clerical duties within the clinic.

In the execution of the project, patient flow was observed and data was collected for a total of 54 hours. A sample of 104 patients was obtained. A statistical analysis was performed on these data. Clerical activities were also documented through extensive interviewing.

The data analysis shows that the largest amount of the patient visit is spent with the physician, either in direct contact or waiting for the physician while in their care. The first variable tested was the billing status of the patient, emergent or non-emergent. It was found that the larger wait times occurred with the emergent patients. The next variable that was analyzed was the patient's registration status. It was concluded that the new patient took, on the average, 10 minutes longer than a Return patient with no update and 7 minutes longer than a Return patient that needed an update. This is due to the fact that the computer registration process is lengthy, but necessary.

Next, patient waiting times versus clinic status (busy, semi-busy, slow) was investigated. The data shows that during busy and semi-busy times the wait times can be expected to be greater. Lastly, the patient waiting times versus level of acuity (or sickness) was evaluated. According to the data, the patients who had a breathing problem (i.e. emergent) were seen in an efficient manner, while those with gastroenteritis (i.e. non-emergent) had the longest wait times.

It was also noted from the data collection that when the patient was seen by a medical student, the wait time of the patient was increased by 13%, on the average then if the patient was seen by another type of physician. When the clerical paper-processing was taken into consideration, it was discovered that most of the sheets documented were useful and needed. Although through subjective observation and interviews, it was found that there was some delay in returning the Walk-in Note, which follows the patients through their visit, to the clerks. Therefore, billing was delayed.

Based on the findings and conclusions, several alternative solutions were formulated. From these solutions, five recommendations are respectfully submitted to the Department of Pediatrics for careful evaluation. These recommendations are listed in order of their priority and impact for the
clinic. Three recommendations directly address minimizing patient waits while the other two address streamlining the clerical process:

**Recommendation 1.** An "Encounter Form" or charge ticket documenting all the information needed for billing should be clipped to the Walk-In Note, filled out by the nurse and physician and returned to the clerk after the visit is complete. In connection with this, one clerk would be assigned the responsibility of patient check-in while the other is assigned to patient check-out and billing. These two positions must remain flexible.

**Recommendation 2.** A monitoring system of room availability and/or patient and staff tracking should be implemented. Suggestions are as follows:

1. Utilize the patient tracking board that currently exists in PWI Clinic.
2. Install flags outside all exam and treatment rooms to indicate availability.
3. Mount clipboards outside of each room and attach the Walk-In Note to them.

**Recommendation 3.** Alternative methods of educating medical students should be found. The importance of teaching medical students versus patient waiting times must be carefully evaluated. Suggestions for alternative methods of teaching are as follows:

1. The attending staff physician teaches the medical student at slow times of the day. Medical students will keep a log of the patients during busy times to assist in the educating process when slow times arise.
2. The medical student will observe with the staff only.
3. The medical student will observe while the house officers see a patient to reduce the attending staff physician's involvement.
4. Medical students will not participate in the PWI Clinic at all.

**Recommendation 4.** The current computer system should be updated to deal with its many constraints outlined in the body of this report. While this matter is basically out of PWI's control, this recommendation should be submitted to Hospital Information Systems.

**Recommendation 5.** Based on the implementation of Recommendation 4 the user of the computer system should be able to jump out of the file without losing the previously entered information. To minimize patient waits new patients shall receive a registration form containing information necessary to completely register a patient. The form will be given to the patient after all pertinent information is collected from the clerk and saved on the computer, so that a card can be issued to the patient. A separate form will be given to the patients needing updates.
INTRODUCTION

Due to the growing competition in the Ann Arbor area, the University of Michigan Hospital Pediatric Walk-In (PWI) Clinic has found a need to evaluate its current service level. The Pediatric Walk-in Clinic is an unscheduled service which manages patient problems ranging from non-emergent to emergent, but non-surgical care. The large variability of patient problems and wide fluctuation in activity throughout the day sometimes makes it difficult to care for patients in a timely, efficient manner. There is a need to obtain data on patient waiting times and the factors that affect these waits so that changes can be made to offer a more efficient service to the patients and parents. The clerks in the clinic are key contact persons between the patients, nursing, and the medical staff. They are responsible for phone calls, registration and face-to-face interactions as well as a large amount of paper processing. There is a critical need to evaluate the current use of the clerk's time.

Therefore, Adele Rittmueller requested this project with a twofold purpose in mind. First, to determine patient waiting times and the critical variables that affect these waits. Second, to evaluate the efficiency of the clerical activities in the clinic. The purpose of this study was to enable the Department of Pediatrics to make procedural and functional changes that will significantly decrease waiting times and shorten the length of the total visits as well as streamline the clerical activities.

CURRENT SITUATION

Currently in the clinic, there are usually two clerks, two registered nurses, one medical student, two house officers, and one attending staff physician per shift. In the clinic, there is a total of eight rooms where the patients can be seen -- six of which are regular examination rooms and two of which are fully equipped treatment rooms. The patient volume on the average is forty patients per day. However, patient volume is a random variable and is subject to various factors (i.e. season, day of week, etc.). The current clerical processes and patient flow are illustrated in Appendix A.

METHODOLOGY

In the execution of this project, it was determined that a data collection of patient waiting times was necessary to effectively reach our objectives. After reviewing several methods of data collection, it was decided that the method of direct observation would be the most appropriate for the purpose of the study. While the method of direct observation not only provides the observers with the data necessary to evaluate the waiting times, it also enables them to gain a considerable amount of insight into the existing processes and procedures. Neither the patients or the staff were directly affected by this technique. The data collection sheet that was used during the observation was designed with the objectives of the project in mind. A sample data collection sheet can be found in Appendix B. The concerns of the clerks and the medical staff were also learned through
extensive interviewing and subjective observation.

The data collection period was from March 11, 1987 to April 1, 1987. During this period, patient flow was observed for a total of 54 hours. A sample of 104 patients (N=104) was obtained. A statistical analysis was performed on the sample using Statview 512+TM on the Macintosh Plus Computer Systems. Means, standard deviations, variances, as well as many other attributes were computed.

The data were also analyzed in terms of the variable factors that affect the waits. The four main factors that were taken into account were:

1. **Patient Classification**
   Emergent vs. Non-Emergent Patient

2. **Patient Registration Status.**
   New Patient vs. Return Patient, with Update vs. Return Patient, no Update

3. **Number of Patients in Clinic**
   ~Busy = 7-9 patients entered clinic in one hour
   ~Semi-Busy = 4-6 patients entered clinic per hour
   ~Slow = 0-3 patients entered clinic per hour

4. **Acuity level of patient**
   The four diagnoses that were best represented in the sample and therefore tested against were: asthma, conjunctivitis, gastroenteritis, and otitis media.

All of these factors were tested against various recorded times in the analysis.

If future evaluation of the clinic is necessary, this study can be reproduced with the given methodology and any statistical software package such as Statview 512+TM. However, a minimum sample of 100 patients is recommended to take into account a representative amount of the above stated factors.

**FINDINGS AND CONCLUSIONS**

In the analysis of the data collection the average waiting times, their standard deviations and the ranges were determined for each stage of the patient visit. These times are listed in Table 1.

<table>
<thead>
<tr>
<th>STAGE</th>
<th>AVERAGE TIME (MIN.)</th>
<th>STD.DEV.(MIN.)</th>
<th>RANGE(MIN.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrival Wait</td>
<td>0.31</td>
<td>1.53</td>
<td>0-15</td>
</tr>
<tr>
<td>Clerical Process</td>
<td>4.80</td>
<td>5.29</td>
<td>1-29</td>
</tr>
<tr>
<td>Wait For Nurse</td>
<td>6.54</td>
<td>9.21</td>
<td>0-51</td>
</tr>
<tr>
<td>Triage</td>
<td>10.00</td>
<td>6.95</td>
<td>1-53</td>
</tr>
<tr>
<td>Wait For Physician</td>
<td>12.13</td>
<td>16.43</td>
<td>0-102</td>
</tr>
<tr>
<td>Total Physician Contact</td>
<td>63.27</td>
<td>51.62</td>
<td>3-238</td>
</tr>
<tr>
<td>Total Time</td>
<td>100.36</td>
<td>54.68</td>
<td>12-265</td>
</tr>
<tr>
<td>Actual Nurse Contact</td>
<td>8.60</td>
<td>4.52</td>
<td>4-65</td>
</tr>
<tr>
<td>Actual Physician Contact</td>
<td>21.38</td>
<td>14.39</td>
<td>1-18</td>
</tr>
<tr>
<td>Wait Time While w/ Physician</td>
<td>22.73</td>
<td>27.75</td>
<td>0-103</td>
</tr>
</tbody>
</table>

These data suggest that the longest wait time occurs while the patient is with the physician.
However, it must be noted that this time could be large because of the wait for lab results, the wait for a certain medicine or treatment to take effect, etc. in which case the patient does not have actual contact with the physician.

Next, the various factors that may have an affect on patient waiting times were tested. First, whether the patient was billed as an emergent (N=51) or a non-emergent patient (N=53), and respective waiting times were compared. From Figure 1, it can be seen that the waiting times for the physician and the nurse were larger for the emergent patients.

![Figure 1.](image)

The waiting time while with the physician was also larger for the emergent patients, as is expected since they usually require more lab tests and treatments than non-emergent patients do.

Secondly, patient registration status, i.e. whether the patient was a Return patient, no update, (N=25), a Return patient, with update, (N=12) or a new patient (N=23) was taken into consideration. Figure 2 clearly shows that the registration process a new patient must complete significantly affects the amount of time that they are in the clinic:

![Figure 2.](image)

On the average, the new patient spends about 10 more minutes with the clerk than a return patient, no update and about 7 more minutes than a return patient, with update. Therefore, the patient's registration status does affect the amount of time that they are in the clinic, since the nurse cannot
see a patient until they are either registered or their registration status is updated.

Figure 3 illustrates the clinic status (i.e. busy, semi-busy, slow) and the corresponding process times of the patients:

Figure 3.

This figure shows that except for the clerical process and the actual physician contact, the process times are significantly larger during busy (N=39) and semi-busy (N=41) times than during slow times (N=24). Therefore, at busier times in the clinic, wait times can be expected to be greater.

The fourth and last factor that was tested was the acuity level (or sickness) of the patient and their wait times. Figure 4 shows that the patients with a breathing problem (N=16) were seen in a rather efficient manner, whereas the patients with gastroenteritis (N=7) were not seen as efficiently:

Figure 4.

This finding is somewhat expected since a breathing problem is a much more emergent situation than is gastroenteritis. When the patient had otitis media (N=16) or an eye problem (N=4), the data shows that the sickness was a rather routine situation. It must be noted, though, that although these factors do affect wait times in the clinic, not all of them are controllable.
Next, Figures 5 and 6 show the average wait and contact times, respectively, that the patient spends with the clerk, the nurse and the physician. Both Figures 5 and 6 figures show that the bulk of the patient visit is spent with the physician. Figure 6 further illustrates that about 14% of the patient contact is with the clerk, which is a significant portion of the patient visit.

Figures 7, 8 and 9 illustrate the time differences between the various physicians. Figure 7 shows that on the average the patient spends more time waiting for the physician(s) than actually being in contact with the physician(s):
Figure 8 shows that the sample of patients seen by staff doctors and the first and second year House Officers per se, wait times are less than the those of the sample of patients seen by a medical student (Figure 9):

In fact, on the average, the wait time is increased by about 13% when a patient sees a medical student. This is due to the fact that the patient must also see a staff doctor after they have seen a medical student.

The department standards, as stated by Adele J. Rittmueler, Manager of Clinic Operations, and Sharon Redmer, Manager of Clinical Nursing, are as follows. For a non-emergent patient, it should take a maximum of 5-20 minutes before they see a physician and their total visit should last anywhere from 30-180 minutes. For an emergent patient, it ideally should take less than 5 minutes before they are seen by a physician and their total visit should last anywhere from 60-360 minutes.

According to the data summarized in Appendix C, it takes a non-emergent patient, on the average, 31.8 minutes before the patient is seen by the physician, and for emergent patients, 35.8 minutes. The total visit times averages 71 minutes for a non-emergent patient and 130.86 minutes for emergent patients. Therefore, it can be seen that the PWI clinic does not meet its departmental standards for the time it takes before the patient see a physician, but that the clinic does sastify the patient total visit time standard as stated by the department.

Also noted was an article by Gene D'Altus and Sandra S. Harden (1985), "System Applying to Outpatient Scheduling." This article states that a study was done in a Cleveland Clinic, and that the mean time for an initial contact by a nurse or a physician to the patient was found to be 20 minutes. This study also determined that it was another 20 minutes until the patient actually saw
the physician. Finally, the article states that through improved scheduling and follow-ups using the Queing theory proposed, the 20 minute wait for an initial contact was decreased to a 10 minute wait. Comparing these findings with the PWI clinic, the mean time before a patient is initially contacted by a nurse is 11.8 minutes for a non-emergent patient and 11.5 minutes for an emergent patient. The data also states that after the patient is through with the nurse, a non-emergent patient waits, on the average, 9.3 minutes for a physician, while an emergent patient waits 10.8 minutes. Therefore, the data obtained from the PWI clinic compares closely with that of the clinic in the article while the study was done, but not after changes were implemented at the Cleveland clinic.

For the second part of the project, the clerical paper-processing was evaluated. The forms that the clerks encounter in day-to-day activities were carefully documented. The most common paper-processing that the clerk encounters daily is the "Walk-In Packet." This packet consists of a Walk-In Note, a library card, a flowsheet, a charge sheet and a charge ticket. The Walk-In Note is first filled out by the clerk when the patient arrives at the clinic. The clerk completes the patient's time of arrival, phone number and who is with them (parent/guardian) and the chief complaint. The clerk then dates the note and passes it on to the nurse.

After the patient is seen, the clerk then checks off whether the patient was admitted or discharged, the area section, the Prim. Service section, completes the diagnosis section and initials it. The library card, which the clerk stamps, fills out and files, records the status of the medical record. The flowsheet is for the nurse's and physician's use, but the clerk needs to file it in the patient's medical record. The charge sheet, also part of the "Walk-In Packet," records the services for which the patient is being charged for and this is currently being filled out by the clerk. The charge ticket is also filled out by the clerk and this ticket states the diagnostic code (which the clerk looks up), the date, department, doctor number, fee code and the clerk's signature. It must also be noted that the clerk needs to break apart the charge ticket and Walk-In Note and put the various copies in different places (i.e. file, send out).

Another important sheet that the clerks need to complete when a patient arrives is the log census. When a patient first arrives, the clerk enters their registration number, name, age, whether a medical record was requested, arrival time and insurance class. After the patient has gone and the clerk has the Walk-In Note, the clerk records in the census whether the patient was admitted, the patients diagnosis and its code and the doctor's name. This census log is used for reference, billing problems, tallies, statistics and therefore is a needed document.

Other sheets that the clerk encounters daily include the face sheet, which is a computerized sheet of new or updated information of a patient, which the clerk files into the patient's medical record, and the medical record diagnostic summary, which the clerk records requested information on and also adds it to the medical record. The clerks also need to record admitting information on a sheet when a patient is admitted, but this is currently part of a study and is not normal duty of the clerks. Also, when an emergency patient is wheeled in from an ambulance the clerk needs to give the parent an update form, designed for new and update patients, which the parent completes and the clerks later needs to enter into the computer system. Finally, when the clerks closes the clinic,
they need to do a daily patient count and record this as well as fill out a batch card with billing counts and complete a Teller’s Daily Activity Report, and all this information is sent on to other departments of the hospital. A summary of miscellaneous activities of the clerks can be found in Appendix A.

**ALTERNATIVE SOLUTIONS**

The following list of hypotheses was input that was received through interviewing of the PWI administration, clerks and nurses as well as subjective and/or objective observation.

- Clearly define the responsibilities of the two full time clerical positions for a more efficient process. Both of these positions include the regular clerical duties that are currently performed. However, only one of the clerks would be responsible for "check-in" of patient while the other clerk is responsible for "check-out" and billing of patients. These two positions must remain flexible at all times to allow for special circumstances.

- Structure a formal check-out procedure for each patient that in essence would complete the visit as well as expedite the billing procedure.

- Implement an "Encounter Form" which would follow each patient through the entire visit. This form would contain information needed for the clerks to complete billing.

- Teach medical students in such a way as to not compromise patient waiting times and length of visit.

- Use the patient tracking board to identify occupied rooms

- Give a complete registration form to each new patient to fill out after preliminary information was collected by the receiving clerk.

- Change the current computer system so that update information will carry through to all screens

- Utilize the Medical Record Status information on the computer system and eliminate the Library Cards.

- Update the computer system to be able to duplicate information on a file to another file in the case of siblings

- Schedule an allotted time to train new clerks on procedures applicable to PWI's computer system due to its difficulty expressed by newcomers of the system.

- Change computer system down times from the current 11:00pm-2:00am to 12:00am-3:00am.

- Do not train clerks during busy times.

- Extend the clerk space out to the pole in the waiting rooms to relieve the crowded working conditions.
Place a nurse in the right hand corner of the waiting area to specifically perform triage and answer phone calls. This would require hiring a new nurse.

Eliminate all nursing advice phone calls.

Encourage the clerks to memorize the repeated information of the patient file to eliminate excessive repeated questioning of the parents.

Eliminate the sliding windows outside the clerk area to eliminate hearing problems caused by their presence to the clerks.

Eliminate or make a more efficient use of the Medical Record Diagnostic Summary sheet.

RECOMMENDATIONS

Based on previously listed findings and conclusions, several alternative solutions were formulated. From these alternatives, five recommendations are respectfully submitted to the Department of Pediatric Walk-In Clinic for careful evaluation. These recommendations are listed in order of priority and impact for the clinic. Three recommendations directly address minimizing patient waiting times while two others address streamlining the clerical process.

RECOMMENDATION 1:

To streamline the clerical process, an "Encounter Form," or charge ticket, documenting the diagnosis, insurance (co-pay or not), charges, necessary appointments, treatment room use, procedures, supplies, medication used, nurse's and doctor's signatures, clerk's initials, as well as being stamped by the clerk with the registration card should accompany each patient through the visit. See Appendix D for a proposed form. All of the information on this form is needed for billing to take place. This form will be clipped to the Walk-In Note and filled out by the nurse and physician and should be returned to the billing clerk by the patient after the visit has been completed. This recommendation implies a formal check-out procedure for every patient.

The need for clerical overtime to complete billing tasks should be eliminated. Currently both clerks are responsible for all clerical duties in the clinic including billing. One clerk should be assigned the responsibility of patient check-out and billing tasks. The other should be assigned to handle patient check-in. This would enable the one clerk to be responsible for properly collecting all co-payments as well as expediting the billing process. However, flexibility must be allowed for when assigning these responsibilities.
**SUPPORT**

The "Encounter Form" would provide the needed information to determine appropriate billing as well as other necessary information for the clerk. Clerks can only start the billing when the doctors provide the diagnosis, preferably the code. Currently the diagnosis exists on the Walk-In Note, however there is a considerable delay in the transfer of the Walk-In Note to the clerk. This "Encounter Form" would enable the billing to begin without compromising the completion of the Walk-In Note. This form will make the billing process easier for the clerk since it will enable the clerks to finish billing before they leave their shift, therefore eliminating overtime. Based on the assumptions that all overtime is only spent on billing and that on the average there is 43.1 hours of overtime per month, this recommendation has the potential to save Pediatric Walk-In Clinic approximately $3,000 per year.

**RESOURCES**

A new "Encounter Form" is necessary. See Appendix D for a proposed form. The nurses and physicians would also have to be instructed on the completion of the form in order for the information to be efficiently given to the clerks. With regards to dividing up the responsibilities of the clerks, appropriate scheduling is necessary for this process to exist. Care must be taken in rotation of the clerks as well.

**RECOMMENDATION 2:**

To help minimize patient waits, some type of monitoring system for room availability and/or nurse, physician, patient tracking should be implemented. Suggestions for the monitoring system are as follows: (1.) Utilize the patient tracking board installed on the back wall of the nursing unit to indicate room availability by a simple check next to the room number and also indicate contaminated rooms by an asterisk. If a need is found to monitor nurses and/or physician location, the board can be used to write the name of the patient next to the room number along with the name of the attending nurse and physician. (2.) Install flags outside each exam room to indicate whether the room is occupied. For example, a red flag would indicate an occupied room and a green flag would indicate an unoccupied room. (3.) Mount clipboards on each exam room door in order to attach the Walk-In Note. This would allow the current information about the patient to be easily accessible. However, the order of the patient's arrival would could not be recorded with this system alone.

**SUPPORT**

Subjective observations as well as interviews with clerks and nurses has indicated that a
substantial amount of time is spent by nurses in determining the availability of the rooms for new patients as well as trying to locate a patient in an exam room. This monitoring system would help to eliminate this amount of time spent by nurses.

RESOURCES

The first suggestion does not require any new materials beside a supply of markers for the installed tracking boards. However, staff cooperation is important. The second suggestion would require purchasing flags for the exam room to indicate room occupation. Staff cooperation is important for the implementation of these signals. The third suggestion would require purchasing of clipboards to mount on each of the exam room doors. Some type of indication for order of arrival must be used however.

RECOMMENDATION 3:

To help minimize patient waits, alternative ways should be used to teach medical students. Therefore, the importance of teaching versus waiting times for patients must be evaluated. The suggestions for teaching are as follows: (1.) The attending staff teaches the medical students after the patient leaves during the "slow" times at the clinic. Medical students should keep a log of the patients at the busy times of the day to assist in the educating process at the slow times. (2.) The medical students will observe with the staff only (3.) Medical students will observe when residents see a patient. This would reduce attending staff involvement. (4.) Medical students will not be allowed in the clinic at all.

SUPPORT

Based on the data analysis of our findings, 20% of the patients observed (n=104) were affected by Medical Students. Of those affected, the total time of physician contact is lengthened by 13%. Therefore the patient's visit is lengthened by 13% as well.

RESOURCES

This recommendation requires discussion evaluating the importance of teaching versus waiting times by the Department of Pediatrics Management (ie. Adele Rittmueller, Dr. Kelsh, etc).

RECOMMENDATION 4:

The current computer system used in PWI is a University of Michigan Hospital - wide system. It is generally accepted that this system contains a great deal of constraints. While this
matter is basically out of PWI's control, many recommendations addressing these constraints were developed through subjective observation and interviews with the clerks. These include:

~The computer system should automatically have the ability to carry a new piece of information through the entire patient file after the first time it is entered. This would save a considerable amount of time and questioning on the clerk's part when a new patient is being registered or a return patient is being updated.

~The computer system purge should be made less frequently, i.e. every year versus every 6 months. This would cut down on the amount of patients that are re-registered (similar to registering a new patient) every year by 33%.

~The computer system should not go down until 12:00 a.m. (vs. 11 p.m.). This would eliminate the extra work that is necessary without the computers. During the course of this project, the time that the computer system went down was changed to 12:30 a.m.

~The system should contain an option to duplicate two separate files. In the case of sibling patients, this option would eliminate the need for the clerk to enter in the same information twice.

~The computer system should be made more user friendly (i.e. too much memorization of codes, etc. is necessary)

~A specific training period should be set aside for newcomers of the system to learn the procedures applicable to PWI.

~A uniform method of entry should be used (i.e. either lightpen method or keyboard entry -- not both).

~An option should be made available to quickly jump to another screen without scrolling through the entire file.

~The newly implemented Medical record status on the computer system should be utilized thereby eliminating the need for the library card system that is currently in use. During the course of this project, this system was implemented and is beginning to be utilized. However, PWI is restricted to the dayshift (Monday through Friday) due to inadequate staffing levels in the Medical Information Department.

**SUPPORT**

The clerical process takes much too long and there is sufficient reason to attribute this to the computer system. 59% of a reduced sample of the patients observed (N=60) were affected -- 20% of which were new patients and 39% were update patients. The new patients were tied up with the clerk for 12 minutes on the average thereby lengthening their entire visit by the same amount. Many of the above recommendations were reached through interviews with the clerks and administrators as well as through subjective observation.

**RESOURCES**

This recommendation requires further consideration by PWI Management. It also needs to be submitted to Hospital Information System for investigation.
RECOMMENDATION 5:

This recommendation is solely based on the implementation of recommendation 4. The user of the system should especially be able to jump out of the file without losing the previously entered information. New patients shall receive a registration form containing information necessary to completely register a patient. The form will be given to the patient after all pertinent information is collected from the clerk and saved on the computer system, i.e. name, birthdate, and phone number. A separate form will also be given to patients needing updates after the pertinent information is collected. The form will be returned to the clerk before the patient leaves.

SUPPORT

The clerical process on the average for new patients is 12 minutes. The average for a return patient with an update is 4.583 minutes. According to Adele Rittmueller, Manager of Clinical Operations, these times are unacceptable. The average for a return patient without an update is 1.7 minutes. If the above recommendation was implemented, the total time that the patient is tied up with the clerk would be reduced significantly, thereby reducing the entire length of the visit by the same amount.

RESOURCES

No new forms are required. A UMH Patient Update Form which currently exists in PWI is adequate for new patients. A PWI Update Form exists as well.
ACTION PLAN

Each recommendation requires that specific steps be taken for correct implementation. These steps are listed as follows:

RECOMMENDATION 1:
1. The proposed "Encounter Form" shown in Appendix D should be clipped to the Walk-In Note whenever a patient enters Pediatric Walk-In Clinic.
2. Nurses and physicians should be instructed on the completion of the "Encounter Form" in order for the information to be efficiently given to the clerks. The physicians must be specifically informed to give the correctly completed "Encounter Form" to the patient when the visit is completed and remind them to return it to the billing clerk before leaving.
3. Proper scheduling is necessary when dividing up the responsibilities of the clerks. Care must be taken in rotation of these responsibilities of the clerks as well.

RECOMMENDATION 2:
1. Utilization of the patient tracking board requires a supply of markers. Staff cooperation is important for the success of this recommendation.
2. Acquiring flags for the exam room to indicate room occupation is necessary. Staff cooperation is also important for these signals to work.
3. Purchasing of clipboards to mount on each of the exam room doors is needed for the third suggestion. Some indication of patient arrival order must be included as well.

RECOMMENDATION 3:
1. Evaluation by the Department of Pediatric Walk-In Clinic concerning the importance of teaching versus waiting times is needed.
2. Evaluation of the proposed alternative suggestions for teaching times should also be discussed by PWI.

RECOMMENDATION 4:
1. Because the current computer system in PWI is a University of Michigan Hospital wide system, direct steps of action cannot be taken by PWI itself. Further consideration by PWI Management is required to determine the importance of this recommendation to the clinic.
2. This recommendation should also be submitted to Hospital Information Systems for investigation.

RECOMMENDATION 5:
1. There is not a need for new forms to generated based on this recommendation. A UMHPatient Update Form which currently exists is PWI is adequate for new patients. A PWI Update Form exists as well.
2. The clerks and the patients need to be instructed on the completion of the registration form.
APPENDICES
DUTIES OF THE CLERKS IN THE PEDIATRIC WALK-IN (PWI) CLINIC

There are numerous responsibilities of the clerk which have not been included in the clerk-patient flow process. These necessary clerical activities do not involve direct patient contact, therefore they are not documented on the flow chart.

The clerks are responsible for answering the POISON-line which is set specifically to give advice to parents about any disaster involving poisonous substances. When a call is received, the clerks then have to fill out the Poison Sheet, leave the clerical area to look up what the child has taken, find a doctor (usually staff) and also report the case to the physician.

Another important responsibility of the clerks is to retrieve the lab results from the printout machine in the clerical area, sort and document them, and then give them to the doctors.

A third responsibility of the clerks is to answer all phone calls- personal or otherwise. A special service of PWI is advice phone calls where parents/guardians call in and get advice on their children's sickness by a nurse. Nurses are frequently busy with patients, so the clerks record the name, age, phone number and illness of the child from the parent on the Medical Requests Form. The clerks then put the form into the nurses basket and the nurses return the call, usually within 15 minutes. As well as answering phone calls, the clerks are also responsible for calling various departments for services such as housekeeping (to clean a contaminated room), respiratory therapy for treatments, X-ray, admitting and for any other service that may be needed at a moments notice.

Billing is another responsibility of the clerks. This should be completed as soon as possible after the diagnosis has been given by the physician. The billing process involves reading and interpreting the diagnosis and choosing a diagnostic code to classify the illness and then completing, separating and sending out the charge ticket.

The clerks also need to close up the clinic every night. This entails counting up the number of patients for that particular day and recording the number. They also need to complete a Daily Teller Activity Report and then call security to pick up the money. Another duty for the closing clerks is to count up the charge tickets and fill out a Batch card. Finally, they need to do some separating, filing and organizing of the clinic.

Other duties assigned to the clerks in PWI include xeroxing, addressing and sending out information and also necessary filing. Clerks are also responsible for updating the census whenever a new patient arrives, which is used for maintaining a daily record of the patients seen. The clerks must also complete the census with the diagnosis and the fee code/price after the patient has left. In addition, they also must complete the Medical Record Diagnostic Summary which documents the date, diagnosis, procedures and signatures, and also diagnostic codes which is attached to the front of the Medical Record. This must be completed before the Medical Record is sent back to its respective department.
CLERK-PATIENT PROCESS FLOW CHART:

PATIENT ARRIVES

WAIT

CLERK ASKS CONCERN

IMMEDIATE CONCERN

CONCERN

NURSES ATTEND TO PATIENT RIGHT AWAY

CLERK ASKS (PARENT) IF PATIENT HAS BEEN HERE BEFORE

NEW PATIENT PROCESS

CLERK ASKS FOR BLUE HOSPITAL CARD

CLERK CHECKS UPDATE STATUS ON REGISTRATION CARD OR COMPUTER

CURRENT

NOT CURRENT

(continued on following page)
(new)

CLERK ENTERS 8-DIGIT NUMBER OR PATIENTS NAME, ETC. IN COMPUTER

FILLS IN REQUESTED INFORMATION ON COMPUTER

FACE SHEET, CARD GENERATED

FACE SHEET, CARD PICKED UP AT EMERGENCY ROOM BY CLERK

CLERKS LOG IN A CENSUS

CLERKS CHECKS INSURANCE TYPE

IF M-CARE, M-CARE-HMO
PRIMARY PHYSICIAN APPROVAL NEEDED

OTHER

(continued on following page)
Clerk stamps walk-in packet and completes walk-in note.

Puts face sheet in medical file basket; places walk-in packet and blue card in nurses' basket in order of arrival.

Medical record requested by clerk.

Patient seen.

(continued on following page)
CLERK FILLS OUT MISCELLANEOUS CHARGE TICKET, SHEET

M-CARE-HMO

IF PATIENT HAS M-CARE,

PATIENT STOPS BY CLERKS DESK

PATIENT LEAVES

COMPLETES CENSUS LOG, SEPARATES WALK-IN NOTES

COPIES WALK-IN NOTE AND SENDS OUT TO COMMUNITY PHYSICIAN

FILES WHITE WI NOTE, ETC. IN MEDICAL RECORD

SIGNS MEDICAL RECORD OUT TO FILE OR ELSEWHERE
PATIENT FLOW PROCESS:

PATIENT ARRIVES

IMMEDIATE CONCERN GIVES CLERK CONCERN

CLERK ASKS IF BEEN THERE BEFORE

NEW PATIENT PROCESS

CLERK ASKS FOR BLUE CARD

UPDATE NEEDED?

YES

CLERK UPDATES ASKS PATIENT QUESTIONS AND ENTERS INTO COMPUTER

NO

PATIENT IS ATTENDED TO RIGHT AWAY BY NURSE

PATIENT PROCEEDS TO THE WAITING ROOM

TRIAGE (HISTORY, VITAL SIGNS)

WAITS UNTIL NURSE GETS THEM

(continued on following page)
D.4

PATIENT IS SEEN BY THE NURSE (TRIAGE)

WAIT

PATIENT IS SEEN BY THE PHYSICIAN

WAIT

WAIT

PATIENT IS GIVEN DIAGNOSIS AND CARE PLAN

IF PATIENT HAS M-CARE, M-CARE-HMO

PATIENT LEAVES

PATIENT CHECKS OUT WITH CLERK
**Ped-Walk In Data Collection Sheet**

**ROOM NUMBER:**  

**DATE:**  

**CLASSIFICATION:**  NON-EMERGENT  URGENT  EMERGENT

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**SEEN BY:**  
- □ MEDICAL STUDENT  
- □ INTERN  
- □ HOUSE RESIDENT  
- □ ATTENDING STAFF
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DIAGNOSIS: Primary:______________
Secondary:______________

CHARGES: ________________

DOES AN APPOINTMENT NEED TO BE SET UP? ___Y___ N___ WHEN?______________

PATIENT INSURANCE:
M-CARE-HMO (Code): Co-Pay Collected $___
M-Care (Code): Card Punched #___ Co-Pay Collected $___

NURSE'S SECTION:
Type of Room used: ________________
Procedures used: ________________
Supplies used: ________________
Medication used: ________________

PHYSICIAN______________
NURSE______________
CLERKS INITIALS______________