November 1995

Reengineering Patient Care at Los Angeles County's Department of Health Services

A Report by

The Los Angeles County
Citizen's Economy and Efficiency Commission

The Los Angeles County Citizens Economy and Efficiency Commission

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The Mission of the Commission is to examine any function of County government at the request of the Board of Supervisors, on its own initiative, or as suggested by others and adopted, and to submit recommendations to the Board directed toward improving local government economy and efficiency, and effectiveness.

CITIZENS ECONOMY AND EFFICIENCY COMMISSION

OF LOS ANGELES COUNTY

November 1, 1995

Honorable Gloria Molina, Chair
Los Angeles County Board of Supervisors
Room 856, Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Chairperson Molina:

The attached report entitled, *Reengineering Patient Care at Los Angeles County's Department of Health Services*, which was completed with the assistance of the Harvey Rose Accountancy Corporation, presents strategies for revisions of urgent care services within the County of Los Angeles.

On June 28, 1994 the Board of Supervisors requested that the Economy and Efficiency Commission review and reengineer the delivery of patient services within the Department of Health Services (DHS). The Commission used two Urgent Care Centers to conduct a reengineering pilot study. The results produced 15% savings in the costs of operating the centers and a 48% savings in waiting time for patients. This is achieved without any capital investment. When applied to all Urgent Care Service facilities in the system, implementation of the Economy and Efficiency Commission's recommendations are projected to save approximately $18 million.

The same methodology of reengineering can also be attributed to the other functions of the County's health services. It is anticipated that thereby further sizeable cost reductions can be achieved while improving service.

The Commission would like to acknowledge the cooperation of the Department in the preparation of this review. We look forward to providing further assistance in addressing issues facing the Department of Health Services.

Sincerely,

Gunther W. Buerk

Gunther Buerk
Chairperson

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TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY i

SECTION I: INTRODUCTION 1

SECTION II: PROFILE OF ROOM 1050 AT LAC+USC AND THE URGENT CARE CLINIC AT THE HUDSON COMPREHENSIVE HEALTH CENTER 7

II.1: Purpose of Room 1050 and Hudson Urgent Care 7

II.2: Overview of Room 1050 9

II.3: Overview of Hudson's Urgent Care Clinic 15

II.4: Comparison of Room 1050 Wait Time 18

SECTION III: WHY PATIENTS USE ROOM 1050 AND HUDSON URGENT CARE 20

III.1: Reasons for Using Room 1050/Hudson Urgent Care 20

III.2: Problems with Patients Using Room 1050 and Hudson Urgent Care for Primary Care 23

III.3: The Proposed Outpatient Department Reorganization Effort at LAC+USC and its Possible Impact on Room 1050 and the Hudson Urgent Care Clinic 26

SECTION IV: ASSESSMENT OF PATIENT VISITS TO ROOM 1050 AND HUDSON URGENT CARE 29

IV.A.1: Description and Assessment of the Current Process at Room 1050 31

IV.A.2: Summary of Room 1050 Assessment 48

IV.B.1: Description and Assessment of the Current Process at Hudson Urgent Care 53

IV.B.2: Summary of Assessment of Hudson Urgent Care 64

TABLE OF CONTENTS (continued)

Page

SECTION V: OVERVIEW OF THE REENGINEERED APPROACH 67

V.1: Project Objectives 67

V.2: Key Concepts Used to Design Reengineered Processes 67

SECTION VI: FINDINGS AND RECOMMENDATIONS 71

VI.1: Centralized Patient Flow Management 75

VI.2: Consolidating Administrative Functions 84

VI.3: Streamlining Clinical Stations 94

VI.4: Telephone Triage, Appointments, & Patient Education 106

VI.5: Enhanced Information Technology 111

VI.6: Coordination with Ancillary Services 116

VI.7: Physical Layout and Security 119

VI.8: Long Term Issues 125

SECTION VII: SUMMARY OF RECOMMENDATIONS 130

ATTACHMENTS

1. Definition of Emergency Medicine
2. Flow Chart of Room 1050 Processes
3. Sample Medical Chart
4. Sample Patient Form
5. Registration and Financial Information Forms
6. Flow Chart of Hudson Urgent Care Processes
7. Time Study Data
8. Comparison with other Hospital Emergency Rooms

EXECUTIVE SUMMARY

This report is the result of a Reengineering Patient Care project at the Los Angeles County Department of Health Services (DHS). The purpose of the project was to identify areas of the Department's operations that, when reengineered, could improve patient service delivery at lower cost or with increased revenues. The specific services selected for review were the walk-in medical services provided at the Department of Emergency Medicine at the Los Angeles County + University of Southern California Medical Center (LAC+USC) (Room 1050) and the Urgent Care Clinic at the Hudson Comprehensive Health Center. Though these sites were reviewed, an important project concept was to develop an analytical model that could be replicated elsewhere in the Department.

A reengineering approach was selected because of the need for improvements in the quality of patient care and the need for cost reduction in the Department and County. The State□s pending implementation of a managed care approach for Medi-Cal patients also speaks to the need for cost reduction and improved quality of services at DHS. Under the new program, scheduled to being in 1996, reimbursement for certain Medi-Cal patients will be converted to a capitated system rather than fee for service. Further, these patients will be offered a choice to continue to receive care from DHS or to use a private sector provider. To maximize capitated Medi-Cal revenue, DHS must compete to keep its patients through improved quality of service and improved controls over costs and unnecessary patient visits.

Working with a DHS staff Process Work Team and data collected for assessment, this report develops a number of significant recommended changes to the way services are now provided at LAC+USC and Hudson Urgent Care. Though many options were considered, it was not concluded that services should be discontinued or moved to other locations. Contracting for these services, which may have some advantages, should be analyzed for LAC+USC Emergency Room and/or Hudson Urgent Care clinic patients as part of a Department-wide initiative.

The findings and recommendations made below are presented by functional area to assist the reader in understanding the approach being taken. Thus, the recommendations listed in this summary will not track, by number, those in the report. For this listing, see Section VII, Summary of Recommendations.) **Implementation of these recommendations would reduce patient wait time at both facilities, reduce net staffing costs at the two facilities by slightly more than the $1 million per year, and, over time, reduce the number of nonurgent patients using the Emergency Department and urgent care clinics for nonurgent purposes**

Findings related to staffing and patient flow

- The majority of patients at Room 1050 and Hudson Urgent Care are nonurgent but come to these facilities because of a lack of medical insurance, the unavailability of primary care services elsewhere in the County and/or the lack of information about self-care or other resources available.

- Most of a patient visit is time spent waiting; at Room 1050, a project time study showed that 78% of a 2-hour, 40-minute visit is time spent waiting; at Hudson Urgent Care, an average 78% out of a 2-hour, 50-minute visit is spent waiting.

- Though patients spend a great deal of time waiting, significant idle staff time exists because staff is assigned to specialized stations where they perform only designated functions, even when patient backlogs exist at other station. Uneven distribution of patient arrival times is another factor.

- Patient wait time and DHS costs could be reduced through an application of reengineering principles at the reviewed facilities; a reduction in the number of patient "hand-offs"; by cross training employees so they can perform more functions and increase their productivity; and by eliminating functions that are of little or no value to patients.

- Although administrative staff were added in 1994-95 to reduce the waiting time for financial screening at Room 1050, the costs of this staff are higher than the revenues produced.

Recommendations related to staffing and patient flow (see Sections VI.1 - VI.3):

* Consolidate the six to seven separate stations into one administrative and one clinical station for most patients where multiple tasks are performed.

* Using cross-trained staff, require that more functions be performed at each station, reducing net staffing at the two facilities by approximately 26 Full Time Equivalents from 114 to 88, producing a net annual savings of approximately $1 million.

* Establish flexibility and interchangability in the sequence of stations and change the operating priority to providing service as quickly as possible to patients rather than following a fixed routine.

* Delete the Nurse Triage station and send patients instead directly to an Up Front station staffed by physicians where diagnosis and treatment of lower acuity patients are provided without a redundant stop at Nurse Triage.

* Establish a Patient Representative position in the lobby at both facilities to provide an initial point of contact for assistance to all patients and to facilitate and manage patient flow.

* Replace one physician position per shift at the Up Front stations with a lower cost Nurse Practitioner or Physician Assistant to see lower acuity patients, as has been successfully done at other emergency rooms and urgent care clinics throughout the country.

Findings related to patient management:

- Other than by showing up at the emergency room or urgent care clinic, patients cannot access DHS staff by telephone to determine if a visit is necessary, to obtain information and referrals to DHS or other services, for general health information, or for follow-up after a visit.

- Patient arrivals are clustered in the mid to late morning resulting in backups and long wait times for hours during the day while evening hours are relatively quiet.

- Some outpatient clinics do not accept referrals from Room 1050 or Hudson Urgent Care and there is no other follow-up for these patients.

Recommendations related to patient management (see Section VI.4):

* Establish a DHS telephone service so patients can call and obtain general health information, determine if a physician visit is necessary, and ask follow-up questions after a visit with the assistance of a nurse.

* Establish an appointment system at Room 1050 and Hudson Urgent Care to distribute patient arrivals more evenly throughout the day and reduce wait time.

* Allow patients to be financially screened by telephone prior to arriving for an appointment to expedite their visit.

* Make health education printed and video information available in the lobbies at both facilities.

Findings related to information technology and Ancillary Services:

- Data about patients cannot be readily accessed by clinicians because they have little access to DHS computer systems.

- Key performance measures such as wait time, cost per patient, and revenue per patient are not being recorded and tracked on a regular basis by management though this information is available through the facility information systems.

- Patient visits are often lengthened due to lack of coordination with ancillary services.

- The scheduling and ancillary test ordering capabilities of existing information systems have not been implemented though they would improve the efficiency of the current operations and provide greater coordination between clinics and with ancillary services.

Recommendations related to information technology (see Sections VI.5 and VI.6):

* Install computer terminals at each clinician's desk so providers can schedule patients at other clinic sites directly.

* Implement the scheduling module on CompuCare to automate this process and allow for instant feedback on the availability of appointments at other clinic sites.

* Integrate existing stand-alone patient diagnosis system with CompuCare for Room 1050.

* Develop key performance measures and reports to be produced by the system and tracked by management.

* Install laboratory test order-entry module on CompuCare and assign responsibility for obtaining test results on a timely basis to Patient Resource Workers to reduce patient time spent waiting for results.

Findings related to physical layout and security:

- Conditions in the main room at Room 1050 and the Nurse Triage area at Hudson Urgent Care are crowded, noisy, and lack privacy.

- The bullet proof glass at Room 1050 inhibits communications between staff and patients and does not ensure the security of the facility.

- Some remodeling at Hudson Urgent Care would provide more needed space and enhance implementation of new processes recommended in this report.

Recommendations related to physical space and security (see Section VI.7):

* Reconfigure the space at both facilities to provide more space for clinicians, improve privacy in the waiting area, and provide a less impersonal environment for patients.

* Discontinue communications through the bulletproof glass at Room 1050.

* Determine costs and plan for remodeling the lobby at Hudson Comprehensive Health Center to expand clinical service area and expand waiting area

* Implement a facility-wide security plan at LAC+USC at the existing facility or as part of the new facility, if constructed.

Findings on longer term issues:

A number of issues were identified in the course of this project that will require more time to solve than implementation of the recommendations above. These include:

- The shortage of primary care services at DHS facilities is one of the key factors contributing to the use of Room 1050 and Hudson Urgent Care by nonurgent patients. Many of these patients should more appropriately be receiving primary care rather than the episodic care provided at the two facilities.

- Some emergency departments refuse service to nonurgent patients and refer them to primary care services elsewhere. Due to the shortage of such capacity in Los Angeles County, such a policy is not feasible at this time.

- Many patients receive services at multiple DHS facilities but there is no way to track data about them between facilities since they use different, unconnected information systems and different identification numbers at each facility.

Longer term recommendations (see Section VI.8):

* The Department should conduct an analysis of backlogs and shortages in its primary care capacity and develop more plans like the LAC+USC Department of Medicine plan to expand these services.

* As additional primary care capacity becomes available, the Department should begin transferring appropriate patients from Room 1050 and Hudson Urgent Care to primary care practices so that non-acute services will be initiated through a predetermined gatekeeper.

* Begin planning for a DHS-wide integrated information system that will allow patient data to be shared between facilities.

Table A below summarizes the impacts of implementing the above recommendations.

Table A
Summary of Impact of Recommendations

	Room 1050			Hudson Urgent Care			TOTAL
	Current	Reengine	Difference	Current	Reengineerer	Difference	Difference
Full Time	70.03	51.2	18.8	44	36.44	7.56	26.4
Direct Cost	$3,980,220	$3,368,35	$611,867	$2,861,130	$2,458,661	$402,469	$1,014,336
# Visits/Year	65,700	65,700	*	55,480	55,480	*	*
Cost per Visit	$60.58	$51.27	$9.31	$51.57	$44.32	$7.25	--
Fast Track Visit Average**	2:40	1:20	1:20	2:50	1:17	1:33	--

* Expected to decrease over time as long term recommendations are implemented.
**Uses maximum allowable wait time for reengineered visit

It should be noted that some one-time costs of an undetermined amount would be incurred in implementing the recommendations. Minor costs would be incurred to expand the existing computer system by placing terminals at each clinician's desk and to implement the existing scheduling module. Other one-time costs would be incurred to implement a laboratory order entry module to the computer system, for some recommended remodeling at Hudson Urgent Care, and for an improved security system at LAC+USC.

Reengineering Emergency Room and Urgent Care Clinics: The Experience Elsewhere

The project recommendations include some practices that have been successfully implemented elsewhere, even though the new system is unique and tailored specifically to the DHS facilities reviewed.

- One important aspect of the recommendations was found at LAC+USC's Room 1050 where a traditional Nurse Triage station has been eliminated and replaced with an "Up Front" assessment station staffed by physicians to get patients to the core service they are seeking faster. This has proven to shorten patient visits for the 60 percent of patients who are lower acuity.

- Another practice found in Los Angeles County and incorporated into the recommendations is an appointment system, which has been implemented at the urgent care clinic at DHS's Harbor/UCLA Hospital so nonurgent patients do not have to wait in the emergency room.

- Cross-training of staff, flexible stations, and contact with patients immediately upon arrival are key concepts found at the Beaver Medical Center in Pennsylvania as the result of an emergency room reengineering project. The change has resulted in cost savings and reduced patient visit time.

- A number of facilities have successfully replaced selected physicians with physician assistants and nurse practitioners in emergency rooms and urgent care clinics and have found that the quality of care has been maintained or improved while costs have decreased. This practice is already in place at the Hudson Urgent Care clinic where the contract physician services is provided by a mix of physicians and physician assistants. Vanderbilt University Medical Center, a teaching hospital, has assigned nurse practitioners to its emergency room Fast Track System and found that patients and medical staff were highly satisfied with the results. As discussed above, the report recommends the use of physician replacements for nonurgent patients at both facilities reviewed.

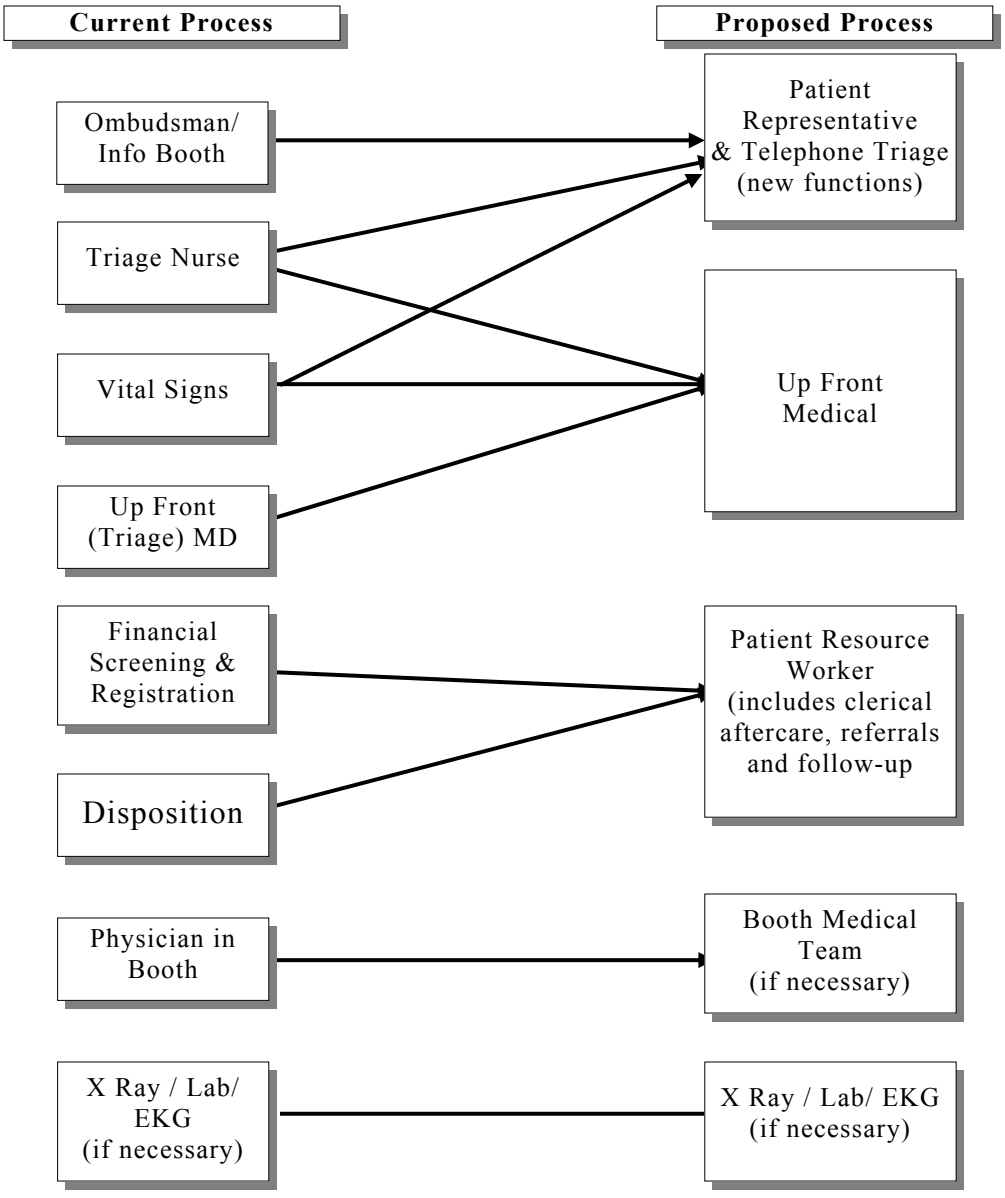
- A number of facilities surveyed as part of this project have also begun offering patients appointments at urgent care or primary care clinics in lieu of using emergency rooms. And San Francisco County's General Hospital has begun assigning all patients using their urgent care center to a primary care physician who assumes responsibility for case managing the patient.

Project Replication

One of the project goals of the Citizens Economy and Efficiency Commission was to develop an approach and recommendations that could be replicated elsewhere within DHS, particularly at locations where wait time is longer than that experienced at LAC+USC or Hudson. Staff from LAC+USC and the Hudson Comprehensive Health Center that participated in this project are qualified to assess current operations at those facilities and develop recommendations for improving the quality of patient care and reducing costs at those facilities.

The chart on the following page summarizes the current and proposed new processes. Arrows pointing to more than one new station indicate that many tasks should be performed at more than one station with the objective of keeping patients moving through the system.

Executive Summary Chart
Proposed Changes in Processes:
Room 1050 and Hudson Urgent Care



SECTION I: INTRODUCTION

On June 28, 1994, the Board of Supervisors requested that "the Citizens Economy and Efficiency Commission (E&E Commission) review and conduct an analysis of the delivery of patient services within the Department of Health Services (DHS) and identify those processes that, when reengineered, will result in improved patient services and significant cost savings;..." Accordingly, the Commission undertook a reengineering study of urgent care delivery at LAC+USC and the Hudson Urgent Care Center. The results of this study are intended to serve as a model for other urgent care centers, as well as to identify other reengineering opportunities within DHS.

Project Purpose and Scope

The purpose of this project was to analyze and "reengineer" services provided to walk-in patients at Los Angeles County's hospital emergency rooms and Comprehensive Health Centers (CHCs) to realize service improvements and cost reductions. Walk-in emergency (or urgent care) services were selected as the subject of this project because (a) County emergency rooms serve as the sole source of (primary and emergency) medical care for many residents of Los Angeles County, and (b) there were significant opportunities for cost reduction and service improvement. The Department of Health Services (DHS), determined that one walk-in hospital emergency room and one CHC Urgent Care clinic should be selected as the subject for this project, with the goal that such sites serve as pilot sites for a reengineered process that could be replicated at other DHS hospitals and CHCs.

The Walk-In Emergency Room at LAC+USC Medical Center (Room 1050) was selected as the hospital-based walk-in emergency room site, and the Urgent Care Clinic at H. Claude Hudson Comprehensive Health Center was selected as the CHC site. These facilities were selected because they were representative of the demographic mix of patients in the County, and were not currently the subject of other studies, projects or reorganizations. In addition, both facilities are located in the North/East Cluster, a subdivision of the County created by the DHS Reorganization Plan in an effort to integrate service delivery by geographic area. Finally, the LAC+USC staff had studied patient flow in the past and made some improvements that could be incorporated into this project and that might prove beneficial to other County hospitals

The scope of this study includes an analysis of cross-functional business processes employed at the two facilities, current patient workload at LAC+USC's Room 1050 and Hudson's Urgent Care Clinic, the cost of providing services at these facilities, and the organization and allocation of staff to provide these services. In addition, this study includes an analysis of waiting times and transaction times at each facility, a qualitative

evaluation of the process of service provision at each facility, and an analysis of internal and external factors that negatively impact patients' timely access to the appropriate level of health care at each facility.

This study has identified an estimated annual savings of $1,014,000 from a total direct operating budget of $6,841,000 for the two urgent care centers. This amount represents a 15% savings in operating budget. In addition to the savings, implementation of the recommendations contained in this report will result in a 48% reduction in average patient waiting time.

The significance of the reengineering approach can be seen when contrasted with a top-down cost-cutting approach. Although an approach using across-the-board reductions in staffing without redesigning the processes will result in decreased cost, it will also result in a decreased level of service. The reengineering approach of "better, faster, cheaper" will routinely result in a decreased cost with an improved level of service.

It is interesting to note that the annual 15 % savings identified in this report has been achieved through changes in operating procedures and staffing policies, with little capital investment. Standardizing the process methodology and design to review all County urgent care centers will likely result in a similar percentage reduction in cost. These reductions will provide substantial cumulative savings.

Perhaps more important than the immediate savings, this study has validated the use of business process reengineering as an important tool in helping DHS confront the current crisis. The service demands on DHS are not likely to lessen. DHS is facing increasing competition from other health providers for its traditional reimbursing base of Medicare and Medi-Cal clients. As is reported in this study, private hospitals and other health care providers are improving their competitive position through adoption of reengineered processes. Competitive pressures will require DHS to undertake these processes.

Although business process reengineering has proven to be an important tool for achieving improved service and cost reductions in both public and private sector organizations, it is not a silver bullet. Success has been achieved with the commitment of both management and employees to developing a culture of process improvement. To assist the Board in obtaining the maximum benefit from this approach, the Commission makes the following recommendations:

I.A. Direct that DHS implement the reengineering methodology utilized in this study, and all applicable recommendations, at all County Urgent Care Centers as rapidly as possible.

I.B. Direct that DHS establish a reengineering task force with the responsibility for:

- identifying reengineering opportunities within the department,
- overseeing the implementation efforts, and,
- the propagation of reengineered processes throughout the DHS.

I.C. Identify an independent review body, such as the Auditor-Controller or the Economy and Efficiency Commission, to meet with the appropriate officials to assist in implementing the recommendations of this report and report to the Board on a semi-annual basis.

I.D. Direct that DHS conduct benchmark studies of best practices both within the department and at other health care organizations and to establish the appropriate organizational structures to implement those practices throughout the department.

I.E. Establish a business process, service delivery reengineering investment fund to provide seed money for initial reengineering studies. This fund should be structured similar to the County Productivity Investment Fund. Departments would commit to repaying the investment from savings achieved. This reinvestment of savings into new reengineering studies will increase the rate at which the benefits from reengineering can be achieved.

I.F. Direct that achievements in reengineering efforts be made a central part of DHS executive evaluations.

Methodology

This project was defined as a "reengineering" study that would result in the implementation of a new process for providing care for patients in Los Angeles County. The concept of reengineering is to challenge fundamental assumptions upon which an organization is built, redesigning its processes, systems and structure around desired outcomes, rather than making incremental process improvements based on existing organizational structures.

Reengineering was chosen as the methodology for this project because changes in the health care industry. In the current fiscal environment the County must make radical changes in its health care delivery system. In addition to increasingly limited fiscal resources available for the provision of County services, the impending implementation of a managed care system for Medi-Cal recipients in California will cause County facilities to compete with private sector organizations for revenue-producing patients. Specifically, the State's Strategic Plan for Medi-Cal Managed Care calls for the State Department of Health Services to contract with two health plans in Los Angeles County for health services for certain Medi-Cal recipients. One contract will be with a commercial health maintenance organization (HMO) and one will be with a Local Initiative Plan, comprising a partnership of County and private sector providers. Medi-Cal recipients who also receive Aid to Families with Dependent Children (AFDC) will be given a choice between the two providers as of June 1996. Payment from the State will be on a capitated, or fee for service, basis. This development clearly contributes to an incentive for DHS to improve the quality, cost, and speed of its services, or, risk losing compensated patients.

Increased competition and a focus on customer service (speed, quality and convenience) in the health care industry have led hospitals and health care systems nationwide to develop more patient-focused services. Reengineering in this setting requires a focus on service delivery from the point of view of the patient, rather than from the point of view of the organization.

The field work for this study was conducted between September 1994 and January 1995. The primary methods of data collection and organizational analysis included:

- Management and staff interviews. Individual and group interviews were held with the Director of the North/East Network, the Director of LAC+USC Hospital the Chief of Staff, Nursing Director, Outpatient Director, and members of the Department of Emergency Medicine, and a range of other administrative and financial directors at LAC+USC. In addition, the Chief Executive Officer of H. Claude Hudson Comprehensive Health Center, and members of the medical, nursing and administrative staff were consulted. Interviews focused on each individual's responsibilities, his/her perceptions of the strengths and weaknesses of Room 1050 (LAC+USC) or Hudson Urgent Care in delivering patient care, previous efforts to improve patient care or control costs at the facility, and areas of potential improvement in patient services.

- *Process analyses*. These were based on observations of patient visits in Room 1050 and Urgent Care at Hudson, and on interviews with employees involved in each step of the process. This analysis included creating flow charts of the existing processes and presenting these flowcharts to a Project Process Work Team and other employees for confirmation of accuracy and completeness. Processes analyzed included triage and physician examinations, patient registration and financial screening, and patient disposition.

- *Staffing and cost analysis*. These included a review of current staffing levels, cost allocation methodologies, direct and indirect costs, and contracts for provision of physician services. This analysis included calculating current costs per patient visit, and a breakdown of costs for each step in a patient visit (registration and financial screening, nurse triage, provider examination, disposition). In addition, a model was created for calculating staffing requirements and costs for the reengineered process.

- *Creation of a Steering Committee and a Process Work Team.* These two teams met throughout the project to provide input on the project and to contribute to the creation of the reengineered model. The Steering Committee consisted of members of upper level management at LAC+USC and H. Claude Hudson Comprehensive Health Center, and the Process Work Team consisted of line staff supervisors and managers from each area involved in the delivery of patient care at Hudson and Room 1050 (nursing, physicians, clerical staff, and administrators). Both the Steering Committee and the Process Work Team provided input on existing problems in service delivery, and contributed ideas for improvement in the process. In addition, the Steering Committee provided project oversight and defined project objectives, while the Process Work Team focused on the details and logistics of reengineering patient care delivery.

- *Review of LAC&USC's previous Patient Flow Analysis*. In June 1993, the Medical Center conducted a Patient Flow Analysis in Room 1050 that analyzed the time spent during a patient visit. The analysis included data on total visit time, wait time versus service provision time, and wait times for each step in the process of a patient visit. In addition, the Patient Flow Analysis recorded the time each staff spent with patients versus total available staff time.

- *Time study, conducted as part of this project, at Hudson's Urgent Care Clinic and at LAC+USC's Room 1050.* This study recorded the time a patient entered the facility, and the start time and end time of each "transaction" (triage, registration and financial screening, physician examination, lab tests, and disposition) for each patient visiting for an entire day at both facilities. Total visit time, wait time, and clinical and clerical service times at each facility were calculated from the data.

- *Interviews with patients at Hudson Urgent Care and 1050*. Patient interviews included questions on patient satisfaction, knowledge and use of other County facilities, access to other health care services, and level of interest in proposed new services (such as appointments and telephone advice).

- *Solicitation of input from external organizations.* These included appointed County commissions, community groups, and others.

- *Literature search and telephone survey of reengineered hospitals and clinics.* This analysis included a review of published articles on reengineered or redesigned hospitals, emergency rooms or clinics, and a telephone survey of hospitals nationwide that have "reengineered" emergency rooms or other hospital facilities.

- *Survey and observations of other Los Angeles County hospital emergency rooms.* Site visits were conducted at Harbor-UCLA, Olive View, and Martin Luther King-Drew hospital emergency rooms and walk-in emergency facilities. In addition, staff were interviewed at each facility, and a comparative analysis of staffing, processes, and care delivery was completed.

Based on these activities, the Harvey M. Rose Accountancy Corporation developed a draft report for EEC review and approval. This report was distributed to the Department of Health Services, the Chief Administrative Officer, and the Auditor-Controller for review and comment.

SECTION II: PROFILE OF ROOM 1050 AT LAC+USC AND THE URGENT CARE CLINIC AT THE HUDSON COMPREHENSIVE HEALTH CENTER

II. 1. The Purpose of Room 1050 and Hudson Urgent Care

The State of California's Welfare and Institutions Code §17000 requires every county to support poor, indigent, incapacitated or incompetent residents. This State mandate includes the provision of health care to such individuals, and requires each county to be a provider of last resort to residents that are otherwise unable to afford or access medical care. Welfare and Institutions Code §17001 mandates that the Board of Supervisors of each county "shall adopt standards of aid and care for the indigent and dependent poor...."

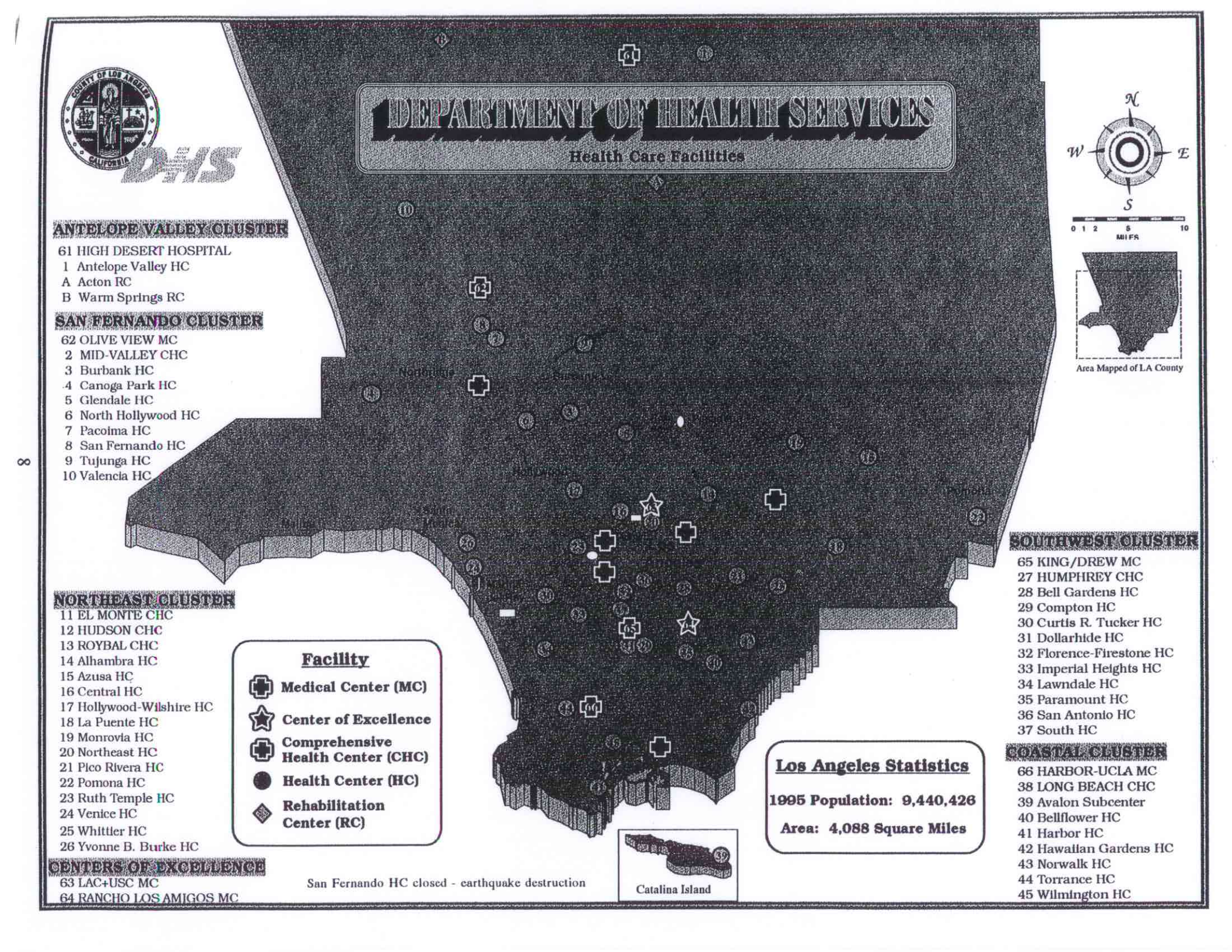
The Los Angeles County Department of Health Services provides medical care to the County's indigent and low income residents. The Department has commenced a restructuring effort to reorganize County health facilities into an integrated community-based delivery system. The reorganization established a "cluster system" of hospitals, Comprehensive Health Centers (CHCs), and Health Centers (HCs) that places hospitals, CHCs and HCs under the same umbrella in order to provide greater coordination and continuity of care to patients. Prior to the reorganization, County hospitals were independent (both functionally and organizationally) from the health centers and CHCs. The cluster system provides for a full spectrum of services (from acute, hospital-based care to preventive public health services) within each geographic area through a network of hospitals, Comprehensive Health Centers, and Health Centers (see map on next page).

LAC+USC Medical Center is the acute care facility for the Northeast Cluster. It is the largest of the County medical centers, consisting of three separate hospitals: General Hospital, Women's and Children's Hospital, and Psychiatric Hospital. The 1993-94 average daily inpatient census for the entire LAC+USC Medical Center was 1,056 patients and the outpatient workload was 2,602 patient visits per day.[1] LAC+USC workload comprised 42 percent of DHS's average daily census of 2,540 at all six county hospitals in 1993-94 and 49 percent of the 5,314 average outpatient visits at the six facilities. LAC+USC's emergency walk-ins at Room 1050 comprised 50% of the DHS total in 1993-94. Table II.1 presents this data using available 1994-95 data.

[1] Source: DHS FY 1993-94 Workload and Cost Information, from DHS-Information System - "Patient Workload Report" MICI-TB-0P100. Daily patient inpatient census calculated from annual figures divided by 365 days per year. Outpatient visits are based on total visits through May, 1994, annualized for the full year, and divided by 253 working days for ambulatory care visits and 365 days for emergency room visits.

DEPARTMENT OF HEALTH SERVICES

Health Care Facilities



ANTELOPE VALLEY CLUSTER

61 HIGH DESERT HOSPITAL
1 Antelope Valley HC
A Acton RC
B Warm Springs RC

SAN FERNANDO CLUSTER

62 OLIVE VIEW MC
2 MID-VALLEY CHC
3 Burbank HC
4 Canoga Park HC
5 Glendale HC
6 North Hollywood HC
7 Pacoima HC
8 San Fernando HC
9 Tujunga HC
10 Valencia HC

NORTHEAST CLUSTER

11 EL MONTE CHC
12 HUDSON CHC
13 ROYBAL CHC
14 Alhambra HC
15 Azusa HC
16 Central HC
17 Hollywood-Wilshire HC
18 La Puente HC
19 Monrovia HC
20 Northeast HC
21 Pico Rivera HC
22 Pomona HC
23 Ruth Temple HC
24 Venice HC
25 Whittier HC
26 Yvonne B. Burke HC

CENTERS OF EXCELLENCE

63 LAC+USC MC
64 RANCHO LOS AMIGOS MC

Facility

- Medical Center (MC)
- Center of Excellence
- Comprehensive Health Center (CHC)
- Health Center (HC)
- Rehabilitation Center (RC)

San Fernando HC closed - earthquake destruction

Los Angeles Statistics

1995 Population: 9,440,426

Area: 4,088 Square Miles

SOUTHWEST CLUSTER

65 KING/DREW MC
27 HUMPHREY CHC
28 Bell Gardens HC
29 Compton HC
30 Curtis R. Tucker HC
31 Dollarhide HC
32 Florence-Firestone HC
33 Imperial Heights HC
34 Lawndale HC
35 Paramount HC
36 San Antonio HC
37 South HC

COASTAL CLUSTER

66 HARBOR-UCLA MC
38 LONG BEACH CHC
39 Avalon Subcenter
40 Bellflower HC
41 Harbor HC
42 Hawaiian Gardens HC
43 Norwalk HC
44 Torrance HC
45 Wilmington HC

Table II.1
LAC+USC and DHS All Hospital Workload
1994-95*

	Inpatient Average Daily Census	Outpatient Visits	Emergency Walk-in Visits
LAC+USC	1,019	699,499	180
DHS All Hospitals	2,466	1,614,755	310
LAC+USC % Total	41%	43%	58%

* Full year estimated based on 9 and 10 month statistics available from DHS's Patient Workload Report (MIC-1) at the time of report publication except for Room 1050 Emergency Walk-in Visits, which were based on estimates from LAC+USC□s Room 1050 staff.

The cost of providing inpatient services at LAC+USC is over $500 million per year, and the cost of outpatient services is nearly $200 million per year. Outpatient services at LAC+USC are provided through the general medicine and subspecialty clinics in the Outpatient Department and through the Department of Emergency Medicine.

H. Claude Hudson Comprehensive Health Center is one of three CHCs in the Northeast Cluster. Providing only outpatient services, its clinics include Adult Internal Medicine, Dental, Dermatology, Gynecology, Family Planning, Surgical Services, Pediatric and Prenatal, and an Urgent Care clinic that treats adults and children on a walk-in basis. Hudson provides approximately 3,532 patient visits per day[2] at an annual cost of approximately $28 million. [3]

II.2. Overview of Room 1050

Room 1050 is one of three areas at LAC+USC that comprise the Department of Emergency Medicine

Emergency medicine in most urban hospitals today is a combination of primary and specialty care. The delivery of acute medical care to patients with life-threatening conditions is considered a specialty by the American College of Emergency Physicians (see Attachment 1 for the college's definition of emergency medicine). However, patients with

[2] Form BR2, Historical, Current & Request Year Workload Indicators, Fiscal Year 1993-94 (actual).
[3] DHS FY 1992/93 Workload and Cost Information, from DHS-Public Health Services-Financial Management-"Program Activity Cost Report" AL 7/22/94.

non-urgent conditions who do not have a regular doctor or other source of primary care are almost as likely to present at emergency departments as emergent patients. By law, non-emergent patients must receive at least a "screening examination" at all hospitals[4] This situation is more pronounced in California's public hospitals which are mandated by State law to provide health care to poor, indigent, incapacitated or incompetent residents and to be a provider of last resort (Welfare and Institutions Code § 17000). As has been well documented nationwide, emergency rooms in public hospitals, particularly in urban areas, have become the source of non-emergent medical care for many poor and uninsured individuals who lack any other source of care.

The Department of Emergency Medicine at LAC+USC is no exception to national trends in emergency room utilization. To ensure that patients receive an appropriate level of service, the department is divided into three separate areas:

1. Room 1350: a 24-hour Level III trauma center for emergent patients needing immediate critical care;
2. Room 1060: a minor trauma center for patients with conditions such as broken bones or wounds; and,
3. Room 1050: a walk-in clinic for ambulatory non-emergent patients.

At some hospitals, all patients present at the same location, leading to very long waiting times for non-emergent patients and a disturbing experience for some of the non-emergent patients in the waiting room as they witness trauma patients entering the facility.

LAC+USC's Room 1350 is open 24 hours per day, 365 days per year, and is the main "emergency room" where patients arriving at the hospital by ambulance are triaged, admitted, or otherwise dispositioned. Room 1060 and Room 1050 are open from 8:00 a.m. to midnight 365 days per year, and are where most ambulatory patients present. While Room 1350 is the main point of entry for emergent patients, Room 1050 is the hospital's primary point of entry for ambulatory patients who are not already under the care of a provider at the Medical Center.

Though an official mission statement does not exist for Room 1050, the main services provided are: 1) referrals to other providers; 2) treatment of specific problems; and, 3) primary care. The clinic was designed to serve ambulatory patients with non-emergent,

[4] Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1986.

non-life threatening conditions in a setting separate from those needing critical care. Patients may walk into Room 1350, but those able to do so are generally triaged and redirected to Room 1050 or 1060.

Organization Structure of Room 1050

The staff of Room 1050 is comprised of physicians, nurses, nursing attendants, and patient resource workers, with each group reporting to different managers. The physicians are a combination of County staff and residents that are part of the LAC+USC medical staff and are paid on an hourly basis. Nurses report to the nursing department supervisor and the Patient Resource Workers report to supervisors in the Patient Financial Services department. There is also an administrator for the Emergency Department who does not have line responsibility for the staff, but is responsible for the administrative aspects of operations. There is also a Supervising Physician in Room 1050 for medical matters. He has also assumed responsibility for monitoring patient flow. He reports to the Director of Emergency Medicine (physician) who reports to the Chief of Medical Staff (physician).

As currently organized, responsibility for Room 1050 operations is diffused. No single manager is accountable for the clinical, administrative, and financial aspects of operations.

The Patient Population at Room 1050

The LAC+USC Department of Emergency Medicine as a whole serves approximately 600 patients per day, almost evenly distributed among Rooms 1350, 1050 and 1060. For the fiscal year ended June 30, 1994, there were 65,537 patient visits in Room 1050, or an average of 180 patients per day.[5]

While some ambulatory patients present at Room 1050 with urgent conditions that require immediate medical attention and, at times, hospitalization, approximately 60 percent present for non-urgent conditions that could be treated in primary care. Treatment and disposition data shows that the majority of patients do not require extensive physician services or treatment. Nearly 60 percent of patients in Room 1050 are dispositioned after being briefly seen by a Triage Physician for their specific problems. Approximately 40 percent require a more extensive examination in the booth area of Room 1050.

[5] Patient visits, diagnosis and treatment, and other clinical data are recorded on a personal computer-based database developed by Dr. Jeff Sipsey in the Department of Emergency Medicine.

Table II.2 below illustrates the breakdown of physician encounter types performed by the Triage Physicians and the Booth Physicians. These data show 60 percent of patients were seen by a Triage Physician only. Of all visits, 70.9 percent were classified as "Minimal," "Brief," or "Limited" which means medical decision making for these visits was straightforward, of low complexity or, at most, of moderate complexity. Note that this data, collected by the LAC+USC staff, for Fiscal year 1993-94, excludes the months of January and February, 1994.

Table II.2
1993-94 Patient Visits by Encounter Type[6]

Encounter Type	Triage Physician Only		Triage and Booth Physician		All Room 1050 Visits	
	#	% Total	#	% Total	#	% Total
Minimal	3,602	10.8%	774	3.8%	4,406	7.9%
Brief	17,958	53.6%	3,853	19.1%	22,062	39.6%
Limited	5,016	15.0%	7,906	39.2%	13,040	23.4%
Intermediate	1,063	3.2%	6,348	31.4%	7,510	13.5%
Extended	112	0.3%	1,265	6.3%	1,403	2.5%
Other	5,735	17.1%	42	0.2%	7,311	13.1%
Total	33,486	100.0%	20,188	100.0%	55,732	100.0%
%Total Visits	60%		36%		100%	

Note: Columns 1 and 2 do not add to the total indicated in Column 3 because a number of patients leave prior to being seen by a physician.

Source: Sipsey database, Fiscal 1993-94 excluding January and February 1994[7]

Encounter Type Definitions:

Minimal: Presenting problem is self limited or minor and visit requires: a problem focused history; a problem focused examination; and straightforward medical decision making.

[6] The Department of Emergency Medicine codes physician encounters according to standard Evaluation and Management (E/M) codes for Emergency Department Services. Definitions are provided above.
[7] 1993-94 data was most recently available at time report was prepared. Data for January and February 1994 is excluded because it was stored on an archive diskette that was temporarily misplaced at that time.

Brief: Presenting problem is of low to moderate severity and visit requires a problem focused history; a problem focused examination; and medical decision making of low complexity.

Limited: Presenting problem is of moderate severity and visit requires: a problem focused history; a problem focused examination; and medical decision making of moderate complexity.

Intermediate: Presenting problem is of high severity and requires urgent evaluation by the physician but does not pose an immediate significant threat to life or physiologic function. Visit requires: a detailed history; a detailed examination; and medical decision making of moderate complexity.

Extended: Presenting problem is of high severity and poses an immediate significant threat to life or physiologic function. Visit requires: a comprehensive history; a comprehensive examination; and medical decision making of high complexity.

Other: These are encounters that do not fall into the descriptions above.

Costs and Revenues - Room 1050

Room 1050's 1994-95 operating costs are estimated to be approximately $19,894,758[8] as presented in Table II.3. This amount includes the costs of salaries and benefits of all employees assigned to Room 1050 as well as services and supplies, Medical Center overhead, and a proportionate share of ancillary service costs such as pharmacy, laboratory, and radiology.

[8] Source: LAC+USC Expenditure Management

Table II.3
Room 1050 1994-95
Estimated Direct and Indirect Costs and Average Cost per Patient Visit

Direct costs (salaries, benefits)	$3,980,220
Indirect costs: Medical Center overhead, supplies	12,092,306
Ancillary Costs	3,822,232
Total	$19,894,758
Estimated Total Patient Visits	65,700
Average Total Cost per Visit	$302.81
Average Direct Cost per Visit	$60.58

Note: Detailed staffing is provided in Table IV.A.2 in Section IV.A.

As can be seen, indirect and ancillary costs comprise the majority of costs for Room 1050. This is because of the Medical Center's allocation method developed for billing purposes to satisfy third party payors such as Medi-Cal. It includes prorated costs of Medical Center administration, plant operations and maintenance, medical records administration, resident staff, physician assistant staff in the Emergency Room, nursing administration, cafeteria and housekeeping, and others.

Of the estimated 65,700 patients who were seen in Room 1050 in 1994-95, the average total cost per encounter is $302.81. For this analysis, and estimates of cost reductions that would result from reengineered processes, only direct costs were used, since Medical Center overhead and ancillary costs cannot be expected to be reduced in direct proportion to reductions in direct costs. On a direct cost basis, the Room 1050 cost per patient visit is $60.58.

Revenues attributed to Room 1050 by the LAC+USC Finance Department are shown in Table II.4. Total revenues of $748,240 amount to only 4 percent of costs. Most of these are from Medi-Cal. Most patients are not covered by insurance, as demonstrated by the large proportion of uncovered costs, and most have incomes below the level where a self-payment is required (patients are screened to determine their ability to pay).

Table II.4
Room 1050
Estimated Revenue Collections by Payor Mix, FY 1994-95[9]

Payer	$ Amount	% Total
Medi-Cal	$543,254	73%
Self-Pay	118,297	16%
Medicare	54,703	7%
Private Insurance	31,986	4%
Other	0	0%
Total Estimated Revenues	$748,240	100%
Total Indirect Costs	$19,894,758	
Total Cost	$19,146,518	96%
Average Revenue per Encounter	$11.39*	
Total Direct and Indirect Cost per Encounter	$302.81	
Direct Cost per Encounter	$60.58	

*Based upon estimated total patient visits of 65,700.

II.3. Overview of Hudson's Urgent Care Clinic

Urgent Care is one of many clinics at the H. Claude Hudson Comprehensive Health Center. Open 7 days per week from 8:00 a.m. to 11:00 p.m., Urgent Care is the second busiest clinic at the center. During the 1993-94 fiscal year, approximately 55,480 patients (or an average of 152 per day) were seen by a Triage nurse, of which approximately 47,127 (or an average of 129 per day) were seen by a physician or Physician's Assistant.[10] The approximately 8,353 not seen are assumed to have left before completing all the stations that comprise an encounter. A majority of patients at the Urgent Care clinic are return patients to Hudson (approximately 65% of Urgent Care patients have previously been seen at Hudson, either in Urgent Care or in an outpatient clinic), while the remaining 35% are new to the facility. Unfortunately, statistics on patient diagnoses and provider service levels are not tracked at Hudson, but staff at the facility generally agree that patients at Hudson's

[9] Memo from Stuart Lee, Expenditure Manager, LAC+USC, Room 1050, 10/31/94 and April, 1994, Urgent Care Cost Reports (July 15, 1994) from Nancy Delgado.
[10] Source: Nancy Barnett, MIS Director, H. Claude Hudson Comprehensive Health Center, from the HCOIS patient registration system.

Urgent Care have conditions of similar or lower acuity to those presenting at Room 1050, where 60 percent of patients are classified as low acuity.

Organization Structure of Room 1050

As in Room 1050, staff at Hudson Urgent Care are part of a matrix organization. The physicians are part of a contract service and are not County employees. Nurses and clerks are County employees but report to separate managers; the nursing department and the administrative department, respectively. The contract physician services are overseen by the Chief of Medical Staff for Hudson Comprehensive Health Center.

Costs and Revenues

The Hudson Urgent Care Clinic's estimated 1994-95 operating costs were an estimated $3,507,019. This amount includes the costs of salaries and benefits of all employees assigned to the clinic as well as services and supplies, overhead, and a proportionate share of ancillary service costs. The 1994-95 cost breakdown is as follows:

Table II.5
Hudson Urgent Care 1994-95
Estimated Direct and Indirect Costs

Direct costs (salaries, benefits)	$2,861,130*
Indirect costs: CHC overhead and Ancillary Costs	645,889
Total	$3,507,019
Estimated Total Patient Visits	55,480
Average Total Cost per Visit	$63.21
Average Direct Cost per Visit	$51.57

* Note: Detailed staffing rosters are provided in Section IV.V. in Table IV.B.2.

Indirect costs are minor at Hudson compared to LAC+USC where they were $15.9 million. The difference is in higher administrative and clinical costs associated with inpatient and specialty services at LAC+USC and differences in overhead allocation methods.

Based on the estimated patients who will be seen at Hudson Urgent Care in 1994-95, the average cost per encounter is $63.21, as shown in Table II.5. For analysis purposes and to estimate cost reductions that would result from reengineered processes, we have used only direct costs since Hudson Comprehensive Health Center overhead and ancillary costs cannot be expected to be reduced in direct proportion to reductions in direct costs without a significant reduction in patient load. On a direct cost basis, the Hudson Urgent Care cost per encounter is $51.57.

Hudson's patient base is primarily uninsured or covered by Medi-Cal. Table II.6 below shows the payer mix for the 47,127 patients who saw a physician at Hudson Urgent Care in Fiscal 1993-94. As can be seen when comparing this data to that of LAC+USC in Table II.4, collection information is collected in different formats at the two facilities.

Table II.6
Hudson Urgent Care
Estimated Revenue Collections by Payor Mix at FY 1993-94[11]

Payer Category	$ Amount	% Total
Medi-Cal	$1,333,107	82.0%
Self-Pay[12]	38,113	2.0%
Medicare	0	0.0%
Private Insurance[13]	n/a	n/a
Other (e.g. Community Health Plan)	257,958	16.0%
Total Estimated Revenues	$1,629,178	100.0%
Total Direct and Indirect Costs	$3,507,019	
Total Cost	$1,877,841	
Average Revenue per Encounter	$29.37*	
Total Direct and Indirect Cost per Encounter	$63.21	
Direct Cost per Encounter	$51.57	

*Based upon estimated total patient visits of 55,480

[11] Source: Urgent Care Cost Reports (July 15, 1994) provided by Nancy Delgado, Hudson Comprehensive Health Center.
[12] Includes patients that have no third party insurance, do not apply for Ability to Pay (ATP) or pay the $45 up-front cash fee at the time of visit or within the 7-day payment period. These patients are sent a bill for the full cost of services.
[13] No private collections were reported for the Urgent Care clinic by Hudson Comprehensive Health Center staff.

II.4. Comparisons of Room 1050 Wait Time

Several commonly accepted assumptions about Room 1050 were unearthed and proven wrong in the course of conducting research for this project. Although this report details areas that provide opportunity for improvement in efficiency and service delivery in Room 1050, there are areas where significant improvements have been made and should be recognized.

Wait times and total visit times are frequently cited as a problem in County facilities in general and in Room 1050 in particular, but a survey of County hospital walk-in emergency facilities conducted for this project revealed that the average visit time in Room 1050 appears to be the lowest in the County.[14] This cannot be proven in this report since the survey conducted in Room 1050 was limited, and because the average visit times in other County walk-in hospital emergency rooms were reported verbally during the course of site visits. With this restriction, Table II.7 below illustrates the reported average visit times in Los Angeles County walk-in emergency facilities compared to Room 1050.

Table II.7
Average Visit Times in Los Angeles County Hospital Walk-In Emergency Rooms

County Hospital	Walk-In Location	Average Reported Visit Time
Harbor-UCLA	Urgent Care Clinic[15]	1 hour, 30 minutes
Harbor-UCLA	Emergency Room	6-12 hours[16]
ML King-Drew	"Triage Central"	3-5 hours
Olive View	Walk-In Clinic	8 hours
LAC+USC	**Room 1050**	**2 hours, 40 minutes**

[14] Not including Harbor-UCLA's Urgent Care Clinic, which is an appointment only clinic. Patients must be appointed to the Urgent Care Clinic by the Triage Nurse in Harbor-UCLA's main emergency room.
[15] Average visit time does not include the patient's initial visit to the emergency room for triage.
[16] Low acuity patients at Harbor-UCLA are given the option to wait for care in the emergency room, or return for an appointment at the Urgent Care Clinic. This wait time is for low-acuity patients who choose to wait for care in the main emergency room.

The data presented in Table II.7 suggests that initiatives to improve patient flow and wait time are needed at these other County hospital emergency rooms. Many of the recommendations presented in this report could well benefit the other facilities and should be pursued as part of an ongoing reengineering effort by DHS.

In July, 1993 a Patient Flow Analysis was conducted in Room 1050 by LAC+USC to track service times and wait times. The study results pinpointed areas of weakness in service delivery, some of which have subsequently been addressed through changes in staffing and other efforts. A comparison of the results of the 1993 Patient Flow Analysis and a time study conducted as part of this project would not be valid since the methodologies of the two studies differed. Even though changes have occurred since the 1993 studies, such as eliminating the traditional triage nurse assessment and adding more Patient Financial Services Staff. With these changes, it appears that total visit time has decreased since 1993.

Patient registration and financial screening time appear to have been reduced as a result of increasing the number of registration and financial screening staff and windows in 1994. While this improved patient wait time, it unfortunately added new costs to Room 1050's financial screening operations such that costs nearly exceed the revenues being captured through financial screening. In fact when indirect costs for non-personnel costs such as supplies and overhead are added (estimated by the Harvey M. Rose Accountancy Corporation to be 20%), total costs become $818,436, or more than the estimated $748,240 in patient revenues for the year.

SECTION III: WHY PATIENTS USE ROOM 1050 AND HUDSON URGENT CARE

- Due to a shortage of primary care providers in Los Angeles County, many Medi-Cal and uninsured patients use Room 1050 and the Hudson Urgent Care clinic for primary care. This is not optimal because neither facility provides true primary care in a hospital setting is more costly than in a primary care setting

- A planned restructuring of the Department of Medicine's outpatient services at LAC+USC will provide improved primary care services for some of the patients now seen at Room 1050 and Hudson Urgent Care.

In considering how to improve services and reduce costs at Room 1050 and Hudson Urgent Care, two key questions were considered:

1) Why do patients come to Room 1050 and Hudson Urgent Care?

2) What happens to patients who come to Room 1050 and Hudson Urgent Care?

Section IV analyzes what happens to patients when they come to Room 1050 and Hudson Urgent Care and identifies opportunities for improvement. But before considering that, it is important to determine why patients are coming to these facilities in the first place and determine if they are coming for the right reasons. This section addresses that question and discusses a planned restructuring of outpatient services at LAC+USC that will help solve some of the problems concerning suboptimal primary care services and inappropriate use of Room 1050 and Hudson Urgent Care by some patients.

III.1. Reasons for Using Room 1050/Hudson Urgent Care

! ***Services are available to all regardless of insurance coverage or ability to pay***

Pursuant to Welfare and Industrial Code э17000, medical care is provided by the Department of Health Services regardless of a patient's ability to pay. Lack of medical insurance or Medi-Cal coverage is never used as the basis for denying service to patients at any County medical facility. Uninsured patients do not have to pay anything for medical

services if they are below a certain income level. Previous studies show that one in three residents of Los Angeles County lacks health insurance. Primary care clinics for the uninsured are also reported in short supply.[17]

! ***Unlike DHS's outpatient clinics, where appointments are required, service is provided at Room 1050 and Hudson Urgent Care on a drop-in basis for all types of care, including primary care, though patients must be willing to wait in line for up to several hours to see a provider.***

Although the County Department of Health Services provides a broad array of primary and specialty health services to the Medi-Cal and uninsured patient population through its hospitals, clinics and other facilities, significant backlogs exist at many clinics. At some clinics, new patients are not even being accepted.

Backlogs of two to ten months at County clinics and the lack of any other alternatives for Medi-Cal, the poor and uninsured leads many patients to seek medical care, including primary and routine care, in County emergency rooms and urgent care clinics. Though not originally designed to provide primary care, use of public hospital emergency rooms and urgent care clinics for nonurgent care has been well documented nationwide and in Los Angeles County.[18] The wait for medical care in Room 1050 or Hudson's Urgent Care can be extensive, as shown in Table III.1.

Table III.1
Average Patient Wait Time
Room 1050 and Hudson Urgent Care

	Room 1050	Hudson Urgent Care
Average Wait Time	2 hrs, 5 mins	2 hrs, 12 mins
Average Total Encounter Time	2 hrs, 40 mins	2 hrs, 50 mins
% Wait Time	78%	78%

Source: Time studies conducted at Room 1050 on November 8, 1994 and at Hudson Urgent Care on November 2, 1994 by Harvey M. Rose Accountancy Corporation.

[17] Baker, David W., et al, "Regular Source of Ambulatory Care and Medical Care Utilization by Patients Presenting to a Public Hospital Emergency Department," Journal of American Medical Association, 1994; 271:24; 1909-1912.
[18] *Ibid*.

Consequently, Room 1050 and Hudson Urgent Care are used by a wide variety of patients, from emergent and urgent patients to numerous patients with routine or non-urgent physical ailments, but who do not wish to wait several months to have their conditions treated at the County's limited capacity primary care facilities. (Note: Critical, or "red flag" patients, are scheduled for outpatient appointments within one week, however.)

! ***Room 1050 and Urgent Care Serve as Points of Entry to Other Services in the DHS System***

In addition to the backlog and long wait for appointments in the outpatient clinics at LAC+USC and Hudson, many outpatient clinics require that a patient be referred by a physician in order to get an appointment at the clinic. For patients without a regular physician, a visit to Room 1050 or Hudson Urgent Care is required in order to get a physician referral into an outpatient clinic.

LAC+USC has developed an "Open" and "Closed" clinic system to prevent over referrals or inappropriate referrals, and to ration access to subspecialty clinics. "Open" clinics require a physician referral in order for a patient to get an appointment; therefore, a patient can be scheduled into an Open clinic by a disposition clerk or nurse at the end of the patient's visit to 1050 or Urgent Care. "Closed" clinics require both a referring physician and the review and acceptance of the referral by a clinic physician. Physicians referring patients to a closed clinic must send referral and chart information to the clinic physician, who then either accepts or rejects the referrals. Patients referred into a closed clinic must wait for appointment notification by mail; if a patient referral is not accepted by the clinic, the patient is not sent any notification. Patients who are not accepted have no choice but to return to the emergency department or Urgent Care for further care.

! ***Hours of Operation; Location; Availability of Other Services***

Patients may also choose to use Room 1050 and Hudson Urgent Care because both are open evenings and weekends, unlike most County outpatient clinics, because their location is convenient, or because they prefer to receive medical care in a setting that offers all the services of a major hospital or health center in one location. For some patients, using these facilities may be habit and/or due to lack of knowledge about alternatives. Finally, some patients probably prefer the drop-in nature of these facilities and prefer treatment on an episodic basis.

III.2. Problems with Patients using Room 1050 and Hudson Urgent Care for Primary Care

While there are very rational reasons for patients to elect to obtain services at Room 1050 and Hudson Urgent Care, particularly compared to available alternatives, there are several drawbacks to these patients, as itemized below. We agree with the project Steering Committee that the positive attributes of the services provided should be identified and capitalized on while the drawbacks below should be improved upon. The drawbacks of using Room 1050 and Hudson Urgent Care for non-urgent medical care are as follows:

! ***Hospital-based emergency department care is costly compared to typical primary care clinic settings***

Costs of medical service are generally higher at emergency departments than they are at typical primary care clinics due to high fixed overhead costs at hospitals. Similar results were found in a national study comparing the costs of like services provided in emergency rooms and primary care clinics and offices.[19] For example, Room 1050 direct staffing costs are not much higher than those at Hudson Urgent Care. However, overhead costs amount to 23 percent of direct salary costs at Hudson Urgent Care but 204 percent at Room 1050. It should be pointed out that DHS would not necessarily achieve savings by moving its services out of Room 1050 to a primary care setting unless it can reduce its Medical Center overhead by a proportionate amount. Otherwise, savings in direct costs at LAC+USC would simply be transferred elsewhere. However, reductions in direct costs can be realized at Room 1050 through reengineering processes, as discussed in more detail in subsequent sections of this report.

! ***Care is episodic and doesn't fully serve as an alternative to primary care in areas such as preventive care***

The four main attributes of primary care have been defined as follows:

1. "It provides first contact for persons with undifferentiated health concerns;

2. it is responsible for coordination of other health services as they relate to patient care;

[19] Baker, Laurence and Baker, Linda Schuurman, "Excess Cost of Emergency Department Visits for Nonurgent Care", Health Affairs, 1994: Winter, 162:171

3. it is person-centered, comprehensive care that is not organ or problem-specific; and,

4. it is oriented toward longitudinal care of the patient."[20]

Room 1050 and Hudson Urgent Care possess the first two of these attributes but not the last two. As a result, patients receive service for undifferentiated health concerns and some coordination of services but do not receive "person centered, comprehensive care" or "longitudinal care."

Patients who rely on 1050 or Urgent Care as their primary source of care have little access or exposure to preventive health care or case management. Due to operating procedures at LAC+USC and the Hudson Comprehensive Health Center, limitations of DHS information systems, medical records systems and communication mechanisms, providers in Room 1050 and Urgent Care treat patients' presenting symptoms without necessarily having access to or focusing on other areas of patient care.

! ***There is little, if any, follow up for patients after they are seen at either Room 1050 or Hudson Urgent Care***

The patient scheduling, referral and follow-up system at LAC+USC and H. Claude Hudson CHC hinders continuity of care and reinforces patients' use of urgent or emergency care. When a patient registers for a visit at Room 1050, staff does not have access to the CompuCare system scheduling module which could show past or future appointments in the Outpatient clinics -- nor would CompuCare have any record of patient visits at other DHS facilities. Similarly, Urgent Care at Hudson has no way to track patients' appointments or services received outside of the Hudson outpatient clinics. Consequently, patients may receive duplicative services, lab tests or prescriptions due to the lack of coordination between facilities and clinics. If these patients were seen in a primary care setting, all of this information would be readily available.

In addition to the information system shortcomings that hinder the delivery of coordinated care at the time of a patient visit, the referral system between Hudson and LAC+USC and within LAC+USC hinders continuity of care for patients. When a patient is seen at 1050 or Urgent Care, the presenting problem is treated, and the patient

[20] Crowder, V., "Defining Emergency Medicine: Are We Generalists or Specialists?" , Annals of Emergency Medicine, 1994: 23:4: 869:871.

is frequently referred to an outpatient clinic if follow-up is needed. Because most scheduling of referrals to outpatient clinics is done by telephone or mail, rather than electronically, a record of previous and future patient visits is typically not reviewed by either the referring provider or by the clinic accepting the referral. Since there is a delay between the time the provider makes the referral and the time the patient receives notification of the follow-up, the provider is not able to educate the patient about the purpose (and timing) of the follow-up visit as part of the patient's aftercare instructions.

The logistics of the Open and Closed clinic referral system at LAC+USC result in no back-end follow-up after a patient exits 1050 or Urgent Care. A critical flaw of the current Closed clinic system is that a patient receives no follow up or notification if he/she is not accepted into a specialty clinic. The referring physician has evaluated the patient and judges that he/she needs additional medical care from a subspecialty clinic, but if the clinic physician does not concur that the patient's condition warrants the attention of a specialist, the patient simply does not receive *any* additional care. Consequently, a patient that has not been accepted into a Closed clinic can only access follow-up care for his/her condition by returning to 1050 or Urgent Care.

! ***It is not uncommon for some patients to leave before they are seen at emergency departments due to the long wait times***

Studies in urban public hospital emergency rooms have shown that long wait times often result in patients leaving before they have received care.[21] While this study did not track this phenomenon at either project facility, statistics kept for both locations show a drop-off between the number of patients who sign in and the number treated. At Hudson Urgent Care, this amounted to 8,373 patients in 1993-94, or 15 percent of the 55,500 patients registered. Similar statistics are not available for Room 1050.

[21] Stock, Lawrence, et al, "Patients who Leave Emergency Departments without being seen by a Physician: Magnitude of the Problem in Los Angeles County," Annals of Emergency Medicine, 1994:23:2;294-298.

III.3. The Proposed Outpatient Department Reorganization Effort at LAC+USC and its Possible Impact on Room 1050 and the Hudson Urgent Care Clinic

In August, 1994, the Department of Medicine at LAC+USC released a proposal for a reorganization of the Outpatient Department at LAC+USC ("the DOM Plan"). The plan is based largely on the reallocation of existing resources to relieve backlogs at outpatient clinics, improve continuity of care, reduce episodic walk-in care at Room 1050, and eliminate duplicate laboratory tests and treatment. The goals of the plan are improved patient satisfaction, improved continuity of care, and LAC+USC remaining competitive in the coming managed care environment. As discussed in Section I, the pending State implementation of managed care for Medi-Cal recipients who are receiving Aid to Families with Dependent Children (AFDC) will increase the pressure on the Department to provide high-quality, low-cost services in order to compete for these compensated patients.

Highlights of the DOM Plan are as follows:

- Creation of a Primary Care Medicine Outpatient Service, consisting of 16 Medical Groups, each of which will consist of one Attending Physician and eight Medical Residents. The Medical Group, rather than a particular physician or resident, will serve as primary care provider for all patients currently followed in General Internal Medicine and Medical Subspecialties. Each Medical Group will serve approximately 2,000 patients, and each Resident will be assigned approximately 250 patients.

- One Case Facilitator (a Nursing Care Specialist) will be assigned to every two Medical Groups. The Case Facilitator's primary responsibilities will be telephone triage, coordinating patient lab results and ancillary scheduling, follow-up visits, prescriptions, referrals to specialty clinics, referrals to Urgent Care or the emergency room, and coordination with the primary care resident regarding patient care.

- Outpatient clinic capacity will be increased through holding more clinics per day and requiring residents to dedicate two and one-half days per week to outpatient care rather than the current one-half day per week. Each Medical Group will have an Outpatient session one half day per week, with the plan to increase the number of outpatient sessions to two or three half days per week in the future (to

comply with future requirements of the Accreditation for Graduate Medical Education). Also, planned improvements in the efficiency of clinic operations will enable residents to see 10 patients per clinic rather than the current six.

- Creation of an Urgent Care service ("MURGE Care") available for patients being followed in the Primary Care units so that eventually Room 1050 would only serve patients who are new to the Medical Center, because all returning patients would be enrolled in Primary Care units and would be triaged to MURGE Care for urgent or emergency services.

- Establishment of a 24-hour per day telephone service for patients being followed by one of the Medical Groups. Patients could call this central number, be directed to their Medical Group Case Facilitator during business hours, or be triaged and, depending on their condition, be scheduled into a MURGE care appointment or directed to the Emergency Department, if appropriate.

- Access for referrals to subspecialty outpatient clinics will be improved. Case Facilitators will ultimately be added to the subspecialty clinics, too. Fellows will be available for telephone consultations and to see patients in clinics or the Emergency Department (including Room 1050), if necessary.

The potential impacts of this plan on operations at Room 1050 include:

- The 24-hour telephone answering service is expected to improve continuity of care and management of intercurrent illness, thus reducing episodic care in Room 1050;

- Primary care capacity would be significantly increased, allowing patients now receiving primary care at Room 1050 more opportunity to have a “regular” doctor;

- An Urgent Care facility would be established for patients being followed in the Primary Care or subspecialty clinics, thus reducing their need to visit Room 1050 for episodic care.

Implementation of this plan could have significant impacts on outpatient services as well as services at Room 1050 and Hudson Urgent Care, particularly for patients who are using those facilities as their source of primary care. By creating the walk-in MURGE care service, patients being followed by the Department of Medicine would no longer use Room

1050 for episodic care. Instead, they would be seen in a clinic where their history is readily available and where their Case Facilitator coordinates their care.

New patients referred to a clinic from Room 1050 or Hudson Urgent Care would be seen within one week's time under the plan and would then become part of a Medical Group for ongoing primary care. Their future medical services would be met by their Medical Group, MURGE care, or a subspecialist *after* referral from their primary care group. They would no longer make use of Room 1050 or Hudson Urgent Care.

Some aspects of the plan have been implemented and others are still under review. Part of implementation calls for increased coordination with Room 1050 as aspects of the services provided there will now mirror MURGE care. Coordination with the comprehensive health centers, including locating some Medical Groups at CHCs is a key component of the plan. The recommendations contained in this report, particularly the longer-term recommendations in Section VI.8, attempt to build on this plan for improved outpatient services. Implementation of this plan will not obviate the need for a walk-in clinic like Room 1050 and Hudson Urgent Care but, over time, should reduce the level of need at those sites and allow for improved service for non-urgent patients.

SECTION IV: ASSESSMENT OF PATIENT VISITS TO ROOM 1050 AND HUDSON URGENT CARE

In this section, assessments are presented of the current situation at Room 1050 and Hudson Urgent Care. First, there is an overview of current processes, staffing, and costs at both facilities, followed by a station by station assessment of the current situation. It is divided into two sections: IV.A., Description and Assessment of the Current Process at Room 1050, and IV.B., Description and Assessment of the Current Process at Hudson Urgent Care. Listed below are some of the problems identified in conducting these assessments.

PATIENT VISITS AT ROOM 1050 AND HUDSON URGENT CARE SUFFER FROM A NUMBER OF PROBLEMS:

- Visits are segmented into a series of specialized stations with numerous hand-offs and long patient wait times between each station.

- Most of a patient visit is time spent waiting; at Room 1050, a one-day time study showed that 78% of a 2 hour, 40 minute visit is time spent waiting; wait time averaged 78% of a 2 hours, 50 minute visit at Hudson Urgent Care.

- Specialization results in idle staff time as staff performs only their designated functions even when patient backlogs exist at other stations.

- Although additions to administrative staff were made in 1994-95 to reduce the wait for financial screening at Room 1050, this has not produced additional revenues and total costs of financial screening now exceed revenues collected.

- Patients do not have access to DHS staff for information and referrals to services, for general health information, or for follow-up after a visit without physically coming to the clinic or hospital.

- Some outpatient clinics do not accept some of the referrals from Room 1050 or Hudson Urgent Care; there is no follow up with these patients.

- There is an insufficient overview of the process for patients particularly on their first visit to Room 1050 or Hudson Urgent Care. Patients' families cannot always locate their family member once they are being seen.

- The layout of Room 1050 and Hudson Urgent Care do not foster an efficient or user-friendly patient flow, nor are they secure.
- Data about patients cannot be readily accessed on a system-wide basis due to restructuring in information systems and patient record keeping.
- Patient visits are often lengthened due to lack of continuity with ancillary services.

An analysis was conducted of the current processes of patient care delivery at Room 1050 and Hudson Urgent Care to establish a baseline. This was based on interviews with management and line staff, observations conducted during site visits, a step by step process analysis conducted with the project's Process Work Team, activity cost analyses, and time studies at each facility. An assessment of the current processes at each station of Room 1050 and Hudson Urgent Care is included.

Assessment Criteria

The following criteria were used to evaluate the processes at Room 1050 and Hudson Urgent Care.

Value: Each station's value to the patient was assessed. Value is defined as the core service that patients expect from a visit or the aspect of the service for which they would be willing to pay. For example, encounter time with a physician is generally the part of a visit of greatest value to patients. Entering patient data on the computer system or financial screening, on the other hand, may be necessary, but does not provide value to patients.

One of the goals of this project was to determine if the stations and processes of little value to patients should be continued at all and, if so, how their impact on resources and patient time could be minimized. For the stations and processes that provide high value to patients, on the other hand, it was necessary to determine how these could be provided faster, at less cost, and more effectively.

Patient Experience: The study assessed the qualitative aspects of each station and key process for attributes such as user-friendliness, privacy, and physical environment. The goal for each station and process comprising a patient visit should be a positive patient experience.

Time: Average wait time and transaction time for each station was assessed to determine where bottlenecks exist, to determine if staffing is adequate, and to determine if time could be reduced through elimination or consolidation of stations. Research has shown that patient satisfaction is inversely correlated with the amount of time spent before receiving care.[22]

Cost: We have identified direct costs and average costs per encounter for each station as a means of measuring cost-effectiveness.

Using these assessment criteria, the goal of this project was to develop recommended processes that allocate maximum resources to the activities of highest value to patients, maximize user-friendliness, minimize wait and transaction time, and minimize costs.

IV.A.1. Description and Assessment of the Current Process at Room 1050

A patient visit to Room 1050 always begins with the Triage Nurse and ends with a Disposition Clerk, but there are a variety of steps in between that vary depending on patient acuity and backlog at each station. Table IV.A.1 provides a patient visit flowchart and time data for Room 1050. The transaction times and wait times presented are based on the time study conducted by the Harvey M. Rose Accountancy Corporation on November 8, 1994. The wait time for each station represents wait time from the previous station. Because of variation in station sequencing, the wait time recorded for each patient may not be from the previous station listed. Following this, the stations and functions performed by the staff in each area are explained further. A more detailed flow chart of the process is presented in Attachment 2.

As shown in Table IV.A.1, wait time exceeds transaction time at Room 1050 by approximately 257 percent. On average, a patient spends two hours and five minutes waiting and 35 minutes conducting the various transactions that comprise a patient visit.

[22] Bursch, Brenda et al, "Emergency Department Satisfaction: What Matters Most?" Annals of Emergency Medicine, 1993:22:3, 586:591

Of the 35 minutes, clinical time amounts to 21 minutes on average and clerical time 14 minutes. Depending on the time of day a patient arrives and the number of other patients in the queue, these times can be significantly higher or lower. Note that the number of patients varies by station, indicating a drop-off between the number of patients entering the facility and the number who go through all stations. Some patients who arrive at the Room 1050 are diverted to other departments within LAC+USC; others leave on their own volition without completing all stations. Some of these are assumed to leave because of the long wait times.

Table IV.A.1
Room 1050 Summary Patient Flow Data

Based on 1993-94 patient statistics recorded by spsey system and time study data from 11/8/94

	Station	# Patients/Day	Wait Time	Transaction Time
1	**Patient Enters 1050**	200	n/a	n/a
2	**Triage Nurse**	200	6 minutes	1 minute
3	**Financial Screening**	180+	33 minutes	9 minutes
4	**Vital Signs**	175	14 minutes	1 minute
5	**Up Front (Triage) Physician**	175	19 minutes	9 minutes
6	**MD Exam in Booth (if necessary)**	70	65 minutes	36 minutes
7	**Lab/Xray/EKG (if necessary)**	n/a	n/a	58 minutes
8	**Disposition Clerk**	175	46 minutes	4 minutes

Average Total Elapsed Time 2:40
Average Wait Time 2:05
Average Transaction Time 0:35
Clinical Time 0:21
Clerical Time 0:14

Note: Wait time includes time spent by some patients for ancillary services such as Laboratory and X-ray services.

Each time there is a hand-off between stations, patients incur additional wait time. In some cases, transaction time is minimal, such as for the triage nurse and vital signs which require only one minute each. However, average wait times for those two stations are six minutes and fourteen minutes, respectively. In other words, patients spend an average of 20 minutes waiting for these two minutes of service.

Room 1050 Staffing and Costs

Room 1050's estimated annual operating costs are reported in Section II as approximately $19,894,758, of which $3,980,220 are direct costs for the salaries and benefits of staff assigned to Room 1050. For analysis purposes, only direct costs were used, as any savings realized from implementing this project's recommendations are not likely to reduce Medical Center overhead, but rather to be used in reducing direct costs in Room 1050. Based on the estimated 65,700 patients who will be seen in Room 1050 in 1994-95, the average cost per encounter is $302.81 when all overhead costs are included.

Most of the Room 1050 direct costs pay salaries and benefits for the clinical staff, primarily physicians who receive the highest pay of the staff assigned to Room 1050. Approximately $2,934,893 of the $3,980,220 in direct costs pay for physicians and nurses. The balance, $1,045,327, or 26 percent of Room 1050 direct costs, pays for Nursing Attendants and clerical and administrative staff. Staffing details are shown in Table IV.A.2.

Table IV.A.2
Staffing and Salary and Benefits Costs - Room 1050: 1994-95

Station/ Classification	# Full-Time Equivalents*	Salary and Benefits Costs
Patient Enters/		
Nursing Attendant	1.00	$24,220
Triage Nurses	4.94	$266,880
Vital Signs/Nursing Attendants	3.08	$68,921
Up Front Assessment/		
Resident Physicians	7.87	$1,055,805
Registration & Financial Screening/		
Patient Resource Workers	23.06	$641,730
Int. Sup. Clerk Typist	1.15	39,973
Booth/Physicians	8.38	$1,124,224
Clinical Nurses	3.08	147,923
Nursing Attendants	6.16	137,843
Staff Nurse	0.19	8,805
Nursing Supervisor	0.23	21,965
Disposition/		
Intermediate Clerks	9.24	$231,562
Administration		
Supervising Physician	1.00	$157,590
Senior Clerk	1.00	27,718
Intermediate Clerk	1.00	25,061
TOTAL	70.03	$3,980,220

* Includes vacation/sick leave relief as verified by Room 1050 managers

A breakdown of Room 1050 average costs per encounter by station are shown in Table IV.A.3. (Note: the number of encounters varies by station assumed to be the result of a number of patients being diverted or leaving before going though all stations.)

Table IV.A.3
Total and Average Direct Cost per Encounter by Station
Room 1050 - LAC+USC

Station	Total Direct Costs	Number Encounters/Yr	Average Cost per Encounter
1) Patient Enters Room 1050	$24,221	73,000	$0.33
2) Triage Nurse	266,880	73,000	$3.66
3) Reg/Financial Screening	681,703	65,700	$10.38
4) Vital Signs	68,921	63,875	$1.08
5) Up Front Assessment	1,148,458	63,875	$17.98
6) MD Booth Exam	1,533,414	25,550	$60.02
7) Disposition	231,562	63,875	$3.63
*Other Admin.**	25,061	65,700	$0.38
TOTAL	$3,980,220	65,700	$60.58

* Intermediate Clerk serves entire unit; not affiliated with one station

The table above shows that the Booth Exam station (Station 6) is the most costly at $60.02 per encounter. This is the most staff intensive station relative to the number of patients seen (an average of 70 patients/day) and the staff is a mix of costly physicians and nurses. The least expensive is Vital Signs (Station 3) at $1.08 per encounter as this is staffed by usually one or two Nursing Attendants per shift and sees an average of 175 patients/day. The $17.98 average cost per encounter for the Up Front Clinical station is clearly a less expensive alternative than a full booth examination.

Starting on the next page, we present a description of each station, its average transaction time, average wait time before the transaction begins, cost per encounter, and an assessment based on the criteria described above.

1.) Patient Enters Room 1050

Note: Though not technically a "station" we have included this step in the process as it is the beginning of a visit to Room 1050 for patients.

***Description of Process*:**

Patients enter Room 1050 through the main Medical Center building unless they have arrived via ambulance at the trauma unit, Room 1350. Room 1050 consists of three areas: 1) the waiting area; 2) a large room containing all stations except the examination booths; and, 3) the examination booths.

The Room 1050 waiting area is separated from the other two areas by a wall with bullet proof glass. There is a number dispenser on the wall by the Triage Nurse window. There are eight windows (each labeled with a letter) for Patient Financial Screening, a window for patient Disposition, and two doors that lead into the examination areas.

When a patient walks into 1050, he or she takes a number from a number dispenser on the wall by the Triage Nurse station, or waits in line for the Triage Nurse, if few people are waiting. Patients can wait in a seating area which is usually very full early in the day and often very loud.

An ombudsperson periodically provides group orientation to patients in the waiting area. While he/she will respond to questions from individuals, this is not a regular part of his/her job. He/she does not have information about the status of patients or responsibility for facilitating patient flow.

Assessment of this Station

Value to Patient: The value of this station to patients is in the service to be provided by the Room 1050 clinicians or the access to other outpatient services at LAC+USC. Unless the person is an existing patient or are delivered to Room 1350 by ambulance for trauma, Room 1050 is the primary gateway to specialty and primary care outpatient clinics at LAC+USC. A patient cannot call the Medical Center to obtain information about services offered, to determine if they should see a provider for their condition, where in the Medical Center they should go for their type of ailment, other resources available, and/or other information. The only means of accessing most services provided at LAC+USC is by walking into Room 1050, taking a number, and waiting to be called.

Patient Experience: There are no signs in Room 1050 indicating where to go to begin the process of being treated in Room 1050. There is no printed information about what forms to fill out, how one will get to see a doctor, or how long it will take.

There is no obvious place to go for information or orientation. New patients generally realize they should take a number when they see the dispenser (though sometimes this occurs because they have seen others do so who have entered after them). There are no obvious hospital personnel accessible to patients in the waiting room other than the security guards, who are often asked for information.

Time: Time spent at this station is captured in the Station 2, Triage Nurse, wait time.

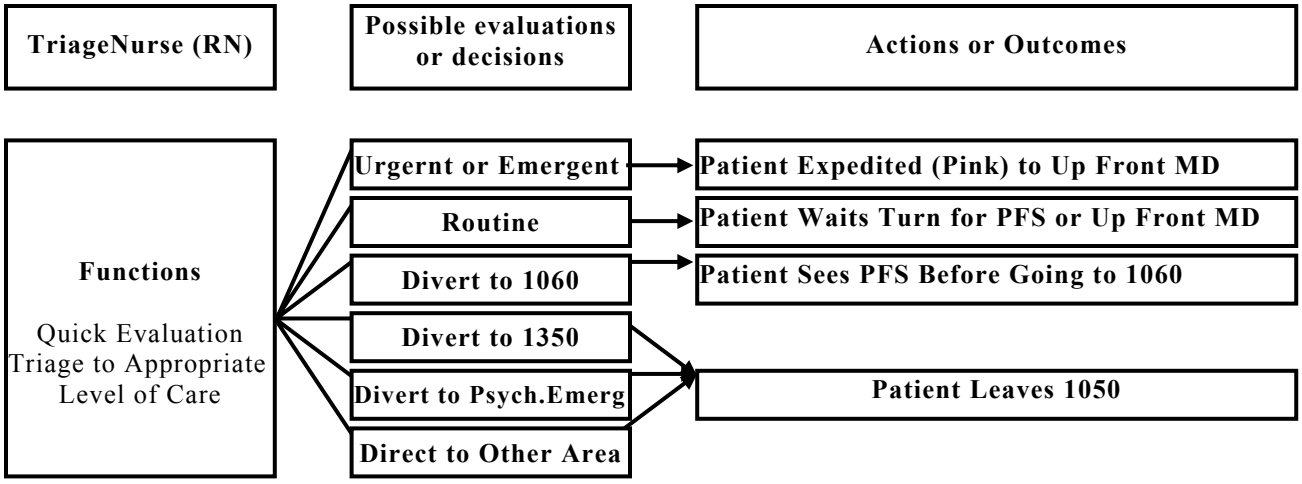
Cost: The cost for this area is $24,220 per year for one Full Time Equivalent ombudsperson who works day shifts only. This translates into an average of $0.33 per encounter based on an average of 200 patients per day entering Room 1050 (Not all of these complete all stations; some are diverted and some choose to leave before all stations are completed).

2.) Triage Nurse

Description of Process

This is a one minute transaction which begins when the Triage Nurse, a Registered Nurse (RN), calls patients by number to the Triage window. Patients wait an average of six minutes before being called and then are asked their names and ailments. At this point, the Nurse may divert emergent patients to Room 1350, direct minor trauma patients to a Patient Resource Worker in Room 1060, or direct patients to other areas of the Medical Center if they have come to Room 1050 in error. Following is an illustration of the functions and decisions performed by the Triage Nurse:

Chart IV.A.1



The Triage Nurse records the patient name and ailment on a patient "face sheet" (See Form 260E, Attachment 3). If the patient has a LAC+USC clinic card, the face sheet is stamped with the card information. If the Nurse judges that a patient is urgent, he a pink slip is attached to the chart indicating that patient care should be expedited. Face sheets for routine, or non-urgent, patients are sent to Patient Financial Screening or Physician Triage. The patient is then asked to return to the waiting area, given a Patient Information Form (PIF) and a pencil and asked to complete the top section of the form (name, address, birth date, social security number, etc.) while waiting. (See Attachment 4 for a copy of the PIF.)

Assessment of this Station

Value to Patient: This is a transaction of no value to patients unless they are in need of immediate attention and are diverted to the trauma unit or taken to a physician immediately by the triage nurse. Otherwise, the station functions are clerical. The nurse provides little or no medical advice to patients, little information about the Room 1050 process and cannot report the status of any patients already being seen to inquiring family members or friends.

Patient Experience: The bulletproof glass and speaker separating the triage nurse and patients are very unwelcoming and minimize privacy. Patients are required to call out their ailments in a loud voice, which is clearly audible to other people in the room. If the nurse is away from the window, patients must wait for her or his return, even when there may be physicians or other staff available to see them.

Time: This transaction takes only one minute on average but wait time is 6 minutes on average between the time a patient takes a number and they are called to the nurse□s window.

Cost: The total cost for this station is $266,880 and the average cost per encounter is $3.66. The station is staffed by Registered Nurses.

3.) Patient Registration and Financial Screening

Note: Stations 3, 4 and 5 can occur in any order. Although it is current practice at Room 1050 for patients to be financially screened and registered by a Patient Resource Worker prior to being seen by a provider, patients are seen by the Up Front Clinical station (Station #5) Physician prior to registration if financial screening has a backlog and a physician is available. On the day of the time study by the Harvey M. Rose Corporation, approximately 60% of patients were registered and financially screened prior to being seen by a Triage Physician. Similarly, a patient will usually have his/her vital signs taken before being seen by an Assessment Physician, but this process may occur in reverse order depending upon the availability of physicians and the vital signs nurse.

Description of Process

The patient is called via intercom to a window to see the next available Patient Resource Worker. The patient gives the worker his/her Patient Information Form (PIF). The worker enters the information from the PIF into the LAC+USC automated registration system, CompuCare, or asks the patient verbally for the information if the patient was unable to complete the PIF. The CompuCare system searches for an existing Medical Record Number (MRUN) for the patient or creates a new MRUN.

If the patient has an MRUN, the Patient Resource Worker verbally verifies the existing patient and payor information, calls Medi-Cal to verify eligibility (if applicable), and updates the back of the patient's clinic card with a sticker (clinic cards are provided to patients so they will not have to repeatedly register if they need to see multiple providers). If the patient is new to LAC+USC or does not have a clinic card, the worker asks a variety of questions regarding the patient's financial status, insurance coverage, etc. to determine how the visit will be paid for, if at all. The CompuCare system generates a new card along with registration and financial information forms. (See examples in Attachment 5.)

Assessment of this Station

Value to Patient: This process is of value to the Medical Center, but not to patients. It is critical that accurate identification and payment information be obtained to minimize liability and so that the hospital maximizes cost recovery. Because this function is important to the hospital but not the patient, it should be performed as seamlessly as possible with minimum inconvenience and annoyance to patients. However to the extent this process can be streamlined and made less obtrusive it will enhance the patient experience.

Patient Experience: This process can go fairly smoothly or can be tedious, time consuming, and redundant. Whichever the case, the physical setting is intimidating; the clerk and the patient sit on opposite sides of a bulletproof window. Patient windows are side by side and privacy is minimal. Factors that can affect the patient's experience include language barriers and having to provide duplicate information for patients who have forgotten their clinic cards. A forgotten card adds time as a new card has to be produced which requires the worker to leave her or his desk and produce a new plastic card at a special machine.

Time: The registration and financial screening processes have long been perceived as a key bottleneck to patient flow. Our time study data shows that the average transaction takes nine minutes and wait time averages 33 minutes for this station.

Cost: Total direct costs for this stations are $681,703. Average cost per encounter is $10.38, the most costly after the two clinical stations at Room 1050. However, compared to the clinical stations, this is of low value to patients. To alleviate backlogs that were occurring at this station, the Department increased the number of staff and windows for this function in the fall of 1994. While this decreased backlogs, it has increased direct costs to the point where they are now just slightly less than the revenues collected as a result of screening. When overhead is added, the costs of registration and financial screening are greater than the revenues collected. Specifically, the annual direct costs of registration and financial screenings are $681,703. With supervision and supplies added at an assumed rate of 15 percent, costs would be $783,958 whereas revenues collected for 1993-94 were $748,420, or $35,538 less than costs.

4.) Vital Signs

Description of Process

Patients are seen by a Nursing Attendant at the Vital Signs station. The patient's vital signs are taken and recorded on the patient chart. The chart is passed on to the Up Front Clinical station in-basket.

Assessment of this Station

Value to Patient: The station is of value to the provider who will ultimately see the patient but of minimal value to patients. The information obtained here will assist the provider in assessing the patient's status.

Patient Experience: Patients are seated at a desk in the crowded triage/assessment area for this station. Privacy is minimal as waiting patients are seated next to the patient receiving vital signs screening.

Time: Though this is a very fast transaction (average time of 1 minute), backlogs develop because there is generally only one Nursing Attendant performing this function for all patients. This means that, during the day, all patients completing registration and financial screening at one of eight windows are funneled through the one Vital Signs station, resulting in an average backlog of 14 minutes.

Cost: Total direct costs for this station are $68,921. Average direct costs per encounter are $1.08, a relatively low amount reflecting the low level of staffing and low salary at this station.

5.) Up Front Clinical Assessment

Description of Process

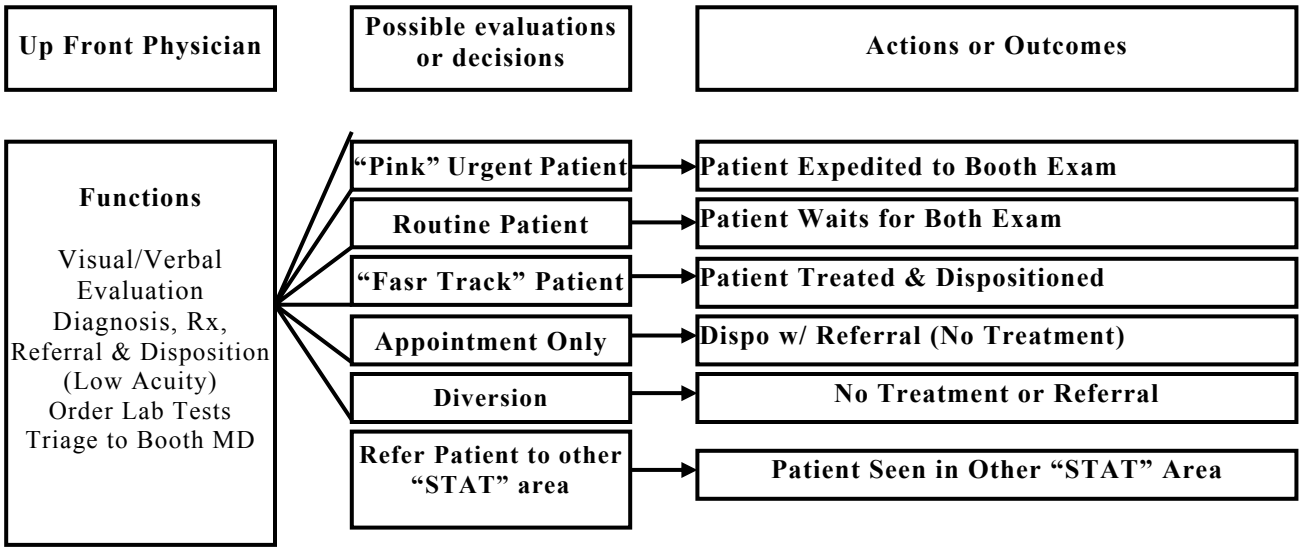
The Up Front Clinical Assessment station is unique to Room 1050. It allows for patients to be screened quickly by a physician, bypassing the traditional nurse triage and assessment before a physician is seen. (Station #2, the "Triage Nurse" station at Room 1050 is not a traditional triage station; it serves as a sign-in location with little clinical activity

taking place.) Lower acuity patients or those with simple needs such as prescription refills can be treated and dispositioned here, reducing their total encounter time significantly.

The Up Front physicians are located inside the bulletproof glass partition at four stations located at one long table, separated by small partitions. Patient charts are placed in a basket at the Up Front Clinical station by either the Triage Nurse, Vital Signs Nurse, or the Patient Resource Worker, and each physician picks the top chart from the basket and calls the patient via intercom.

This examination is primarily verbal, although the physician may ask the patient to step into a booth for a brief physical examination for a specific ailment. At this time, the physician may order lab tests or X-rays for the patient. Following is an illustration of the functions and decisions performed by the Up Front Physician.

Chart IV.A.2



The Up Front Physician will either treat the patient if low acuity or "Fast Track," or refer him or her for an exam in the booth area by a second physician if more extensive evaluation is warranted, or expedite examination by a booth physician if urgent. For low acuity, or "Fast Track" patients, the Physician will complete a diagnosis, prescriptions and referrals (if appropriate), and provide aftercare and prescription instructions to the patient. The Up Front physician also provides referrals to outpatient clinics at the Medical Center and other facilities such as Comprehensive Health Centers and Public Health Centers in the community. When the encounter is completed, the Up Front Physician asks the patient to

return to the waiting area. The physician sends the patient's chart to Patient Registration and Financial Screening (Station 3), Disposition (Station 7), or the Booth area (Station 6), depending upon the sequence of stations the patient has followed.

Assessment of this Station

Value to Patient: This is one of the two stations of highest value to patients. For Fast Track patients who complete their clinical encounter at this station, it provides the greatest value of all stations. It is here that they receive the service that brought them to Room 1050. For patients that need more extensive work ups, this station serves as another step in the process as they will need to go to another station, the Booth area, before their encounter is complete. For higher acuity patients, this station provides value through an early assessment and ordering of tests prior to their booth examination.

Patient Experience: Privacy is minimal at this station due to the use of four physician stations side by side at a single table, separated by partitions. Also, the table is in the middle of a main patient and staff thoroughfare.

Time: Creation of this station has resulted in reduced total encounter time for lower acuity patients. Our time study data shows that Fast Track patients are through in just over two hours compared to four hours for patients that are seen by physicians in the exam booths. However, as with all stations in Room 1050, wait time averages 19 minutes for an average nine minute transaction. For higher acuity patients that need to see a physician in an exam booth, this station adds another 28 minutes to their total encounter time.

Cost: The total direct costs for this station are $1,148,458. The average cost per encounter is $17.98. This is a relatively high cost compared to the other stations because it is staffed entirely by physicians. However, approximately 60 percent of the patients are seen here as "Fast Track" patients. When compared to the booth examination station, where physicians see approximately 40 percent of all patients and the average cost is $60.02, the cost is relatively low. Approximately 5,009 patients are seen annually per physician at the Up Front Station compared to 3,136 annually for the Booth physicians.

While this station allows for faster disposition of lower acuity patients, it is a costly form of service when patients have relatively simple ailments and conditions that could be treated by lower level practitioners such as a nurse practitioner.

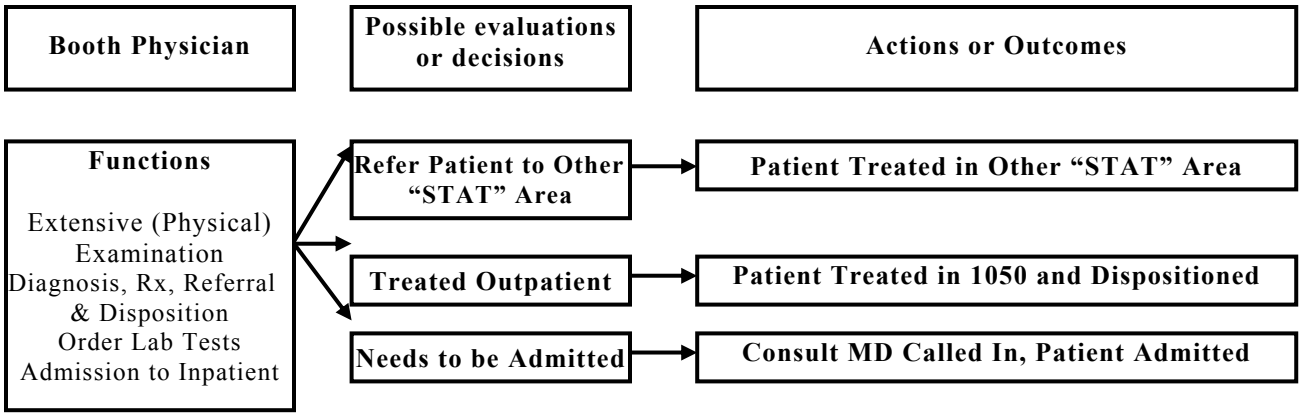
6.) M.D. Examination in Booth Area

Description of Process

Patients that have been identified by an Up Front Physician as needing an exam in the Booth area return to the waiting area until they are called by a Booth Physician. Charts for non-urgent patients that have not yet registered are sent first to a Patient Resource Worker. Urgent ("pink") patients may be brought directly to the Booth area for care. Once a patient has been registered, his/her chart is brought to the Booth area, and the patient is called in by a Nursing Attendant when an examination booth is available. The patient is examined by the physician, and given lab tests or sent to X-Ray, when necessary. Other staff in the Booth area such as the clinical nurses will assist the physician, complete the patient chart, and provide aftercare instructions.

Following is a diagram of the functions and decisions performed by the Booth physician:

Chart IV.A.3



If the Booth physician believes a patient should be hospitalized, the physician will call in a consult physician from the inpatient department to confirm that hospitalization is necessary. If the consult physician concurs with the Booth physician, the disposition clerk in the Booth area will complete the disposition process and communicate with the inpatient department in order to find a bed for the patient at the Medical Center. Patients being admitted wait in chairs by the back disposition area, or on gurneys in the disposition area or in an exam booth (when space permits) until a bed is available.

Assessment of this Station

Value to Patient: This is the station of greatest value to the higher acuity patients who need more extensive treatment than provided at the Up Front Clinical station.

Patient Experience: The booths offer more privacy than the Assessment Physician desks. Standard equipment is readily available in the booth area.

Time: Patients have had a cumulative average wait time of 2 hours, 17 minutes before seeing a provider here. Wait time for this station alone averages 1 hour, 5 minutes for a 36 minute average transaction. Though 36 minutes is counted as transaction time, it consists of all of the time a patient spends in a booth. Some of this is time interacting with nurses, some with physicians, and some is waiting in the booth for the clinicians to arrive.

Cost: The total direct costs of this station are $1,533,414 and the average direct cost per encounter is $60.02. This is the mostly costly station because of the number of physicians and nurses assigned.

Lab and X-Ray Services

Laboratory and X-ray services were outside of the scope of this project but are mentioned here because they are part of the total patient visit.

They add an average of 58 minutes in wait and transaction time per encounter, though not all patients need these services as part of a visit.

7.) Disposition

Description of Process

All patients seen by a Booth physician are dispositioned by a clerk in the exam booth area. Fast Track patients seen by an Up Front Physician only return to the waiting area until they are called by the disposition clerk in the front of Room 1050.

Disposition for patients seen only by an Up Front physician consists of two separate stations: a disposition clerk that enters encounter data onto a computer system, records

prescriptions and referrals, and schedules follow-up appointments in Open outpatient clinics; and a disposition clerk that interacts with the patient, and releases prescriptions and referrals to the patient.

Upon completion of a physician encounter, the patient chart is sent to the data entry disposition clerk, who records the patient encounter, treatment and disposition data in the Sipsey database and, separately, into CompuCare. (These two systems are currently not linked through the department plans to integrate them in the future.) This disposition clerk calls Open outpatient clinics by telephone to schedule follow-up appointments, and completes the paperwork for referrals to Closed clinics. When these tasks are completed, the clerk sends the patient chart to the disposition clerk at the disposition window who calls the patient, and provides prescription(s) and referral forms. At this point, the patient visit to Room 1050 is complete and the patient can leave.

In many cases, patients proceed to the pharmacy to wait for their prescriptions. They may also visit the Ability to Pay Office where financial liability for the visit is determined for patients who do not have Medi-Cal or some form of third party insurance. The Patient Resource Worker at Room 1050 screening is to determine if the patient has Medi-Cal, Medicare, or third party insurance only. If not, the patient has seven days to determine their liability through a detailed screening of their financial resources by the LAC+USC Ability to Pay Office. Many patients are found to have no liability through a formula that measures income and resources against expenses.

Assessment of this Station

Value to Patient: This station provides no value to patients. The processes performed at this station are of administrative value to the Medical Center. Most of this work is for Medical Center record keeping purposes.

Patient Experience: This transaction takes place *after* the patient has seen a provider and has completed the transaction of greatest value. Most of the disposition experience is spent in the waiting room. Many patients do not know what they are waiting for since they have completed the clinical portion of their encounter and disposition is not explained to all patients.

Time: This transaction consumes an average of 4 minutes, but is preceded by an average of 46 minutes of wait time. This station creates a “patient funnel” because all patients are processed by one of two disposition clerks. The patients are funneled to the disposition station from one of seven physicians and eight patient resource workers.

Cost: The total direct costs for this station are $231,526 and the average direct cost per encounter for this station is $3.84.

IV.A.2. Summary of Room 1050 Assessment

Table IV.A.4. below summarizes the preceding assessment of current Room 1050 processes. As can be seen, the clinical stations (Vital Signs, Up Front Clinical, and Booth Physician) are of the highest value to patients. They also comprise the bulk of Room 1050 costs as these stations are staffed with high paid physicians and nurses.

The clerical stations (Triage Nurse, Registration/Financial Screening, and Disposition) are the stations of lowest value to patients yet contribute most to patient wait time (85 minutes in aggregate). At 14 minutes, they also consume more transaction time than the 10 minute clinical transaction time for Fast Track patients (those that see a physician only at the Up Front Clinical station).

The patient experience at all stations is negative except for the Booth Physician station. This reflects the poor environment of the waiting area and the main room where all other stations except the booths are located. When busy, the room is noisy and privacy is minimal, with patients and staff at all stations and many people walking through the room.

Table IV.A.4
Summary of Assessment of Room 1050 Processes

Legend: ☐ = Negative; ☐ = Moderate; ☐ = Positive

Station	Value	Patient Experience	Average Wait Time	Average Transaction Time	Average Cost per Encounter
Patient Enters Room 1050	☐	☐	n/a	n/a	$0.33
Triage Nurse	☐	☐	6 mins.	1 min.	$3.66
Reg/Financial Screen	☐	☐	33 mins.	9 mins.	$10.38
Vital Signs	☐	☐	14 mins.	1 min.	$1.08
Up Front Clinical	☐	☐	19 mins.	9 mins.	$17.98
Booth Physician	☐	☐	65 mins.	36 mins.	$60.02
Lab/X Ray/EKG	☐	**n/a**	n/a	58 mins.	n/a
Disposition	☐	☐	46 mins.	4 mins.	$3.63

Summary: Specialized Staffing and Uneven Distribution of Patient Arrivals Results in Significant Idle Staff Time

The time study data reported above reveals that, based on average transaction times, there are more staff positions than needed in Room 1050. However, countering that conclusion is the fact that patient arrival times are not evenly distributed throughout the day and "average" encounter times over a year can be very different from actual encounter times day by day.

By multiplying average transaction times by the number of patients seen in a year, it appears that Room 1050 needs substantially less staff. However, many positions are provided in eight hour shifts and shifts are determined in part to reasonably accommodate high demand periods. As a result, staff is over scheduled during less active times of the day. Average transaction time alone would dictate a staff approximately 34 percent the size of the current staff, as follows:

Table IV.A.5
Staffing Need Based on Patient Contact Time Only
Compared to Actual Staffing - Room 1050, 1994-95

	Fast Track Patients	Booth Exam Patients	Total
# Patients /Year	39,420	26,280	65,700
Average Staff Encounter Time	26 mins.	58 mins	
Staff Minutes Required/Year	1,024,920	1,524,240	
Staff Hours Required/Year	17,082	25,404	
FTE Required/Year (based on 1768 productive hrs/position*)	9.66	14.37	24.03
FTEs Assigned			70.03
Difference			46.00

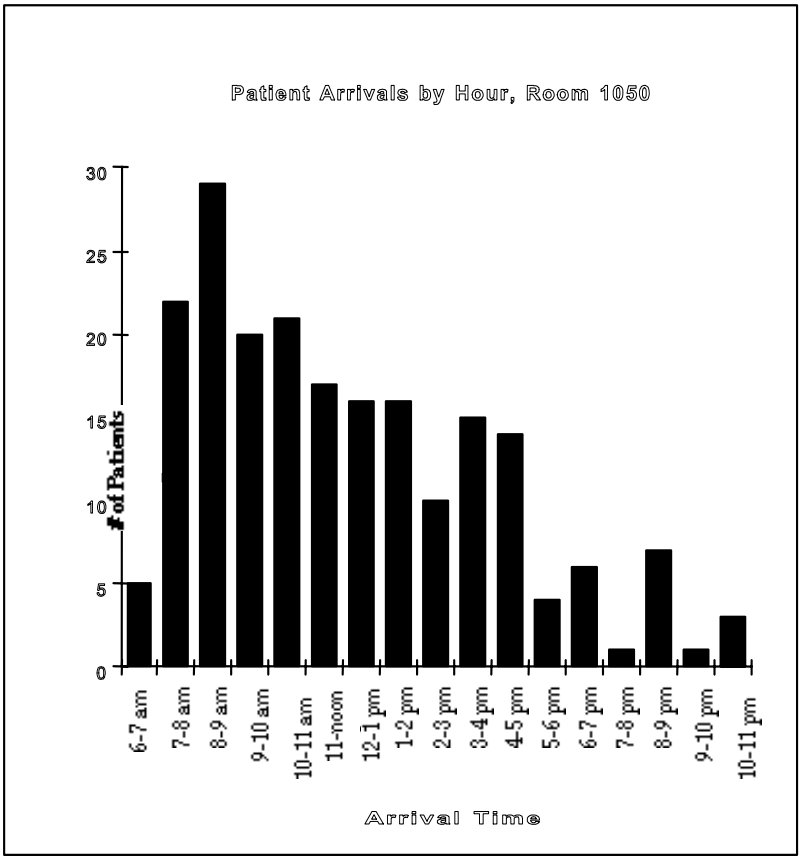
*1,768 hours per year are assumed based on 85% of 2,080 hours, which would be a full work year if an employee worked 40 hours per week, 52 weeks per year. 85% is used to allow for vacations, holidays, and average sick leave usage.

While seeming sufficient, a staffing level of 24.03 FTEs would be inadequate because: a core number of positions need to be present and available at all times during operating hours, even when there are no patients present; staff time is needed for non patient contact activities such as administration and training; and relief coverage is needed to allow for lunch breaks, rest periods, etc. However, the assignment of 70.03 FTEs is based in part on inefficiencies in the current system linked to the number of specialized tasks and stations. By consolidating more tasks into fewer stations, the number of "core

staff" needed during low demand periods would be greatly reduced. Also, by using more part time employees or shifts and "floaters" through flexible staffing that serve multiple departments, idle staff time could be further reduced.

An analysis of patient arrival times shows that demand is not evenly distributed throughout the day, as depicted in Chart IV.A.3 below. The evening hours in particular, are comparatively quiet. By redistributing patient arrival times more evenly throughout the day and reducing the number of full time shifts assigned to Room 1050, staffing and patient wait time could both be reduced. The staffing recommendations in Section VI assume those shifts of less than eight hours can and will be used to ensure higher staffing levels when needed without producing unnecessary idle staff time.

Chart IV.A.3

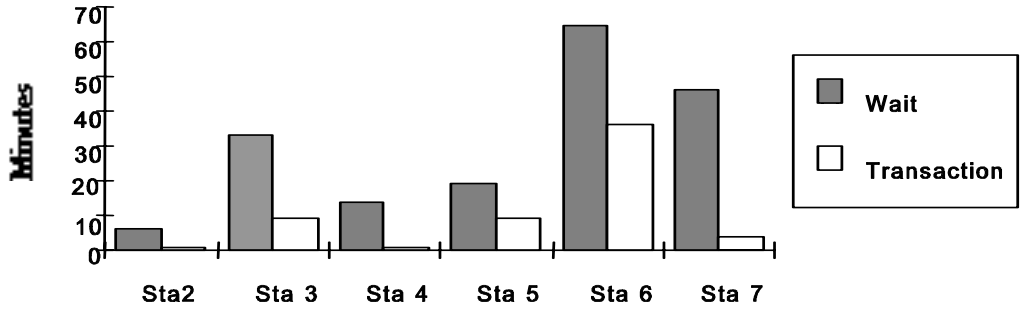


Source: Time Study by Harvey M. Rose Accountancy Corporation, November 8, 1994.

Chart IV.A.4 below depicts the distribution of wait and transaction time at each station. As can be seen in the chart, wait time exceeds transaction time at each station. Each time there is a hand-off between stations, additional wait time is incurred as the patient's chart has to be moved, the patient has to be called, the name on the chart has to be verified, etc. At many stations, transaction time is minimal, such as for the triage nurse and vital signs which require an average of one minute each. However, average wait times for those two stations are six minutes and fourteen minutes, respectively. In other words, patients spend an average of 20 minutes waiting for two minutes of transaction time.

Long wait times relative to transaction times occur particularly at the shorter transaction stations: Triage Nurse (Station 1), Vital Signs (Station 3), and Disposition Clerk (Station 6). It is at these stations that there is usually just one staff person processing all patients, compared to the more highly staffed Financial Screening, Assessment Physician, and Booth Exam physician stations (Stations 2, 4, and 5).

Chart IV.A.4
Room 1050
Wait Time vs. Transaction Time by Station



Station 2: Triage Nurse
Station 3: Financial Screening
Station 4: Vital Signs
Station 5: Up Front Assessment Physician
Station 6: MD Exam Booth
Station 7: Disposition Clerk

Summary: Assessment of Patient Visit to Room 1050

Improvements in the Room 1050 processes should emphasize reductions in wait and transaction time, improvements in the patient experience, and reductions in cost. The

clerical functions need streamlining as they consume a great deal of time (primarily wait time) for transactions of little or no value to patients. Reducing the number of "hand-offs" and stations through consolidation of some functions would help reduce wait time and make patient visits more efficient. To the extent functions could be grouped into fewer stations, staffing needs and costs and patient time per encounter could be reduced.

The core patient experience, the clinical encounter, consumes nine minutes on average for a Fast Track patient but the entire visit is slightly more than two hours. In part this is a function of volume but, as pointed out above, patient arrivals are not evenly distributed throughout the day. Control of patient arrival times would help alleviate some of the backlogs.

Though part of the Department of Emergency Medicine, the majority of Room 1050 patients are non-emergent and could be served more appropriately by primary care. Like many emergency departments, Room 1050 provides a hybrid of primary and specialized care. However, for improved quality of patient care, and to control costs, non-emergent patients need to receive more primary care, including follow-up, gatekeeping, maintenance of patient history, and coordination of care. DHS's capacity limitations in this area need to be addressed to ensure more appropriate care to many patients at Room 1050.

Finally, there is little management oversight and accountability for the overall process at Room 1050. Patients move from station to station, interacting with employees who report to different supervisors in many cases. No one is responsible for monitoring patient flow on an ongoing basis and ensuring that patients move through the process overall as expeditiously as possible.

IV.B.1 Description and Assessment of the Current Process at Hudson Urgent Care

In this section a step by step assessment of patient visits at Hudson Urgent Care is presented, using the same criteria in this section as used for Room 1050.

Patients enter Hudson Urgent Care through the main Hudson Comprehensive Health Center entrance. There is an information booth by the front door, which serves as a general information area and the first stop in a patient's visit to Urgent Care. Table IV.B.1 on the next page illustrates the patient flow in Hudson Urgent Care from the point a patient enters the facility until the patient visit is complete. The stations and functions performed by staff in each area, and the actual process of moving the patient from station to station, are explained in further detail in the sections following. A more detailed flow chart is presented in Attachment 6.

The number of patients in Table IV.B.1 decreases from the Triage Nurse Station to the Provider Exam Station, as some patients are diverted to other locations by the Triage Nurse or choose not to wait. The transaction times and wait times presented below are based on the time study conducted by the Harvey M. Rose Corporation on November 2, 1994. The wait times represent the wait from the previous station, which in some cases may not be the station listed above in the table depending on individual patient sequencing.

Table IV.B.1
Hudson Urgent Care Summary Patient Flow Data

	Station	# Patients/Day	Wait Time	Transaction Time
1	**Information Booth**	152	n/a	n/a
2	**Triage Nurse**	152	43 minutes	4 minutes*
3	**Urgent Care Clerk** (before & after Cashier)	129	5 minutes	3 minutes
4	**Registration Clerk** (new Patients only)	42	15 minutes	9 minute
5	**Cashier**		6 minutes	1 minute
6	**Provider Exam**	129	50 minutes	10 minutes
7	**Lab/Xray/EKG (if necessary)**			27 minutes
8	**Disposition (Nurse/MD/PA)**	129	11 minutes	7 minutes

*This time was calculated after patients submit Patient Information Form to clerk at Information Booth, the first step when patients enter Hudson Urgent Care

Time Summary (hours:minutes

Average Total Elapsed Time 2:50
Average Wait Time 2:13
Average Visit Time 2:50
Average Transaction Time 0:37
Clinical Time 0:23
Clerical Time 0:14

As table IV.B.1 illustrates, wait time exceeds transaction time by 259 percent. This ratio is similar to the ratio at Room 1050. Patients spend an average of 2 hours, 13 minutes waiting out of a 2 hour, 50 minute visit. As with the process at Room 1050, hand-offs between stations add wait time for the patient. In particular, the registration, financial screening and cashier function at Urgent Care can involve up to four separate transactions at four different locations - with a cumulative wait time for these stations of 26 minutes. The transactions at these four stations take thirteen minutes or less, on average.

A description of each station is presented following the staffing and cost section below. For each station the study shows average transaction time at that station and the wait time before the transaction occurs, the cost per encounter and an assessment of the process based on 1) the value to the patient, 2) patient experience, 3) cost, and 4) time.

Hudson Urgent Care Staffing and Costs

Hudson Urgent Care's annual operating costs are approximately $3,507,019 for 1994-95, of which $2,861,130 is for the salaries and benefits of the clinic's employees. The remainder, $645,889, is overhead for supplies and a share of ancillary costs. Staffing at Hudson Urgent Care is detailed in Table IV.B.2 below.

Table IV.B.2
Hudson Urgent Care Staffing: 1994-95

Station/Classification	# Full-Time Equivalents	Salary & Benefit Costs
Information Booth:		
Intermediate Clerk	2.00	$60,862
Triage:		
Clinical Nurses	9.00	$514,568
Licensed Vocational Nurses	3.00	107,665
	12.00	$622,233
Registration & Financial Screening:		
Senior Clerk	3.00	$103,177
Intermediate Clerk	1.00	30,431
Student Worker	5.00	58,500
	9.00	$192,108

Table IV.B.2 - (continued)
Hudson Urgent Care Staffing:1994-95

# Full-Time Station/Classification	Salary & Equivalents	Benefit Costs
Exam Booth:		
Nursing Attendants	4.00	$96,940
Clinical Nurses	4.00	228,697
Physician Assistants	4.00	595,506
Physicians	6.00	893,260
18.00	$1,814,403	
Disposition:		
Clinical Nurses	3.00	$ 171,523
TOTAL	44.00	$2,861,129

Based on the approximately 55,480 patients seen in Urgent Care annually, cost per encounter is estimated to be $63.21, including all costs. For analysis purposes, and estimates of cost reductions that would result from reengineered processes, this report uses only direct costs, since overhead costs cannot be expected to be reduced in direct proportion to direct costs. On a direct cost basis, the cost per encounter is $51.57.

A breakdown on Hudson Urgent Care average direct costs per encounter by station are presented in Table IV.B.3 below.

Table IV.B.3
Total and Average Cost per Encounter by Station
Hudson Urgent Care

Station	Total Direct Costs	Total Number Encounters/Day	Average Cost per Encounter
1) Patient Enters Facility/ Info Booth	$60,862	152	$1.10
2) Triage Nurse	622,233	152	$11.22
3) Urgent Care/ 4) Registration	192,108	129	$4.08
5) Cashier*	n/a	n/a	n/a
6) Exam Room Physician	1,814,403	129	$38.53
7) Disposition	171,523	129	$3.64
TOTAL	$2,861,129	152	$51.57

* Cashier station not included as it is not part of Urgent Care cost center.

Table IV.B.3 shows that Hudson Urgent Care consists of two fairly expensive stations and three low to moderate cost stations. The most costly is the Exam Room Physician station, at an average of $38.53. The high cost reflects the staffing at that station which is composed of physicians, physicians assistants, and nurses. The second most costly station is the Triage Nurse station which is staffed by nurses.

1) Patient Enters Hudson/Information Booth Station

Description of Process:

When a patient walks into the Hudson Urgent Care clinic, he/she stops at the Information Booth by the front door. The Information Clerk gives the patient two forms: 1) a Patient Information Form (PIF), which requests patient name and demographic information; and, 2) a complaint form where the patient is to describe his or her ailment. The patient is told to complete both forms and return them to the Information Booth. The Information Clerk collects the forms, and checks each patient's name in the Health Care Operating Information System (HCOIS)[23] which determines if the patient has been to Hudson before and has a patient file number and medical record. When a patient file number is found, the Information Clerk telephones Medical Records to request that the patient's record be brought to Urgent Care. The Information Clerk then puts each patient's PIF and complaint form into a slot where the Triage Nurse can collect and review them.

Assessment of this Station:

Value to Patient: This transaction provides little value to patients, as the information clerk can neither provide a medical assessment nor expedite a patient's care. However, the clerk is able to provide the patient with information about the process of a visit to Urgent Care, or direct a patient to other areas of the facility. The primary purpose of this station is to get the patient's name, chief complaint, and a completed Patient Information Form. The latter is used to 1) provide information for the triage nurse, and 2) identify the patient and call up the patient's medical record (for returning patients at the facility). Patients are identified through a unique Medical Records number assigned to each patient.

Patient Experience: This station can be a considerable barrier to care for patients who are not able to read or write. The completed PIF and complaint form are reviewed by the Triage

[23] Health Care Operating Information System is the computer registration system used at H. Claude Hudson CHC.

Nurse -- and the patient cannot be seen until these forms are completed. If a patient has difficulty writing or does not understand the form, this could add considerable time to a patient visit.

Time: There is generally a very short wait to see the Information Clerk, and the transaction itself is quite quick -- but as noted above, the time it takes the patient (or patient□s parent or guardian) to complete the required forms may vary from one or two minutes to half an hour or more. The Triage Nurse only learns of the patient's presence at the facility after these forms are completed.

Cost: The direct cost of this station, which is staffed by two clerks, is $60,802. The average cost per encounter is $1.10. The station is staffed by two clerks.

2) Triage Nurse

Description of the Process:

As time permits, the Triage Nurse collects PIFs and complaint forms from the Information Clerk and reviews the patients' reported complaints for ailments that may be emergent or urgent. The Triage Nurse is also responsible for visually scanning the waiting area for patients that appear in need of immediate medical attention in an attempt to avoid emergent patients waiting the average 43 minutes before being seen by a nurse (see "Time" below).

The Triage Nurse calls patients into a Triage booth in the Urgent Care area in order of acuity for urgent patients, and in order of arrival for nonurgent patients. The Triage Nurse takes patient's vital signs and asks the patient about his/her condition, and determines whether the patient requires immediate care (i.e. within 5-10 minutes) or whether the patient can wait to be seen in turn. The Triage Nurse may, at this point, determine that a patient should not be seen in Urgent Care and divert the patient to the appropriate location for services.[24] If a patient is urgent or emergent, the nurse will direct the patient to a holding area and call a physician or Physician Assistant (PA) in to examine the patient. For non-urgent patients, the Triage Nurse will also determine whether the patient requires a "fast track" visit (a limited visit for a low acuity condition), or a more extensive evaluation.

[24] Urgent Care does not provide services such as routine pregnancy tests or physical examinations, vaccinations, or other routine or preventive care. Such services are offered on an outpatient basis at the CHCs and some Health Centers.

If the patient is not urgent or emergent, the nurse will send the patient to the Urgent Care Clerk for registration and financial screening.

Assessment of this Station:

Value to Patient: This station is the first step that provides value to the patient, as the patient is asked his/her ailment and begins receiving medical attention and evaluation from the Triage Nurse.

Patient Experience: The Triage Nurse performs a fairly routine screening, taking vital signs and asking the patient for his/her medical history. Evaluation occurs in a Triage room or partitioned booth area, so the nurse has face-to-face contact with the patient and there is some degree of privacy.

Time: The Triage process at Urgent Care takes approximately four minutes, but the patient must wait an average of 43 minutes from the time he/she completes the PIF until he/she is seen by the Triage Nurse. This is one of the worst ratios of transaction time to wait time reviewed in this project.

Cost: The direct cost for this station is $622,234 and the average per-encounter cost is $13.80. Besides the Exam Room Physician station, this is the most costly station at Hudson Urgent Care.

3) Urgent Care Clerk

Description of the Process:

Patients waiting to be seen in Urgent Care must check in with an Urgent Care clerk prior to being seen by a provider. If the patient is a return patient to Hudson, the patient's medical record has been called up to Urgent Care. The Urgent Care clerk will access the patient's medical record number, and verify the patient's payor status. Returning patients who do not have verified third party coverage are directed to the cashier (see Station 5 below). New patients are directed to register with a Registration Clerk located at windows 4, 5 or 6 in the main lobby (see Station 4 below).

After patients have visited the cashier or registration clerk, they return to the Urgent Care Clerk and give the clerk verification of payment, a seven-day notice or insurance

coverage. The clerk adds this information to the patient's chart and asks the patient to return to the waiting area until he/she is called for his/her provider visit.

Assessment of this Station:

Value to Patient: This station does not provide the patient with any visible service or value. This step in the process serves the providers and staff at the facility by starting the process of recording a patient visit -- and verifying a revenue source.

Patient Experience: The patient speaks to the clerk through a glass window, but this process is fairly brief and involves minimal interaction. Only quick payor verification is done at this station: patients with complex payment arrangements or financial difficulties are not screened at this location.

Time: This transaction is quick, averaging three minutes. Average wait time is five minutes.

Cost: Total direct costs for this station, including Station #4, Registration Clerks, are $192,108, or an average of $4.08 per encounter.

4) Registration Clerk *(new patients only)*

Description of the Process:

The patient brings his/her Patient Information Form to the Registration Clerk, who enters all information from the PIF into the HCOIS system, or asks the patient for the information verbally (if the form is not complete or legible). The patient's demographic and payor data is entered into HCOIS, and a medical record number and chart are generated by HCOIS. If the patient has no verifiable third party insurance, the patient is directed to the cashier.

Assessment of this Station:

Value to Patient: Again, this process primarily serves the providers and staff at Hudson in properly identifying the patient, creating a medical record, and identifying a payor source. Although these activities indirectly serve the patient, the patient does not receive any service that he/she perceives to be of value at this station.

Patient Experience: This process can go smoothly or can be tedious, time consuming, and redundant. The registration area is in the middle of the main entrance and wait area for the facility, and although there is considerable space between each "window", privacy is minimal. Patients stand at the window for this process as chairs are not provided for patients. The patient may be asked to provide information more than once, particularly in cases where a clerk is unable to read what the patient has written on his/her PIF. Language barriers may also add considerably to transaction time and to the difficulty of the experience for the patient.

Time: This station on average takes approximately nine minutes. Wait time averages 15 minutes.

Cost: Costs for this station are included in Station 3 costs.

5) Cashier

Description of the Process:

All returning patients who are uninsured or do not have proof of current coverage are required to see a cashier. The cashier verifies Medi-Cal coverage using the swipe-card machine or by telephoning for verification. If the patient has no coverage, he/she is given the option to pay $45 for the Urgent Care visit or apply for the Ability to Pay program (ATP) within seven days. If the patient does not pay cash, the cashier explains the ATP program and application process, and gives the patient written information on the requirements for ATP.

All patients given a seven-day notice are recorded in a log book by the cashier, and given a form indicating that they have been issued a seven-day notice. Patients whose Medi-Cal or other coverage is verified are given written proof of coverage, and patients who pay cash are given a receipt. The patient is then instructed by the cashier to return to the Urgent Care Clerk and present the clerk with the receipt from the cashier.

Assessment of this Station:

Value to Patient: This process serves a vital function for Hudson, in identifying a payor source, collecting revenue, or initiating the process of alternate payment arrangements. This process does not provide the patient with any desired service. A possible exception

to this is the patient who has no financial resources, who may feel that learning about the Ability to Pay program is a valuable service.

Patient Experience: The Cashier station is located in a separate room off the main entrance hallway. There are two Cashier windows in this small room, and patients either walk up to an available window or wait in line behind other patients. The transaction occurs through a glass window. While the cashiers tend to be helpful and non-intimidating, there is little privacy and patients must speak quite audibly about their financial situation while other patients wait in close proximity.

Time: This is generally a brief process, averaging only 1 minute. Wait time averages 6 minutes.

Cost: Costs were not identified, as this is technically not part of Hudson Urgent Care, but is a separate support unit serving the entire Comprehensive Health Center.

6) Exam Room Physician

Description of the Process:

A Nurse Assistant calls all non-urgent/emergent patients for their provider visits in order of arrival. The Nurse Assistant brings the patient into the examination room, and then notifies the provider that the patient is ready. Providers consist of physicians and physician assistants (PAs). Due to the presence of pediatric patients at Urgent Care, one of the physicians on duty is typically a pediatrician. One other provider per shift is usually dedicated to seeing "fast track" patients, if possible, in order to treat and disposition these patients as rapidly and efficiently as possible. Fast track patients are often also dispositioned by the provider, if the patient does not require a follow-up appointment or extensive aftercare instructions. Non-fast track patients are asked to return to the waiting area until a nurse is available to complete disposition. The patient chart is then returned to a nurse or Urgent Care clerk for follow-up

Assessment of this Station:

Value to Patient: This is the station of highest value to patients as it provides the core service that patients are seeking.

Patient Experience: The exam rooms in which patients are seen are fairly spacious and provide privacy and comfort.

Time: Average encounter time at this station is 10 minutes, preceded by wait time of 50 minutes. When combined with wait time for all preceding stations, patients have waited an average of 1 hour, 59 minutes before seeing a provider for a 10 minute encounter.

Cost: This is the most costly station at Hudson Urgent Care at $1,814,403, reflecting the relatively high salaries of the physicians, physician assistants, and nurses. The average cost per encounter for this station is $38.53, the highest of all stations.

Lab and X-Ray Services

Laboratory and X-ray services were outside of the scope of this project but are mentioned here because they are part of the total patient visit.

They add an average of 27 minutes in transaction time per encounter, though not all patients need these services as part of a visit.

7) Disposition

Description of the Process

Nursing staff at this station will review the physician's follow-up instructions, and schedule appointments in a Hudson clinic or an Open clinic at LAC+USC if necessary. Referral paperwork for Closed clinics is also completed at this time. The nurse then calls the patient back into the Urgent Care area to explain aftercare, follow-up appointments, and prescription information. After this has been completed, the patient may leave, and the nurse returns the patient chart to the Urgent Care clerk. Medical Records retrieves all patient charts the following day.

Assessment of this Station:

Value to Patient: This station can be of value to patients, particularly if they have not received sufficient aftercare instructions from the physician or physician assistant that they have seen.

Patient Experience: This process takes places in a separate room which is adequate, though somewhat cramped. The nurses often provide useful information and instructions not provided by the physician.

Time: Average transaction time at this station is seven minutes, preceded by eleven minutes of waiting time.

Cost: The direct costs for this station are $171,523. The average cost per encounter for clinical disposition is $3.64.

IV.B.2 Summary of Hudson Urgent Care Assessment

Table IV.B.4 below summarizes the preceding assessment of current processes at Hudson Urgent Care. As can be seen, the Exam Room Physician and Disposition station are of the highest value to patients. They also comprise the bulk of costs due to the number of physicians and nurses that staff these stations. The nurse triage station is of moderate value to patients and the clerical stations are of no real value to patients.

In terms of time allocation, the Nurse Triage and Exam Room Physician stations consume the most patient time at 14 minutes. But average wait time is 43 minutes for the Nurse Triage and 50 minutes for the Exam Room Physician station or a total of 1 hour, 33 minutes. Wait time for the Nurse Triage station is quite high compared to transaction time and considering the low value of the station to the patient.

The Disposition station adds 11 minutes on average to patient wait time, but is of only moderate value to patients. The clerical stations all together comprise 11 minutes of wait time (20 minutes for new patients who must also see a Registration Clerk) for four minutes of transactions (12 minutes for new patients).

The patient experience is negative for the clerical stations and moderate or positive for the clinical stations, reflecting the conditions of the facility and the manner in which patients are seen at each station.

Table IV.B.4
Summary of Assessment of Hudson Urgent Care Processes

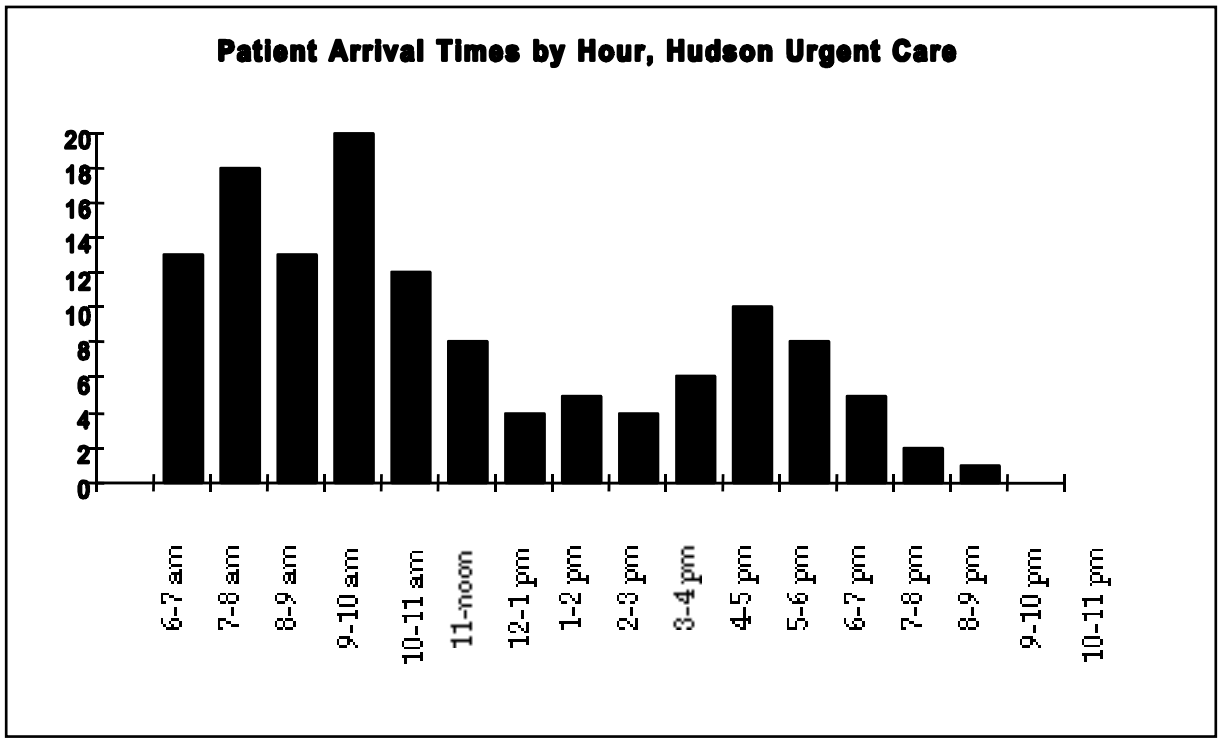
Legend: ☐ = Negative; ☐ = Moderate; ☐ = Positive

Station	Value	Patient Experience	Average Wait Time	Average Transaction Time	Average Cost per Encounter
Patient Enters/Info. Booth	☐	☐	n/a	n/a	$1.10
Triage Nurse	☐	☐	43 mins.	4 mins.	$11.22
Urgent Care/Registration Clerk	☐	☐	5/15 mins.	3/9 mins.	$4.08
Cashier	☐	☐	6 mins.	1 min.	n/a
Exam Room Physician	☐	☐	50 mins.	10 mins.	$38.53
Lab/X Ray/EKG	☐	n/a	n/a	27 mins.	n/a
Disposition	☐	☐	11 mins.	7 mins.	$3.64

As with Room 1050, wait time exceeds transaction time at each station. Each time there is a hand-off between stations, additional wait time is incurred as the patient's chart has to be moved, the patient has to be called, the name on the chart has to be verified, etc. At many stations, transaction time is minimal, such as for the triage nurse and vital signs which require an average of one minute each. However, average wait times for those two stations are six minutes and fourteen minutes, respectively. In other words, patients spend an average of 20 minutes waiting for two minutes of transaction time.

As with Room 1050, the disproportionate amount of wait time compared to transaction time at Hudson Urgent Care is partially explained by the volume of patients, or an excess of demand over supply. However, an analysis of patient arrival times shows that demand is not evenly distributed throughout the day, as depicted in Chart IV.B.5 below. The evening hours in particular are comparatively quiet.

Chart IV.B.5


Patient Arrival Times by Hour, Hudson Urgent Care
20
18
16
14
12
10
8
6
4
2
0
6-7 am
7-8 am
8-9 am
9-10 am
10-11 am
11-noon
12-1 pm
1-2 pm
2-3 pm
3-4 pm
4-5 pm
5-6 pm
6-7 pm
7-8 pm
8-9 pm
9-10 pm
10-11 pm

SECTION V: OVERVIEW OF THE REENGINEERED APPROACH

V.1. Project Objectives

The Citizen's Commission on Economy and Efficiency undertook this project for two primary objectives: 1) to identify areas where the quality of patient care could be improved; and, 2) to identify areas where efficiency could be improved and costs could be reduced or revenues increased. Given these objectives, the area of emergency room/urgent care center operations was selected because it presented the opportunity to realize improvements in both areas. LAC+USC's Room 1050 and the Urgent Care Center at the Hudson Comprehensive Health Center were selected as project sites. The intent was to conduct this project at these two facilities and develop a reengineering model that could be replicated at other emergency rooms, urgent care clinics and other DHS facilities by the department itself. Reengineering is defined as,

Reengineering:	Challenging fundamental assumptions on which the organization is built by radically redesigning its processes, systems, and structure around desired outcomes.

Existing processes were reviewed and alternative approaches developed with the input and review of a project Steering Committee, comprised of administrators and managers from all of the key disciplines involved in delivering emergency and urgent care services, and a Process Work Team, comprised of the Director of the Department of Emergency Medicine and line employees, supervisors, and managers of all of the divisions involved. The project Steering Committee established a service objective of a 30 minute wait time for patients before they are seen by a provider.

V.2. Key Concepts Used to Design Reengineered Processes

The central goal in reengineering the patient care delivery process in Room 1050 and Hudson Urgent Care is to create a system that is efficient and user-friendly from the patient's point of view. Moving patients through the process as quickly *a*s possible with courtesy and quality care is the key objective. The definitions and limitations of jobs and stations that now exist at the two facilities should be discarded. This may mean, for example, that physicians perform tasks that they traditionally do not perform if it makes a patient visit proceed more expeditiously. The sequencing of stations should not hold a patient up; if switching the order of stations will help expedite a visit, the order should be switched.

This patient-focused reengineering approach serves as a framework within which the Commission objectives of cost reduction and improved quality of care and the project Steering Committee objective of a 30 minute wait time can be achieved.

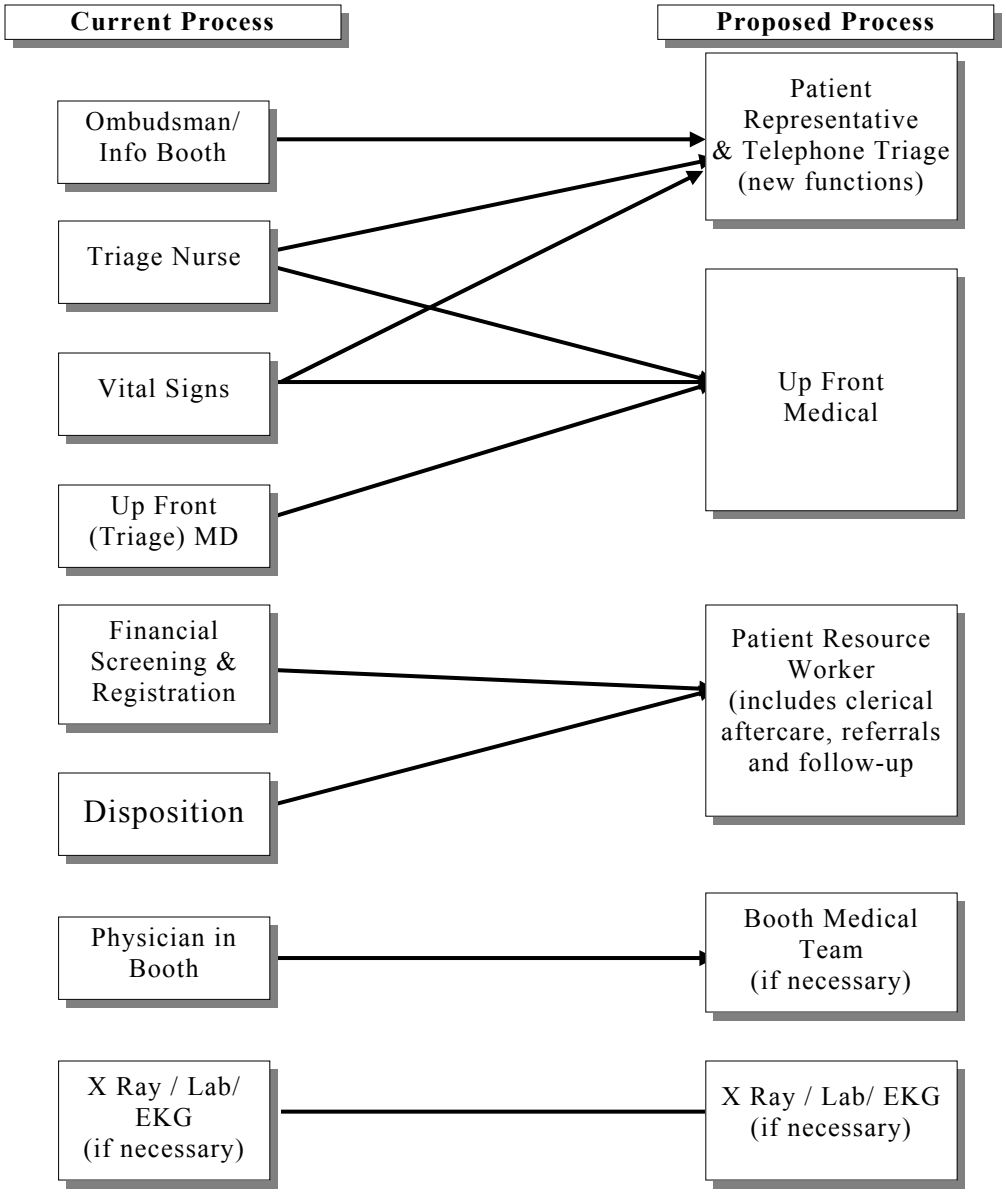
The reengineered approach used in this project incorporates four key themes:

1) ***Streamlined processes***: stations are consolidated as much as possible and patient "handoffs" reduced to decrease patient waiting time;
2) ***Staff flexibility***: staff are cross trained and flexible in the tasks they perform and the sequence in which they occur;
3) ***Service enhancements***: services are expanded to include telephone triage, appointments and patient education; and,
4) ***Cost reductions:*** the current costs of existing processes are evaluated and considered for reduction if they are not adding value to the patient.

Consolidation of stations means that patients will have a less disjointed experience as they will deal with only one or two staff people. One of these, the Patient Resource Worker, will be responsible for all administrative/clerical aspects of patient visits. Cross training and flexibility will be key to the new processes: physicians will perform some tasks now performed by nursing attendants and clerks. Clerks who now only register and financially screen patients will assume responsibility for all administrative aspects of patient visits including scheduling future appointments and responding to follow-up calls. These changes will produce a more positive, less time-consuming experience for patients, improve patient flow, and reduce costs.

The reengineered processes at Room 1050 and Hudson Urgent Care are designed for a minimum of two stations per patient for lower acuity patients instead of the current five and a maximum of three stations for higher acuity patients (ancillary services are not included in this count as they are separate from Room 1050 and Hudson Urgent Care). Chart VI.1 below depicts the current patient flow at Room 1050 and Hudson Urgent Care and the proposed new flow.

Chart V.1
Proposed Changes in Processes:
Room 1050 and Hudson Urgent Care



Longer Term Recommendations and Implications

While the recommended new model will reduce costs and improve the quality of the patient experience, other recommendations are aimed at reducing the number of patients inappropriately using the two facilities through two measures: 1) increased patient education and information to enhance home self-care for minor ailments; and 2) increasing DHS's primary care capacity so that many patients can make the transition from using Room 1050 and Hudson Urgent Care to a true primary care environment. In the long term, these initiatives should result in less inappropriate utilization of these facilities, reduced costs, and higher quality health care services for these patients.

SECTION VI: FINDINGS AND RECOMMENDATIONS

The reengineered processes at 1050 and Urgent Care are designed for a minimum of two stations per patient for lower acuity patients instead of the current five and a maximum of three stations for higher acuity patients instead of the current five to six.

The following problems, identified in the assessment of current processes and patient flow, are addressed in this section of the report. Each problem area, a capsule summary of the reengineered solution and the section(s) where the problem is addressed is presented in Table VI.1 below.

Table VI.1
Current Problems, Reengineered Solutions and Sections Containing Recommendations in each Area

SHORT TERM ISSUES

Problem	*engineered Solution*	*Section*
Multiple patient hand-offs and employee specialization results in discontinuous service, excessive staffing, and unnecessary waiting time for patients. **To accommodate peak patient loads, and because most staff are assigned in 8 hour shifts, more positions than necessary are assigned to these two locations.** **The costs of financially screening patients at Room 1050 exceeds the revenues collected from patients.**	• **Consolidation/reducti on in number of clerical stations and positions** • **Consolidation/reduction in number of clinical stations and positions including use of Up Front Assessment station for low acuity patients** • **Cross training of staff** • **Fewer stand-alone processes**	**VI.1** **VI.2** **VI.3**
Cost and level of providers higher than necessary for many low acuity patients	• **Replace some physicians with nurse practitioners for low acuity patients**	**VI.3**

Problem	*Reengineered Solution*	*Section*
Providers do not have access to patient history or ability to electronically schedule them at specialty clinics. **Patients referred to other clinics at LAC+USC are not always accepted by the other clinics; but Room 1050 and Hudson Urgent Care staff are not informed of this.** **Coordination and information sharing between Room 1050 and Hudson Urgent Care and other clinics is insufficient.** **Paperwork is redundant between stations because some patient data is not always captured at the source.** **Management information is not sufficient at either location to allow for adequate monitoring of activity.**	• **Provide computer terminals linked with other clinics at each provider's station.** • **Reduce number of forms and duplicate recording of patient information by capturing patient data once at the source.** • **Enhance existing and develop new management reports for both locations.**	**VI.5** **VI.2**
Queuing is not evenly distributed throughout the day (heavy patient traffic in morning and late afternoon)	• **Implement appointment system**	**VI.4**
Lack of patient information about DHS "system," home self care alternatives to visiting doctor for low acuity cases.	• **New patient education (e.g., information staff, videos, brochures in waiting rooms, public service announcements)**	**VI.1** **VI.4**
Lack of access to DHS services except through emergency room or urgent care. **Access to some other clinics is limited as referrals from Room 1050 and Hudson Urgent Care are not always accepted by the receiving clinic**	• **Telephone triage service** • **Increased linkages to primary care**	**VI.1** **VI.4**

Unclear processes and lack of orientation and information for patients entering facilities **Service is slow to begin when patients arrive** **Some patients leave without ever being seen**	• **Patient flow facilitator/department representative in waiting rooms**	**VI.1** **VI.3**
Poor continuity of care	• **Linkage between hospitals, comprehensive health centers and primary and specialty care outpatient clinics**	**VI.4**
Layout of facilities inefficient; security lacking **Privacy minimal at many stations**	• **Implement full security plan for both facilities** • **Reallocate space configuration for improved privacy and patient flow**	**VI.7**

LONG TERM ISSUES

Problem	*ngineered Solution*	*Secti on*
Lack of shared patient information between DHS facilities	**Universal ID Code Needed**	**VI.8**
Need means of decreasing number of patients from inappropriate use of emergency departments and urgent care clinics for nonurgent conditions	**Increased primary care capacity at LAC+USC and throughout DHS**	**VI.8**
Lack of accessible primary care	**Expand DHS primary care capacity, hours of operation, and flexibility**	**VI.8**
Lack of management responsibility and overall accountability for operations	**Increase accountability of managers for achieving specific performance goals**	**VI.8**

Staffing Analyses

Many of the sections that follow contain staffing recommendations for various functions and processes recommended for Room 1050 and Hudson Urgent Care. The approach used involved obtaining a complete listing of all positions now assigned to the two facilities, by shift, from the individual managers and supervisors. From this, it was possible to determine the number of positions needed to cover those shifts, including vacation and sick leave coverage. Also included is the time for non-patient contact time in an analysis of time and staff needs. The need for future staffing under the reengineered processes was determined based on a combination of time requirements for the tasks to be performed and the need to staff all shifts and provide back up for vacations, sick leave, lunch breaks, etc.

Staffing is expressed in terms of Full Time Equivalents to reflect the full costs of the old and new staffing requirements. It is assumed that some of the needed staffing will be supplied by floating staff from other departments to cover vacations and sick leaves. The study assumes that each employee's actual productive hours are 1,768 hours per year, or 85 percent of 2,080, a full year's worth of employee time (40 hours per week x 52 weeks). This allows for a reasonable number of hours for vacation, sick leave, and other types of leave. The bases for staffing recommendations are presented in Attachment 8.

SECTION VI.1: CENTRALIZED PATIENT FLOW MANAGEMENT AND FACILITATION IS NEEDED TO ORIENT PATIENTS UPON ARRIVAL AND BEGIN SERVICE AS QUICKLY AS POSSIBLE.

- No single staff member at either facility assumes responsibility for managing patient flow, preventing bottlenecks, ensuring that patients get to an appropriate provider, and providing information to patients.
- Patient satisfaction could be greatly improved by increasing the speed with which patients receive service and by providing more information to patients about what is going to happen to them next.
- The stand-alone Vital Signs and Triage Nurse stations at room 1050 and the Information Booth Nurse Triage station at Hudson Urgent Care add to patient wait time, are not of as high value to patients as time with a physician, and could be consolidated with other stations to reduce wait time and staffing costs.

Stations Affected:

#	Room 1050	#	Hudson Urgent Care
1. 2. 3.	Patient Enters Rm. 1050 Triage Nurse Vital Signs	1. 5.	Patient Enters/Info Booth Nurse Triage

There is no single staff person responsible for overall patient flow at Room 1050 or Hudson Urgent Care. Tasks that would make the process flow more smoothly such as directing patients to the next available provider, monitoring backlogs, providing information about services available, and providing patient status information, are, for the most part, not performed. Further, patients spend a substantial amount of time waiting and are handed off between a number of stations for visit initiation transactions that are of little value to patients and do not all require specialized staff.

Initiating a Patient Visit at Room 1050

The triage nurse is the first staff person to interact with patients at Room 1050. Though called triage, the interaction between patients and nurse is fairly limited. The nurse records each patient's name and statement of complaint on a document that becomes the patient's encounter form. Unless a patient is in need of emergent services, the forms are placed in a basket and await the next available provider. The nurse does not monitor patient flow, provide information to patients about the overall process or other services available, and has no information to give to family members about the status of patients who are being seen. As described in Section IV.A, the nurse triage station provides little value to patients and adds to wait time. An ombudsperson provides group orientations to patients in the waiting area during the day but does not deal with patients individually nor monitor overall patient flow.

Initiating a Patient Visit at Hudson Urgent Care

Patients entering Hudson Urgent Care have their first staff contact with a clerk in the information booth. The clerk provides very limited information to patients as the clerk's primary function is to distribute and collect Patient Information Forms. No triage takes place at the information booth: the forms collected are transmitted to the Triage Nurses' in-basket and taken in the order in which they arrive unless a patient's condition warrants more prompt attention. As discussed in our assessment of Hudson Urgent Care stations in section IV.B, the information booth is also of little value to patients.

A cross-trained Patient Representative stationed in the patient waiting areas could facilitate patient flow and initiate services more quickly.

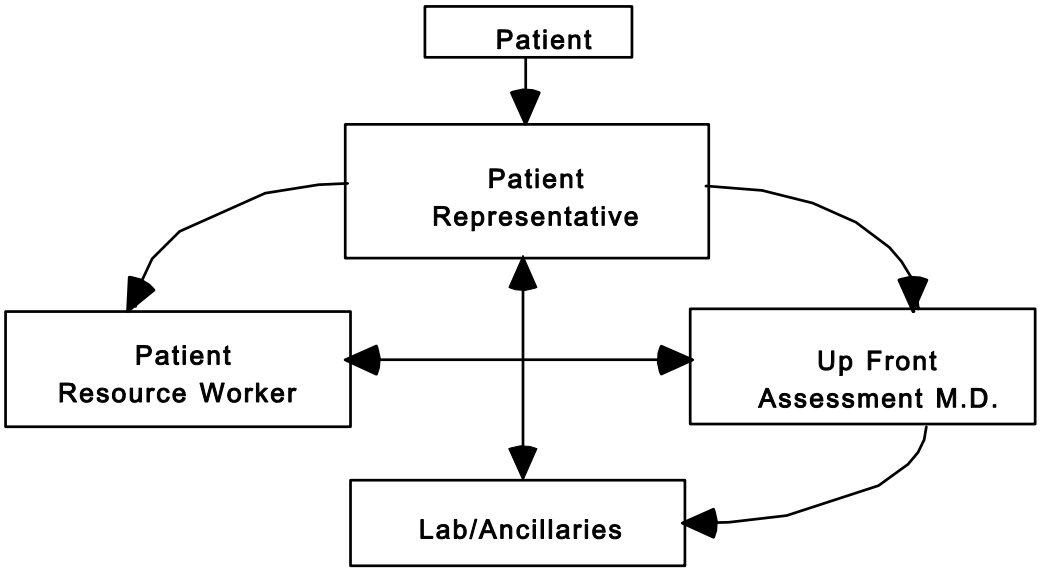
To provide a clear central source of information and assistance, particularly as patients first enter the facilities, the creation of a new Patient Representative position, to be stationed in the waiting rooms, is recommended. The positions should be filled by a Registered Nurse to ensure that patients with medical conditions in need of immediate attention receive attention. The goals of the position would be: 1) to make contact with patients as soon as possible upon their entry; and, 2) to ensure that patients get to a physician or physician assistant as quickly as possible.

Consistent with reengineering principles, the specific duties performed by the Patient Representative should be flexible and based on patient need, not a rigid job description. The

Patient Representative should make initial contact with each patient and, when there are waits for the next stations, continue with successive tasks such as obtaining a description of the reason for the visit, starting a chart, taking vital signs, ordering laboratory and other ancillary services, and directing the patient to the next available Up Front Assessment clinician or Patient Resource Worker.

A partition could be installed in the lobbies for privacy when the Patient Representative is performing more clinical functions. The Patient Representative should also inform patients of where they stand in the queue when there are wait periods for the next stations, monitor patient flow, and troubleshoot backlogs when they develop. In cases where the patient has an appointment (establishment of an appointment system is recommended In Section VI.4), the Patient Representative should direct the patient to the "appointment provider." Chart VI.1.A shows the recommended patient flow and interchangability of stations. Table VI.1.A lists functions that could be shared and by whom.

Chart VI.1.A
Recommended Flexible Patient Flow



When there is no wait at either the Up Front Assessment or Patient Resource Worker station, the patient should proceed to one of those stations for visit initiation activities: at the Patient Resource Worker Station, a chart could be started (patient's name and complaint entered) and patients could be registered and financially screened. If the patient goes to the

Up Front Assessment station first, a chart could be started there, vital signs taken by the provider, and assessment, diagnosis, and treatment could commence. Ideally, the patient should see a Patient Resource Worker first so that billing arrangements have been completed before the clinical encounter. But if sticking to that sequence results in prolonged waiting time, the order should be reversed.

This recommended change would require physicians to perform tasks that are not traditionally associated with their profession, such as taking vital signs and starting a patient's chart. However, by discontinuing the traditional specialization of these minor duties, patients will be processed more quickly and with fewer hand-offs between stations and employees. This change, along with a more flexible process, will help improve patient satisfaction. A 1993 study[25] showed that patient satisfaction was highly correlated with the amount of time it took before the patients receive care in emergency departments. Also found to be key to patient satisfaction was the amount of information nurses gave them about what was happening. Both of these elements of patient satisfaction would be provided by establishment of a Patient Representative and the changes in duties described above.

Staffing Requirements

Vital signs are now taken and recorded by Nursing Attendants at a stand-alone station in Room 1050; at Hudson Urgent Care, it is part of nurse triage. As discussed in Section IV.A, patient wait time for vital signs at Room 1050 averages 14 minutes though transaction time is only one minute. For most patients, this is after they have already waited an average of 39 minutes for the Triage Nurse and registration/financial screening stations. By transferring the vital signs function to the new Patient Representatives or the clinicians at the Up Front Assessment station when there is no wait to see one, patient wait time would be reduced and the Vital Signs station could be deleted.

[25] Bursch, Brenda, et al., "Emergency Department Satisfaction: What Matters Most?", Annals of Emergency Medicine, 22:3 March, 1993, 586-591

Table VI.1.A
Which Staff Positions Can Perform Which Functions

Staff Position	Greet Patient /Start Chart	Registration/ Final Screening	Vital Signs	Coordinate with Lab & X-ray	Schedule Follow up appts./Disposition	Clinical Aftercare
Patient Representative	☐		☐	☐		
Patient Resource Worker	☐	☐		☐	☐	
Up Front Clinical Provider	☐		☐	☐	☐	☐
Pediatric Nursing Attendant - Hudson Urgent Care			☐			
Booth/Exam Room Nurse				☐	☐	☐
Booth/Exam Room Provider			☐	☐	☐	☐

In addition to the Vital Signs station, Room 1050 staffing at the Nurse Triage station and the Ombudsperson could be deleted since their functions would be incorporated by the Patient Representative and the Up Front Assessment providers. At Hudson Urgent Care, the information booth station and staff could be eliminated. Nurse Triage staff would no longer need to take vital signs. Since the nursing staff performs additional functions, they are not recommended for deletion in this section (recommendations pertaining to reengineering the nurse triage process are presented in Section VI.3).

It is recommend that the Patient Representative be on duty 12 hours per day, 365 days per year. Since patient activity typically drops off considerably in the late evening hours, the functions of the new Patient Representative could be absorbed by other staff. To cover 12 hours per day, 2.43 FTEs are required (to cover all shifts and vacation and sick leave).

One exception to the Patient Representative's functions should be vital signs for pediatric patients at Hudson Urgent Care. These patients should have their vital signs taken at a separate stand-alone station staffed by a Nursing Attendant. This is because taking a

child's temperature can be more time consuming than an adult's and would not be a good use of physician time. But for adults, vital signs averages a minute per patient and can be integrated with the Up Front Assessment encounter.

Service Enhancements: Patient Education and Referrals

Presently, there are no educational materials available in the waiting areas at either Room 1050 or Hudson Urgent Care. A number of providers and DHS administrators and manager believe that many patients come to Room 1050 and Hudson Urgent Care inappropriately or because of the lack of preventive efforts. Making print and video educational materials available in the waiting areas would provide an opportunity to educate patients about health issues and preventive efforts and possibly reduce unnecessary trips to the Emergency Room or Urgent Care. The Patient Representative who would be housed in the lobbies of each facility, could distribute these materials.

Recommendations:

The Department of Health Services should:

1.A. Create a Patient Representative position, staffed by an RN and filled with 4.86 Full time Equivalents, to be located in the patient waiting areas, to serve as the first point of contact with patients after they enter and take a number at Room 1050 and Hudson Urgent Care.

1.B. Eliminate the stand-alone Nurse Triage, Vital Signs, and Ombudsperson stations at Room 1050 and the 9.02 Full Time Equivalents that staff them and transfer the functions from those stations to the Patient Representative and Up Front clinicians.

1.C. Eliminate the stand-alone Information Booth station at Hudson Urgent Care and the 2 Full time Equivalents that staff them and transfer the functions to the new Patient Representative.

1.D. Delegate the following roles and responsibilities to the Patient Representative:

- collect basic information about each patient (name, ID number, etc.) as they enter the facility and record it on chart;
- perform minimal initial triage and ascertain symptoms;

- determine if there is trauma or urgency that requires the patient to be seen immediately;
- take vital signs if there is a wait to see Patient Resource Worker or Up Front Clinical station provider (if there is no wait, patients should proceed directly to either of these stations and vital signs should be taken by Up Front Clinical providers for adult patients);
- direct patients to appropriate provider, including one designated for appointments;
- order laboratory tests or other appropriate procedures at time of initial patient contact and direct patients to obtain test before seeing physician or other provider when there are backlogs;
- monitor patient flow and wait time and intervene on patient's behalf to minimize wait time and bottlenecks;
- update patients periodically on their position in the queue;
- answer questions concerning whereabouts of patients and other information; and,
- distribute patient education brochures and provide information and referrals to other services.

1.E. Furnish the Patient Representative with a computer terminal to enable starting patient records and to enable patient tracking.

1.F. Install a partition in the lobbies at both facilities to provide privacy for patients whose vital signs and histories are taken by the Patient Representative.

Staffing/Cost Impact:

Location	Net Cost (Savings)
Room 1050	($241,402)
Hudson Urgent Care	+$57,757
Total	($183,645)

Establishment of a Patient Representative would add costs but these would be offset by elimination of the Triage Nurse and Vital Signs stations and the Ombudsperson position at Room 1050. Adding this new position at Hudson Urgent Care while deleting the Information Booth Clerk would result in additional net costs. The two facilities together would realize savings of $183,645. Details are provided in the table above.

It should be noted that the vital signs function at Hudson Urgent Care is currently part of the Nurse Triage station. This triage function would be eliminated in its entirety under the proposed new system and performed largely by physicians, physician assistants, or nurse practitioners at the Up Front Clinical station (see Section VI.3). Under this process, vital signs would be taken by either the Up Front provider or, if a patient has to wait to see a provider, by the new Patient Representative. To avoid duplication, the cost impact of elimination of the Nurse Triage station at Hudson Urgent Care is not included in this section because it is accounted for in Section VI.3.

Benefits to Patients:

As discussed in Section IV, the stations proposed for elimination in the above recommendations, Triage Nurse and Vital Signs at Room 1050, and the Information Booth at Hudson Urgent Care, are all of low value to patients. Patients would still be triaged, have their vital signs taken, and would receive an assessment, but these tasks would now be consolidated and performed along with other tasks at stations of greater value to patients.

Elimination of the stations would reduce patient wait time by an estimated average of 20 minutes at Room 1050. Wait time reductions at Hudson Urgent Care are not reported here though they would occur as a result of elimination of the Nurse Triage station, the functions of which would now be partially performed by the new Patient Representative. The wait time reduction associated with elimination of the Nurse Triage station is reported in Section VI.3.

Wait Time Eliminated

Room 1050	Eliminated Wait Time
Triage Nurse	6 mins.
Vital Signs	14 mins.
Room 1050 Total	20 mins.

Important to patient satisfaction would be a reduction in time between patient arrival and receiving care. This may take the form of a Patient Representative taking vital signs and beginning a chart or it may be simply because the patient is able to see a physician as soon

as one is available without going through the required stations that now precede an encounter with a physician or physician's assistant.

Other benefits of these recommendations would include more clear information disseminated to patients about services and processes at the two facilities, clearly assigned responsibility for facilitating and managing patient flow, and a source of information and referral regarding health services available at DHS and elsewhere.

Table VI.1.B
Staffing and Cost Impact Patient Representative Function

	FTE's			Cost		
	Current	Proposed	Difference	Current	Proposed	Difference
Triage Nurse	4.94	0.00	-4.94	$266,880	$0	($266,880)
Vital Signs Attendants	3.08	0.00	-3.08	68,921	0	(68,921)
Ombudsperson	1.00	0.00	-1.00	24,220	0	(24,220)
Patient Representative	0.00	2.43	2.43	0	118,619	118,619
Total-Room 1050	9.02	2.43	-6.59	$360,021	$118,619	($241,402)
Information Clerk	2.00	0.00	-2.00	$60,862	$0	($60,862)
Patient Representative	0.00	2.43	2.43	0	118,619	118,619
Total-Hudson Urgent	2.00	2.43	0.43	$60,862	$118,619	$57,757

SECTION VI.2: CONSOLIDATING ADMINISTRATIVE FUNCTIONS AND PROVIDING A SINGLE POINT OF SERVICE COORDINATION FOR EACH PATIENT WOULD IMPROVE QUALITY, REDUCE PATIENT WAIT TIME, AND REDUCE STAFF COSTS.

- Each patient deals with between two and four employees at separate stations for administrative tasks such as registration, financial screening, and disposition. Each hand-off between stations increases patient wait time.

- No single administrative employee coordinates a patient's care with other DHS clinics or is available to respond to follow-up inquiries.

- Administrative staff at both facilities have significant amounts of time when they are not interacting with patients. In the case of the employees who perform registration and financial screening, their full costs exceed estimated collections from Medi-Cal and other third party payors at Room 1050.

- Multiple forms are filled out for each patient, many including redundant information.

Stations Affected:

#	Room 1050	#	Hudson Urgent Care
2.	Patient Registration and Financial Screening	3.	Urgent Care Clerk
6.	Disposition	4.	Registration Clerk
		5.	Cashier

The registration, financial screening, and disposition processes are of value to the Department in that they are the basis for third party payments and patient record-keeping. But neither of the stations are of high value to patients. They are not part of the care that patients have come for and they are comprised of hand-offs between a number of stations and more wait time.

At Room 1050, the functions are divided into two stations performed at separate points during the visit that, together, add an average of 1 hour, 19 minutes to patient wait time. Patient registration and financial screening is performed by a Patient Resource Worker and disposition is performed separately by disposition clerks at two separate stations: one provides prescriptions and finalizes the patient's encounter; the other extracts data from each patient's chart and forms and enters it into a computer data base. These separate specialized duties and staff contribute to the lack of overall service coordination and unnecessary patient wait time that are characteristic of Room 1050.

At Hudson Urgent Care, a different process is employed requiring patients to visit two to three stations to accomplish registration, financial screening, and payment. Aggregate wait time ranges from 11 minutes for returning patients to 20 minutes for new patients for these stations. At Hudson Urgent Care, disposition is performed by nursing staff. Only patients needing follow up appointments interact with clerical staff after their clinical encounter. The purpose of the clinical disposition is to provide aftercare instructions and review prescription information and other instructions from the physician.

Consolidation of administrative functions into a single station would reduce patient hand-offs.

By consolidating all registration, financial screening, and non-clinical disposition functions into one station, patient wait time could be reduced and service coordination improved. Assigning a single Patient Resource Worker to each patient for all administrative and clerical tasks performed for each patient would eliminate the need for separate stations for these functions. For lower acuity patients who need no further service after the Up Front Assessment station, the Up Front physician or physician's assistant could disposition the patient, including scheduling any needed follow up appointments with the information system terminal at each desk (see recommendations pertaining to expanded information system capacity in Section VI.5). Patients who have not been financially screened prior to being seen at the Up Front Assessment station would be directed to a Patient Resource Worker for financial screening and, if no further clinical service is needed, disposition.

The data entry component of disposition at Room 1050 does not require the patient's physical presence and could be performed by staff clerks during less busy times after patients have left. For Fast Track patients, this task would be performed by the Up Front Assessment provider directly or by the Booth/Exam Room physicians and nurses for higher acuity patients. This would eliminate the need for Fast Track patients to wait to see a nurse at a separate station after their encounter with a physician or physician's assistant.

Service enhancements could be performed by the Patient Resource Workers to improve the quality of service: 1) accepting follow-up telephone calls from patients; 2) monitoring lab results; and, 3) financially screening patients by telephone

In addition to the consolidated administrative and clerical functions described above, some additional functions performed by the Patient Resource Workers would further enhance patient service. These include: 1) responding to follow up calls from patients; 2) monitoring and obtaining patient laboratory and radiology results and transmitting them to clinicians; and, 3) registering and financially screening patients over the telephone at the time they schedule appointments at Room 1050 or Hudson Urgent Care (appointments at both facilities are recommended in Section VI.5).

1) Accepting follow-up telephone calls from patients

By letting patients know that they can call the Patient Resource Worker that they saw during their visit with follow-up questions, patients would be able to obtain necessary information. This may avoid some patients presenting for another encounter. The Patient Resource Workers would be responsible for tracking down information for patients who call in such as which physician saw them, what prescription was ordered, etc. which will help expedite follow up decisions or recommendations for further treatment. Under the current system, no staff is responsible for this activity. In any case, patients cannot call in for information.

To obtain much of the needed information, Patient Resource Workers would require access to other computer system modules. They already have computer terminals on their desk, but only the registration and financial screening modules are used. By providing access to the Medical Records and Patient Scheduling modules of the computer system (and Order Entry when it is finally installed), Patient Resource Workers would have access to all key information about patients and could call it up to respond to patient inquiries.

2) Monitoring lab and radiology results

One of the current delays in patient processing at Room 1050 and Hudson Urgent Care is waiting for results from laboratory or radiology procedures. Staff at both locations report that results are often ready and entered into the computer system, but they are not retrieved on a timely basis because there is no mechanism for notifying the providers when results that they need to complete an encounter with a patient is ready. Consequently, the results often sit in the system for some time before they are retrieved and used in the

encounter. In the meantime, the physicians are seeing other patients and cannot keep interrupting their patient flow to go check the remote computer terminal that has the results. Monitoring laboratory results and getting them to the providers as soon as possible is consistent with the redefined role of the Patient Resource Workers as coordinator of the administrative aspects of patient services.

Ultimately, an order entry and alert module will be installed in the CompuCare system which now serves LAC+USC and will eventually be installed at Hudson Urgent Care. Plans call for installation of that module in mid-1996. The module will allow for automated entry of lab and radiology procedures and automated alerts when the results are ready. This will greatly facilitate the process of ordering tests and obtaining results in a timely fashion. When that occurs, the Patient Resource Worker can still play a role in monitoring the electronically transmitted results.

3) Financial Screening by Telephone

Financial screening over the telephone for appointed patients will mean that their encounter will be faster when they arrive at the facility. They will simply need to check in, verify their identity, and proceed to the provider at the appointed time. Currently, appointments and telephone financial screening service are not available for patients of Room 1050 or Hudson Urgent Care.

Streamlining Paperwork

Under current procedures, a number of charts and forms are generated for each patient visit. At Room 1050, each patient's medical chart is moved to different stations between four and six times. At each station, it is reviewed and new information added. Each chart movement places it in another queue, adds time to the patient visit, and raises the potential of delays due to charts being taken out of order, etc. A typical encounter will generate the forms listed and described in Table VI.2.A. By consolidating administrative stations and tasks, the number of chart movements and the number of times patients are asked redundant questions would be limited as would delays resulting from charts not being moved on a timely basis would be reduced.

Table VI.2.A
Forms Generated During Room 1050 Visits

Form	Type	Station(s)	Purpose
Face Sheet/Chart (Form 260E):	Administrative Clinical	Nurse Triage Patient Resource Worker Disposition Vital Signs Up Front Booth	Triage nurse starts chart by filling in the patient's name and complaint and takes imprint of LAC+USC card if patient has one. Transmits chart to next station. This form becomes the patient's chart and information is added at the Vital Signs station and by the physician(s) who treats the patient. The Patient Resource Worker receives all charts and uses them to determine which patient to see next. Disposition clerks use the charts for data extraction and to assist patients with scheduling.
Patient Information Form (PIF):	Administrative	Patient completes in waiting area	Records basic patient information such as name, address, birth date, social security number, etc. Filled out manually by patient.
Registration Forms (260D):	Administrative	Patient Resource Worker	Patient information is collected verbally by Patient Resource Worker and entered into CompuCare. An electronic search is conducted for patient history. Forms are generated by CompuCare based on information collected.
Financial Screening Forms	Administrative	Patient Resource Worker	Forms are manually prepared based on information collected by verbally by Patient Resource Worker from patient regarding patient's financial status and payment obligation for the visit. Form is sent to billing office.
Encounter Form	Clinical Administrative	Physician Disposition	This is filled out manually by physicians to summarize clinical encounter. Disposition Clerk extracts data and enters it into computer.
Waiver, Citizenship, & Miscellaneous Other Forms	Administrative	Patient Resource Worker	These forms are manually filled out by the Patient Resource Worker in conjunction with patient: Foreign Visitor Verification (all patients); PHP/HMO/Insurance Notification (for patients with private coverage); Medicare Notification (if appropriate); CHP Notification (for members of County's own HMO); Medi-Cal Eligibility forms; and uninsured motorist forms.

Under the proposed system, the administrative forms (Form 260D which contains patient demographic and financial information, a copy of which is presented in Attachment 5) shown would be completed at the Patient Resource Worker station and would not need be transferred to any other stations. The Patient Information Form (the document filled out by patients upon arrival, shown in Attachment 4) would be discontinued entirely as this information would be collected by the Patient Resource Worker.

The patient's chart (Form 260E, shown in Attachment 3) would be filled out entirely by clinicians and would not have to move between as many as six stations. Instead the patient's chart would move between a maximum of two stations. In cases where there is a backlog at the clinical or Patient Resource Worker stations, the patient's name and demographic information could be collected by the Patient Representative, and used to start a chart or registration form (via a laptop computer terminal in the waiting room). Encounter forms would still be filled out by clinicians and transferred to Patient Resource Workers for coding, but this would no longer need to be done while the patients are still present.

Required Administrative Staffing Level

At Room 1050, there are approximately 23 FTEs allocated to the registration and financial screening process for an average of 180 patients per day. This level of staffing includes new positions added in 1994-95 to allow for an increase from four to eight financial screening windows during the day shift. With this level of staffing, there are more Patient Resource Workers than needed to accommodate the number of patients seen, resulting in idle worker time at various points throughout the day.

Specifically, with 180 patients per day and an average transaction time of 9 minutes, approximately 6 Full Time Equivalents would be required. (based on 9 minutes x 180 patients x 365 days/year = 9,855 hours of transaction time. 9,855 divided by 1,768 productive hours per employee per year = 5.6). There are 23.06 Full Time Equivalents (FTEs) assigned to the function at present. However, since patient arrivals are not evenly distributed throughout the day, staff has to exceed the minimum required amount to cover all shifts and be responsive to peak demand periods. Also, employees come in eight hour shifts, so excess hours are accumulated when peak periods don't last a full eight hour shift.

An additional problem related to the level of registration and financial screening staffing at Room 1050 is that the cost of the registration and financial screening function, including salaries, benefits, supervisors, overhead, and services and supplies is estimated to exceed the revenue collected from Medi-Cal and other third party payments. Direct costs

for salaries and benefits are $681,703. With overhead and non-personnel costs added (estimated to be another 20 percent), total costs would be $818,043. 1994-95 revenues were estimated to be $748,240 by the LAC+USC Finance Department.

We have calculated staffing need for Room 1050 based on an increased number of duties for Patient Resource Workers, as specified above (clerical disposition tasks, responding to follow up telephone calls, and monitoring lab results), and increased use of half-time workers to accommodate peak demand periods. We have also assumed a maximum patient waiting time of 30 minutes, consistent with the Project Steering Committee goal. Given that information, we recommend funding 17.08 FTEs at Room 1050, a reduction of 5.98 FTEs compared to present levels. However, additional staffing reductions would be realized through deletion of 9.24 Disposition Clerk FTEs through elimination of the Disposition station.

At Hudson Urgent Care, there are 9.6 FTEs registering and financially screening an average of 129 patients per day. We recommend a decrease to 8.6 FTEs at Hudson Urgent Care based on workload, even after adjusting for additional duties that would be added to these jobs. However, costs for these positions would increase because we recommend replacement of some student worker positions with more highly paid Patient Resource Workers to better accommodate new responsibilities.

Recommendations:

The Department of Health Services should:

2.A. Consolidate registration, financial screening, and disposition functions to be performed by a single cross-trained Patient Resource Worker for each patient.

2.B. Delegate the following additional tasks to Patient Resource Workers: follow-up appointment setting for patients, providing referrals, and responding to follow up telephone calls from patients.

2.C. Eliminate the stand-alone Disposition station and 9.24 Full Time Equivalents that staff the station at Room 1050.

2.D. Reduce the number of Patient Resource Workers at Room 1050 from 23.06 to 19.26 Full Time Equivalents to provide sufficient staff to perform all recommended functions and enable a 30 minute maximum wait time for patients. Include more part time shifts to accommodate the uneven distribution of patients throughout the day.

2.E. Replace the 9.6 Urgent Care Clerks and Student Workers at Hudson Urgent Care with 10.18 Full Time Equivalents Patient Resource Workers to provide sufficient staff to perform all recommended functions and enable a 30 minute maximum wait time for patients.

2.F. Make the sequencing of the Patient Resource Worker station and the Up Front Clinical station interchangeable, with patients directed to the station where the back-up is shortest.

2.G. Direct Patient Resource Workers to financially screen patients who call in for an appointment over the telephone.

2.H. Discontinue requiring patients to complete Patient Information Forms and make collection of data on that form part of the transaction between patient and Patient Resource Worker

Staffing/Cost Impact:

Location	Net Cost (Savings)
Room 1050	($349,216)
Hudson Urgent Care	+$106,187
Total	($243,029)

Table VI.2.B below summarizes the staffing and fiscal impact of consolidating administrative functions under one Patient Resource Worker for each patient. The number of FTEs recommended are based on a maximum 30 minute waiting time and an assumed continuation of the current pattern of patient arrivals.[26]

[26] This distribution should be more evenly distributed throughout the day once the recommended new appointment system is implemented, as recommended in Section VI. 5.

As shown, a reduction in staff is recommended for Room 1050, even with additional duties factored in, because the current level of staffing is higher than needed for patient volume. The use of part-time workers or "flexible staffing" (employees who are assigned to different locations throughout the day) is recommended for peak patient hours during the day. At Hudson Urgent Care, a slight increase is recommended to absorb additional duties.

Benefits to Patients:

Patients would experience fewer hand-offs and their visits would have a single administrative coordinator. Patients would have a specific individual to call for follow-up questions resulting from a visit.

Elimination of the disposition station would reduce average patient wait time by 46 minutes at Room 1050 and 11 minutes at Hudson Urgent Care through elimination of the Disposition stations.

Eliminated Wait Time

Room 1050	Wait Time
Disposition	46 minutes
Room 1050 Total	46 minutes
Hudson Urgent Care	
Disposition	11 minutes
Hudson U.C. Total	11 minutes

Table VI.2.B
Staffing and Cost Impact
Consolidation of Administrative and Clerical Functions

	FTEs			Cost		
	Current	Proposed	Difference	Current	Proposed	Difference
Room 1050						
Patient Resource Workers	23.06	19.26	-3.80	$641,730	$564,049	($77,681)
Int. Supvsg Clk Typist	1.15	0.00	-1.15	39,973	0	(39,973)
Intermediate Clerks	9.24	0.00	-9.24	231,562	0	(231,562)
Total-Room 1050	33.45	19.26	-14.19	$913,265	$564,049	($349,216)
Hudson Urgent Care						
Patient Resource Workers	0.00	10.18	10.18	$0	$298,295	$298,295
Clerks/Student Workers	9.60	0.00	-9.60	192,108	0	(192,108)
Total-Hudson Urgent	9.60	10.18	0.58	$192,108	$298,295	$106,187

SECTION VI.3: INTEGRATING VITAL SIGNS, NURSE TRIAGE, AND DIAGNOSIS AND TREATMENT INTO A SINGLE "UP FRONT" STATION WOULD ALLOW MOST PATIENTS TO RECEIVE CLINICAL SERVICE AT ONE STATION RATHER THAN TWO OR THREE. WAIT TIME BEFORE SEEING A PHYSICIAN WOULD BE REDUCED, AND LESS STAFF WOULD BE REQUIRED. COSTS COULD BE FURTHER REDUCED AND QUALITY OF CARE MAINTAINED BY REPLACING ONE PHYSICIAN PER SHIFT WITH NURSE PRACTITIONERS OR PHYSICIAN ASSISTANTS.

- Triage and treatment are performed simultaneously at a single physician-staffed station at Room 1050. As a result, total encounter time for 60 percent of the patients, designated as lower acuity, or "Fast Track", averages approximately 2 hours compared to 4 hours for higher acuity patients who need more extensive assessments and treatment.

- At Hudson Urgent Care, the average patient encounter time of 2 hours and 50 minutes could be reduced for lower acuity Fast Track patients by eliminating the Nurse Triage station and incorporating duties performed there into an Up Front Assessment station.

- Patient visits at Room 1050 could be further streamlined and costs lowered by eliminating the stand-alone Vital Signs and Disposition stations and transferring the tasks performed there to the Up Front Assessment station and the new Patient Representative position, at lower cost.

- At a number of emergency departments around the country, costs have been reduced and quality of care maintained by including Nurse Practitioners and/or Physician Assistants on the emergency department clinical staffs. Physician Assistants are being used by the contract physicians at Hudson Urgent Care but their lower cost has not been passed on to the Department since a flat rate is charged no matter who sees the patient.

Stations Affected:

#	Room 1050	#	Hudson Urgent Care
3.	Vital Signs	2.	Nurse Triage
4.	Up Front Clinical Station	5.	Exam Room Encounters
6.	Disposition	7.	Disposition

The Existing Up Front Assessment Station at Room 1050 Expedites Patient Visits

Room 1050 already has an Up Front Assessment station where all patients receive an initial assessment and most patients are diagnosed and treated. Higher acuity patients are referred on for a more complete examination to physicians in the examination booths or to specialists elsewhere in the Medical Center.

Encounters for lower acuity patients are expedited at Room 1050 because the Up Front Assessment station incorporates what in the past was performed as part of a separate formal nurse triage. Now, the nurse at the window (called a triage nurse but not actually performing a formal triage function) only takes names and a brief description of the patient's problem. After that, patients have their vitals signs taken at a separate station, and are registered and financially screened at a third station. Patients then see a physician at the Up Front Assessment station where they are assessed, and in the case of lower acuity patients, diagnosed and treated.

There is no formal nurse triage in the process at Room 1050; it was intentionally eliminated from the process within the last few years to help expedite patient flow and has been replaced by a less formal and less time consuming prioritization process. As a result, patients receive services of greatest value to them, physician services, much sooner. And, the approximately 60 percent of patients who are low acuity complete their entire clinical encounter in much less time than if they received a formal nurse triage. The result is a two hour average visit time for low acuity patients compared to four hours for higher acuity patients who require more extensive treatment from a physician in a booth. Average total visit time for all patients is two hours and 40 minutes.

Considerable streamlining has taken place in the LAC+USC Department of Emergency Medicine. Research has shown that formal nurse triage may not produce benefits commensurate with its cost and may impose additional delays for patient

treatment.[27] Continuance of the Up Front Clinical station at Room 1050 is recommended, but with three changes in current processes and structure: 1) eliminate Vital Signs as a separate stand-alone station; 2) eliminate Disposition as a separate stand-alone station; and, 3) achieve cost savings by replacing one physician per shift with a Nurse Practitioner or Physician Assistant at both Room 1050 and Hudson Urgent Care.

Performance of the Vital Signs and Disposition station tasks should be shared by the new Patient Representative, the Up Front Assessment station clinicians, and the Patient Resource Workers. The sequencing of steps should be flexible so that determination of who performs which tasks can depend on where the backlog is shortest. With computer terminals at each provider's station, these tasks can be performed interchangeably.

Vital Signs

Vital signs should be performed at one of two points in the new process: 1) either by the Patient Representative (an R.N.) in the lobby when there is a wait to see a provider or Patient Resource Worker; or, 2) by the providers themselves at the Up Front station when there is no wait. The important thing is that patients keep moving through the process and that the sequencing of stations and tasks not hold up patient flow. The vital signs transaction itself takes an average of only one minute and could be absorbed by Up Front station staff and the Patient Representative without adding staff.

Disposition

As discussed in Section VI.2, Disposition at Room 1050 is both a clinical and clerical function. The clinical aspects of disposition, such as aftercare education, should continue to be performed by clinical staff. The clerical tasks, which include entering patient demographic and encounter data into a computer data base, scheduling patients at other clinics, and providing prescription documents to patients, should be segregated into tasks that require the patient's presence and those that do not. Then, staff at the patient's last station (i.e., either the provider station or the Patient Resource Worker station) would perform the tasks that require the patient's presence such as scheduling a future appointment.

[27] George, Steve, et al., "Evaluation of Nurse Triage in a British Accident and Emergency Department," British Medical Journal, 1992, 304, April, 1992, 876:878

Disposition tasks such as scheduling appointments could be performed by existing clinical staff and would add only marginally to total transaction time. This would expedite the process as it would eliminate being processed through another station after the clinical encounters have concluded.

Tasks that do not require the patient's presence, such as data entry, should be performed by Patient Resource Workers when they are not busy with patients and could be done after patients have left. These changes would allow for elimination of the stand-alone Disposition station which is of very low value to patients but contributes significantly to patient wait time.

Hudson Urgent Care

At Hudson Urgent Care, all patients go through a formal nurse triage station before seeing a physician or physician's assistant. Vital signs are taken and an initial assessment of a patient's condition and medical history is collected as part of nurse triage. Staff attempts to divert patients who are nonurgent and low acuity to one particular physician for "fast-track" processing. The concept is that transaction time will be shorter for these patients and their wait time will thus be correspondingly reduced. However, all patients still go through a formal nurse triage process, which entails an average wait time of 43 minutes for 4 minutes of transaction time.

At Hudson Urgent Care, we recommend the following changes as part of the creation of the Up Front Clinical station: 1) eliminating the Nurse Triage station by transferring functions performed there to the new Patient Representative and the providers at an Up Front Clinical station; 2) eliminating the separate Disposition station for Fast Track patients by incorporating its clinical elements into the duties performed by the provider at the Up Front Assessment station; and, 3) creating a Nursing Attendant position to take pediatric vital signs. As with Room 1050, one Nurse Practitioner position is recommended per shift for the new Up Front Clinical station.

As has been shown at Room 1050, a formal nurse triage station is not necessary for lower acuity Fast Track patients. By eliminating that station, the first clinician a patient sees is a physician who would perform assessment, diagnosis, and treatment all at one station in a reasonably short period of time (nine minutes average at Room 1050). At Hudson Urgent Care, Nurse Triage and the physician encounter combined take 14 minutes on average. More important, average patient wait time for the two stations amounts to 1 hour and 33 minutes at Hudson Urgent Care. At Room 1050, wait time for an Up Front provider averages 19 minutes.

As at Room 1050, Disposition at Hudson Urgent Care consists of both clerical and clinical tasks. Both types of tasks are performed by a nurse at a stand-alone station after the patient has seen a physician or physician's assistant. The clerical tasks do not consume as much time as at Room 1050 because patient data is not recorded in a computer as part of Disposition at Hudson. However, nurses do perform the clerical tasks of scheduling appointments for patients at other Hudson or DHS clinics along with aftercare education and other tasks.

By splitting Disposition tasks between clinicians and Patient Resource Workers, the stand-alone Disposition station could be eliminated for Fast Track (lower acuity) patients. Clinical disposition tasks for Fast Track patients could be incorporated into the patient's encounter with an Up Front provider. For higher acuity patients, a separate encounter with existing nursing staff after seeing a physician in the Exam Rooms would still be appropriate. The clerical aspects of disposition such as appointment scheduling should be performed by either the patient's Patient Resource Worker or the clinicians themselves, depending on who the patient sees last. This would eliminate the practice of requiring patients to visit a separate Disposition station.

The Use of Nurse Practitioners and Physician Assistants

The inappropriate use of emergency departments for minor health complaints and resultant overcrowding is a problem common to emergency rooms throughout the country.[28] Three common remedies to this problem are: 1) creation of separate fast-track areas for nonurgent patients away from trauma units; 2) referring nonurgent patients to other nonemergency ambulatory clinics; and, 3) employing nurse practitioners or physician's assistants to augment physician staffing for nonurgent patients.

The Department of Emergency Medicine at LAC+USC is already partitioned so that patients in need of critical care are diagnosed and treated in a room separate from nonurgent ambulatory patients at Room 1050. Such a separation at Hudson Urgent Care is not necessary as it serves only ambulatory patients and is not part of a hospital emergency department. Patients are not referred to other nonemergency ambulatory clinics as staff has no information about the ability of other locations to absorb more patients. This approach

28 Dresnick, S., "Understanding the Growth of Emergency Department Utilization," Annals of Emergency Medicine, 1987, 16:1302-1304; "Alternative Care: Indigent Care and Overcrowding Threaten EDs," Hospitals, 1989, pp. 6 - 70; Cohodes, D., "America the Free, the Land of the Uninsured," Inquiry, 1986, 23: 227 – 299

would not necessarily reduce DHS costs either, if the patients were simply referred from one DHS site to another. The option with the most potential for DHS is the use of nurse practitioners and physician's assistants.

Nurse practitioners and physician's assistants have been found effective in a number of emergency departments and other clinical settings nationwide in terms of outcomes, patient satisfaction, and cost containment (they are paid less than physicians). Trained in nursing schools or in baccalaureate programs usually established by medical schools, these professions are found in a number of primary care settings and, increasingly, in specialty areas including emergency departments and urgent care clinics throughout the nation. They are trained and qualified to diagnose and treat less complex medical conditions, which comprise the majority of cases at both Room 1050 and Hudson Urgent Care.

The use of nurse practitioners and physician's assistants at both locations provides an opportunity to reduce costs while maintaining the quality of service provided to patients. Their acceptance and abilities are already proven at Hudson Urgent Care where four physician's assistants are now seeing some patients, under the supervision of a physician, as part of the clinic's contract physician services (physician services are contracted for at Hudson Urgent Care; nursing and administrative staff are Department employees). In other settings:

- Kaiser Permanente Northwest Region reports using physician assistants and nurse practitioners for a variety of practice areas including urgent care and the emergency department.[29]

- A southeastern emergency department reports successfully using nurse practitioners to augment physician staffing for a number of nonurgent patients.[30]

- Vanderbilt University Medical Center, a teaching hospital, found that "the quality of care given appears to be excellent and patient satisfaction...very high," when they began using nurse practitioners for lower acuity patients in their Emergency Division.[31]

[29] Hooker, Roderick S., "The Role of Physician Assistants and Nurse Practitioners in a Managed Care Organization," The Roles of Physician Assistants and Nurse Practitioners in Primary Care, 1993, 51-67
[30] Dowling, Diane and William N. Dudly, "Nurse Practitioners: Meeting the ED's Needs," Nursing Management, 1995, 26: 48C:48J
[31] Wright, Seth W. ,et al, "Fast Track in the Emergency Department: A One Year Experience with Nurse Practitioners", Journal of Emergency Medicine, 1992, 10, 367:373

In a number of surveys, nurse practitioners have been found to provide the same (or better) quality of care as physicians. Patients have been found to be equally or more satisfied with their experience than with a physician, particularly in the areas of interpersonal skills.32 Kaiser Permanente Northwest Region found physicians assistants and nurse practitioners to be, "...as productive as physicians, to prescribe similarly to physicians, and to be economically viable alternatives to physicians."[33]

The training traditionally provided to both professions emphasizes primary care, which would serve Room 1050 and Hudson Urgent Care well as both locations serve as a substitute for primary care for many nonurgent patients who have no other source of regular health care. For other skills needed for common problems diagnosed at Room 1050 and Hudson Urgent Care, training could be provided in those areas. This is the policy at Vanderbilt University Medical Center, where each nurse practitioner receives six and one half weeks of orientation and on the job training.

The final argument in favor of nurse practitioners or physician assistants is cost. The salary and benefits for a nurse practitioner in Los Angeles County is $63,800, compared to annual salary and benefits costs for physicians ranging from $140,000 to $157,600 annually. Each physician replaced by a Nurse Practitioner would result in savings of between $76,200 and $93,800 in salaries and benefits annually.

It should be noted that the physician assistants already used at Hudson Urgent Care has not produced cost savings for DHS. The difference is that physician services are contracted and paid a flat hourly rate of $71.58 regardless of whether service is provided by a physician or physician's assistant. For the contractor, there is every incentive to minimize costs by using a physician assistant for nonurgent patients who do not require more extensive examinations. We recommend that physician's assistants continue to be used but that the Department's costs be reduced to benefit from this salary differential.

Staffing Requirements

Table VI.3.A below summarizes the staffing and fiscal impact of implementing an Up Front Clinical station at Hudson Urgent Care and modifying the practices at the existing

[32] Ryan, Sheila A., "Nurse Practitioners: Educational Issues, Practice Styles, and Service Barriers," The Roles of Physician Assistants and Nurse Practitioners in Primary Care, 1993, 41-49
[33] Hooker, *loc. cit.*

Up Front station at Room 1050. The assumptions used to determine the staffing level at both facilities included: continuation of the same number of patients currently being seen; a maximum 30 minute wait time to see a provider; continuation of the current distribution of patient arrival times; and, replacement of one physician with a Nurse Practitioner per shift for both the day and evening shifts every day. Room 1050's Supervising Physician is assumed to continue on staff to oversee the residents, to see patients when backlogs occur, generally in the mid to late morning, and to assume more management responsibility for operations at Room 1050. A Supervising Physician is not assumed for Hudson Urgent Care since the physicians are all contractors and are assumed to have their own internal form of supervision. Clinical staffing for the booth area at Room 1050 was assumed to remain the same. Staffing for the exam rooms at Hudson Urgent Care is assumed to remain the same relative to the number of patients being seen.

Recommendations:

The Department of Health Services should:

3.A. Maintain the Up Front Clinical station at Room 1050 and create one at Hudson Urgent Care, staffed by providers now assigned to the Examination Room at Hudson Urgent Care.

3.B. Replace one physician per shift with a Nurse Practitioner or Physician Assistant for the Up Front Clinical Station.

3.C. Amend the contract with the Hudson Urgent Care physician contractor to allow a reduction in costs based on the savings resulting from the assignment of one nurse practitioner per shift to the Up Front Assessment station.

3.D. Eliminate the Vital Signs station at Room 1050, the Nurse Triage station at Hudson Urgent Care, and the 13.8 Full Time Equivalents staffing Nurse Triage, and transfer the functions of the two stations to a combination of the Up Front Clinical station and the recommended new Patient Representative (see Recommendation #1.A in Section VI.1)

3.E. Provide all clinical services for lower acuity patients at the Up Front Clinical stations: assessment, treatment, aftercare education, referral, and clinical disposition.

3.F. Establish flexibility in the sequencing of stations. Patients should first see either an Up Front Clinical station provider or a Patient Resource Worker, depending on which is available first. If there is a wait to see both, vital signs should be taken by the Patient Representative stationed in the waiting room. If there is no wait at the Up Front Clinical station, vital signs should be taken by the providers themselves.

3.G. Direct Up Front Assessment station providers and Patient Resource Workers to schedule follow-up appointments at other clinics for their patients. The determination of who schedules appointments should depend on who sees the patient last (since the function will be interchangeable).

3.H. Provide each clinician with a computer terminal at their desk and access to their facility computer system to enable appointment scheduling and collection and entering of data at multiple locations.

3.I. Send only higher acuity patients who need more extensive treatment to the Booth or Examination Room Medical Team at Hudson Urgent Care.

Cost/Staffing Impact:

Location	Net Cost (Savings)
Room 1050	($54,936)
Hudson Urgent Care	($600,100)
Total	($655,036)

Given the assumptions outlined above, costs would decrease at Room 1050, primarily due to the conversion of one physician to a Nurse Practitioner or Physician Assistant for each shift. At Hudson Urgent Care, costs for an Up Front Assessment station would be $1,024,362 but this represents a transfer or staff and resources from the Exam Room. Costs of the Exam Room would be reduced from the current $1,985,844 to $1,282,297. A reduction of $622,234 would be realized through elimination of the Nurse Triage station.

Table VI.3.A
Staffing and Cost Impact
Up Front Station, including Nurse Practitioners

	FTEs			Cost		
	Current	Proposed	Difference	Current	Proposed	Difference
Room 1050-Up Front*						
Physicians	7.87	5.79	-2.08	$1,055,805	$808,558	($247,247)
Supervising Physician	0.50	0.50	0.00	78,795	78,795	0
Nurse Practitioner	0.00	3.23	3.23	0	206,170	206,170
Senior Clerk	0.50	0.00	-0.50	13,859	0	(13,859)
Total-Room 1050	8.87	9.52	0.65	$1,148,459	$1,093,52	($54,936)
Hudson Urgent Care						
Physicians	6.00	9.86	3.86	$893,178	$1,467,84	$574,665
Physician Assistants	4.00	0.00	-4.00	595,506	0	(595,506)
Nurse Practitioner	0.00	3.23	3.23	0	206,170	206,170
Clinical Nurse II	2.01	4.83	2.82	105,079	252,166	147,087
Clinical Nurse I	6.04	0.00	-6.04	295,141	0	(295,141)
Nursing Attendant	4.00	3.76	-0.24	96,940	81,799	(15,141)
Nurse Triage Staff	13.80	0.00	-13.80	622,234	0	(622,234)
Total-Hudson Urgent	35.85	21.68	-14.17	$2,608,078	$2,007,97	($600,100)

* Changes are recommended only for the Up Front station at Room 1050; no changes are recommended for Booth staffing

Benefits to Patients:

The primary benefit of establishing an Up Front Assessment station and eliminating Nurse Triage at Hudson Urgent Care and Vital Signs at Room 1050 is that patients will see providers quicker. This is the core service that patients are seeking when they come to either facility and the faster they can receive this service, the more satisfied they will be.

Recommended staffing for this station is based on a goal of a thirty minute maximum wait time to see a provider at both facilities and this study assumes patient arrival times will continue their current pattern[34]. Achievement of this goal represents a decrease in wait time at both facilities. Wait time would be further reduced for Fast Track patients through the elimination of Disposition stations.

[34] Patient arrival times should actually become more evenly distributed throughout the day as a result of implementing appointment systems at Room 1050 and Hudson Urgent Care, as recommended in Section VI.5.

For lower acuity patients at Hudson Urgent Care, creation of the Up Front Assessment station will result in less wait time and lower overall transaction time. With the recommended Up Front Clinical station, patient wait time before seeing a physician would be reduced from approximately two hours on average to one hour *at maximum* (30 minutes maximum for a Patient Resource Worker and 30 minutes maximum for a provider).

Patients at Room 1050 now wait an average of 1 hour and 12 minutes before seeing an Up Front provider. That time would be reduced due to elimination of the Vital Signs station and by configuring staffing for a maximum waiting time before seeing a physician of thirty minutes. Maximum wait time to see a Patient Resource Worker could be another 30 minutes during peak times so total wait time would be one hour at maximum. This compares favorably to total average wait time of 2 hours and five minutes under current system. The 46 minute wait that patients now experience for the Disposition station would be eliminated entirely through deletion of that separate station.

Deletion of the stand-alone Nurse Triage station at Hudson Urgent Care would eliminate 43 minutes of patient wait time for all patients. Deletion of the separate Disposition station for Fast Track patients would eliminate 11 minutes of wait time, as shown in Section VI.2.

Eliminated Wait Time [35]

Room 1050	Wait Time

Patients would get to the Up Front Assessment and/or Booth Exam stations faster because of deletion of two stations recommended in the previous two sections, Triage Nurse and Vital Signs. Together these would eliminate 20 minutes of wait time that now occurs before a patient sees a physician. Under the proposed staffing levels, maximum wait time for a physician would be 30 minutes.

Hudson Urgent Care

Triage Nurse	43 mins.
Hudson U.C. Total	43 mins.

Besides this reduction in wait time due to elimination of the Triage Nurse station at Hudson Urgent Care, further reductions in wait time would occur for Fast Track patients who would now wait a maximum of 30 minutes to see a clinician rather an average of 50 minutes, (following the 43 minute wait for the Triage Nurse) as is currently the case.

35 Since some of these times have been accounted for previously, they are not noted in this section, to avoid the perception of duplication.

SECTION VI.4. NEW TELEPHONE TRIAGE, APPOINTMENTS AND PATIENT EDUCATION SERVICES ARE NEEDED TO INCREASE PATIENT ACCESS TO DHS SERVICES AND REDUCE WAIT TIME.

- Patients who are not currently being seen by a provider have very limited access to services at LAC+USC and the Hudson Comprehensive Health Center. For these patients, physically presenting at Room 1050 or the Urgent Care Clinic is often the only means of obtaining services on a timely basis. This can result in unnecessary visits and patient backlogs at both locations.

- Patient arrival time is not evenly distributed throughout the day, resulting in longer patient wait times at certain hours.

- Some of the patients who present at Room 1050 and Hudson Urgent Care reportedly do not need to be seen by a physician. Many do not know of home remedies that could be applied.

Stations Affected:

#	Room 1050	#	Hudson Urgent Care
1. 3.	Patient Enters Facility Registration/Financial Screening	1 3.	Patient Enters Facility Registration/Financial Screening

New patients cannot access most services at LAC+USC or Hudson Comprehensive Health Center without physically presenting at the Emergency Department or Urgent Care and receiving a referral to a clinic. There is no telephone number for a patient to call to obtain information about services available, general health care advice, home treatments, appropriate level of service for a condition, or to schedule an appointment. These services are available only to patients who have an established relationship with a provider at either of the facilities.

Telephone triage services would provide patients access to the DHS system without physically presenting at Room 1050 or Urgent Care

Establishment of a telephone triage system, available to the public 16 hours per day, would help alleviate some of the problems outlined above. Staffed by a Patient Resource Worker, and possibly backed up by a pre-recorded audio library of health information, this position could serve the following purposes:

- Obtain patient's general health information;
- Provide general health information on a wide range of topics;
- Provide triage and advice on specific conditions and ailments;
- Determine if a visit to a medical provider is necessary;
- Determine the appropriate level and location of care within DHS (or other community medical services);
- Schedule appointments at Room 1050 and Hudson Urgent Care; and,
- Arrange for registration and financial screening of patients by telephone prior to arriving for an appointment.

In interviews conducted as part of this project, 69 percent, or 38 of the 55 randomly selected patients at Room 1050 and Hudson Urgent Care indicated that they would use a service that allowed them to call a nurse on the telephone for advice and information about their ailment before deciding to come in to see a doctor. Many health maintenance organizations (HMOs) use telephone services as a means of providing information to patients and helping to determine if a visit is really necessary.

Establishment of a telephone service would provide numerous benefits including: 1) improved information about DHS services; 2) a reduction in unnecessary or inappropriate visits to the Emergency Department or Urgent Care; 3) a more evenly distributed schedule of patient arrivals through scheduling appointments; 4) more direct access to appropriate levels of care; 5) reduced patient wait time; and, 6) improved patient knowledge about their health.

Appointments would help distribute patient arrivals more evenly throughout the day

As discussed earlier in this report, patient arrival time is now heavily concentrated during certain hours of the day. However, at other times of the day, particularly afternoons and evenings, the number of arriving patients decreases substantially, reducing or eliminating patient wait time and leaving staff less busy. Appointments would help reduce patient wait time by more evenly distributing workload throughout the day. Sixteen of 30

patients, or 53 percent, interviewed at Hudson Urgent Care and 15 of 22 patients interviewed, at Room 1050, or 68 percent, indicated that they would prefer to call and schedule an appointment for a specific time if they needed to come to the facility again for care.

An appointment system could be established through the existing CompuCare system or on a personal computer. A new Patient Resource Worker telephone position could be responsible for scheduling patients during the day shift. During the evening shift, the Patient Resource Workers on duty could absorb scheduling appointments in addition to registering, financially screening, and disposition of patients.

At the suggestion of the project Steering Committee, a telephone service for Room 1050 should be part of a larger system available for all of LAC+USC Medical Center and the Hudson Comprehensive Health Center. As envisioned by the Steering Committee, a single telephone system should serve as the first point of telephone contact for patients and then provide a link to Room 1050 or Urgent Care, or the most appropriate resource.

More Patient Education

Besides more information made available by telephone, more print and video health education information needs to be made available in the waiting areas at Room 1050 and Hudson Urgent Care (and other appropriate community locations) to help improve patient awareness of their health and how to make use of DHS services. Many providers at LAC+USC and Hudson Comprehensive Health Center believe that many patients use services there unnecessarily and that increased education would improve patient knowledge and decrease unnecessary uses of the emergency and urgent care services.

Recommendations:

The Department of Health Services should:

4.A. Establish an appointment system for Room 1050 and the Hudson Urgent Care Clinic using the CompuCare system scheduling module and encourage patients to use it by making it known that patients with appointment have less wait time.

4.B. Establish a telephone number for patients to call to ask medical advice or the location of appropriate services, to obtain triage, and to schedule appointments at Hudson Urgent Care or Room 1050.

4.C. Add one Patient Resource Worker position (1.15 Full Time Equivalents to cover vacation and sick leave) to staff the telephone during day shifts at each facility to respond to calls of an administrative nature; calls that require a medical response should be referred to an available Registered Nurse, Physician or Nurse Practitioner/Physician Assistant for immediate response or a call back if all are busy.

4.D. Make health education information (print and video) available in the waiting rooms at Room 1050 and Hudson Urgent Care and distributed to patients by the Patient Representative as recommended in Section VI.1.

4.E. Assess the cost and feasibility of purchasing or creating a pre-recorded bilingual audio library on health topics to provide general information without tying up the staff.

4.F. Track the impact of the telephone triage system to determine if the number of nonurgent patient visits decreases as a result of the self-care information provided.

Cost/Staffing Impact:

Location	Net Cost (Savings)
Room 1050	$33,687
Hudson Urgent Care	$33,687
Total	$67,374

Table VI.4.A presents the staffing and cost impacts associated with the telephone triage and appointment system recommendations. At both facilities, a dedicated Patient Resource Worker would be added to handle telephone inquiries and to schedule appointments at a cost of $33,687 per facility for salary and benefits. This new position would be assigned to day shifts only as the volume of calls and patient visits can be expected to decrease during the evening shift.

Other costs associated with these recommendations would be the one-time costs of any needed modifications to the existing telephone system, preparing educational materials, video monitors, implementing a computerized appointment system (CompuCare has such a module now that should be able to be used), and possible purchase of a pre-recorded audio library on health topics, as are now in use by health maintenance organizations. None

of these costs are assumed to be significant. Costs of changes to the telephone systems necessary to provide patients with facility-wide telephone access at LAC+USC and Hudson Urgent Care are unknown at this time and beyond the scope to this project.

Table VI.4.A
Staffing and Cost Impact
Telephone Triage, Appointment System, and Patient Education

	FTEs			Cost		
	Current	Proposed	Difference	Current	Proposed	Difference
Room 1050						
Patient Resource Worker	0.00	1.15	1.15	$0	$33,687	$33,687
Total-Room 1050	0.00	1.15	1.15	$0	$33,687	$33,687
Hudson Urgent Care						
Patient Resource Worker	0.00	1.15	1.15	$0	$33,687	$33,687
Total-Hudson Urgent	0.00	1.15	1.15	$0	$33,687	$33,687

Benefits to Patients:

Implementation of these recommendations could reduce patient wait time by an unknown amount in three ways. First, establishment of an appointment system would allow for a more even distribution of patients throughout the day, reducing volume related backlogs during peak hours. Second, the telephone triage system should also reduce patient wait time by preventing some patients from making unnecessary visits to Room 1050 or Hudson Urgent Care as a result of advice given over the telephone. Third, and finally, the availability of effective educational materials should also decrease the number of patients who present inappropriately at the two facilities.

SECTION VI. 5 ENHANCED INFORMATION TECHNOLOGY CAPABILITIES ARE NEEDED AT ROOM 1050 AND HUDSON URGENT CARE TO FACILITATE REENGINEERING.

- The computer systems at Room 1050 and Hudson Urgent Care are not being used for scheduling patients in other DHS clinics though they have this capability.
- The computer systems are not available at each clinical staff desk at either location. Instead, each patient's paper chart is moved from station to station, adding to delays.
- Computer terminals at all clinical staff desks would give providers more patient information and enable greater flexibility in the patient visit process.
- Neither facility uses the existing information system data bases to generate more management reports on key areas of performance for management monitoring.
- Many patients receive services from multiple DHS facilities but because multiple information systems are in place and consistent patient identification numbers do not exist throughout t he system, patients cannot be tracked between facilities.

Stations Affected:

#	Room 1050	#	Hudson Urgent Care
4.	Up Front Clinical Station Booths	3.	Exam Rooms

Currently the Patient Resource Workers and Disposition Clerks at Room 1050 and the Registration and Urgent Care clerks at the Hudson Comprehensive Health Center are the only employees with computer terminals at their desks. They use them to register and financially screen patients. The scheduling capabilities of the systems are not used by the

staff at the two facilities; instead, appointments are scheduled manually through telephone calls to the other locations or through a paper-based inter-agency referral process.

Providers do not have terminals on their desks at all (though there is one shared terminal in the Booth area of Room 1050). They are unable to obtain any information about their patients from the system, to enter orders for ancillary services, or to schedule patients at other clinics. In the interest of reducing the number of patient hand-offs and patient wait time, it is recommended in Sections VI.2 and VI.3 that the scheduling of future appointments be performed by either Patient Resource Workers or the provider seeing the patient, whoever is with the patient last. This would eliminate the need for separate disposition stations at the two facilities. To accomplish this, the providers will need terminals at their desks.

Room 1050 is linked to the LAC+USC CompuCare system, which consists of five core modules:

1. Patient Registration
2. Patient Scheduling
3. Medical Records
4. Finance/Accounting
5. Order Entry/Results Reporting

The first four modules are now operating, though Room 1050 does not use the scheduling module. Medical charts are manually prepared at Room 1050. Data is extracted from each chart and entered by a clerk into CompuCare and, separately, into the PC-based system known as the “Sipsey System,” named after the LAC+USC doctorr who developed it. CompuCare’s Order Entry/Results Reporting module is not yet operating, but is scheduled to be implemented by June, 1996.

The Hudson Comprehensive Health Center currently uses the HCOIS system but will convert to CompuCare in the next year. They currently have "browse only" access to CompuCare at one office so they can find out where their patients have appointments at LAC+USC clinics. However, they cannot access or modify this information to, for example, schedule a patient at another clinic or delete one who no longer needs an appointment. Ultimately, a consolidated system between the two facilities and throughout DHS facilities is needed. Technically, this is possible with CompuCare.

Providing more access to CompuCare for clinicians at Room 1050 and Hudson Urgent Care will allow greater flexibility in the process and more consolidation of duties. For example, patient scheduling at other clinics is performed manually by Disposition Clerks at Room 1050 at a separate station (though CompuCare does allow for scheduling on-line). By implementing the scheduling module in Room 1050 and providing terminals at clinician desks, scheduling could be performed by physicians or Patient Resource Workers, eliminating the need for the patient to visit the separate Disposition station. When the Order Entry module is implemented, providers could order tests, procedures and prescriptions during the encounter and the order would be instantaneously received, reducing delays caused by waiting for paperwork to arrive at the lab, the radiology unit or the pharmacy.

For the longer term, a consolidated information system is needed throughout DHS so that patient information can be readily transferred between public health centers, comprehensive health centers, and hospitals. Patients often use services from more than one facility but because different identification numbers are used at each facility, records and appointment schedules cannot be readily transferred between sites. This has a number of potential adverse consequences: duplicate patient data collection; duplicate services provided; lack of continuity of care between facilities; and, lack of appropriate treatment without complete information on the patient. The Department's long term plan calls for an integrated information system that will enable the seamless flow of patient information and scheduling between sites.

At Room 1050 a PC-based computer system is used in addition to CompuCare. Patient data is entered on to this system and tabulated into summary reports tracking patient demographics, diagnoses, and other key variables. While this system provides a great deal of useful data on patients, it is not connected to the CompuCare system. As a result, duplicate data entry into the two systems is necessary. By integrating the two systems, this would no longer be necessary and patient disposition would be expedited.

Need for Improved Management Information Reports

The □Sipsey System□ at Room 1050 can produce valuable management information reports such as number of patients seen, stratified by type of diagnosis and treatment, home location, age, and other key variables. Unfortunately, this data is not regularly produced for management as access to the system□s data is highly dependent on one LAC+USC doctor□s time. Summary reports from the Sipsey data base were repeatedly requested but never received because the doctor was reportedly too busy to produce them. There are no

regularly produced reports with this information, and this leaves the Room 1050 managers with very little data to monitor and assess their performance.

The situation at Hudson Urgent Care is worse. The "Sipsey System" is not installed at that clinic and stratified performance data such as number of patients by type of diagnosis or type of payment is for the most part not available. To monitor improvements at Room 1050 and Hudson Urgent Care, managers need to have goals and objectives and the systems in place to monitor their success in achieving their goals. Management at both facilities should determine the key information to track performance at Room 1050 and Hudson Urgent Care. Key measures should include:

- Number of Patients Seen (in total and per physician and Patient Resource Worker)
- Number of Patients by Diagnosis
- Time per Encounter (by diagnosis, Fast Track, time of day)
- Payor Mix
- Cost per Encounter
- Revenues collected per encounter

Recommendations:

The Department of Health Services should:

5.A. Install CompuCare terminals at each Up Front Clinical station desk, so providers can disposition and schedule follow-up visits for Fast Track patients directly.

5.B. Provide access to the scheduling module in the CompuCare system to all clinical and Patient Resource Worker staff at Room 1050 and Hudson Urgent Care to expedite patient scheduling in other clinics.

5.C. Integrate the PC-based "Sipsey System" used at Room 1050 with CompuCare to reduce duplicate data entry and to develop an integrated set of data on patients.

5.D. Move responsibility for maintenance of the "Sipsey System" in its now stand-alone format from the doctor in Administration who manages it to the LAC+USC MIS department. Continue with this structure after it is integrated with CompuCare.

5.E. Develop key performance measures to be extracted from the CompuCare data base and regularly reported to managers in summary form at Room 1050 and Hudson Urgent Care.

5.F. Assign accountability for managers to monitor and achieve certain goals such as a maximum 30 minute wait time until patients receive service.

5.G. Eventually develop an integrated DHS-wide patient data base using a single patient identification number.

Cost/Staffing Impact:

Location	Net Cost (Savings)
Room 1050	$0
Hudson Urgent Care	$0

There are no new staffing requirements associated with this recommendation. Costs would be incurred for additional terminals and staff training on the CompuCare system. Some of the terminals for Room 1050 staff could be reallocated from the Financial Screening and Disposition Clerk desks that would be eliminated under the reengineered processes. The MIS department has reported that terminal and training costs would not be significant. Replacement of HCOIS with CompuCare at the Hudson Comprehensive Health Center is already planned and does not represent a new cost resulting from these recommendations.

Benefits to Patients:

These recommendations would help reduce patient wait time by eliminating the need for patients to visit a separate disposition station for follow-up appointment scheduling at other clinics. This time savings has already been reported in Section VI.2 and VI.3 above regarding consolidating clerical functions at Room 1050 and Hudson Urgent Care. Patients would also benefit as a result of providers having more information about them such as where else they are being seen and other medical conditions.

SECTION VI.6 BETTER COORDINATION BETWEEN CLINICAL AND ANCILLARY SERVICES AT ROOM 1050 WOULD HELP EXPEDITE PATIENT VISITS

- Patient visits to Room 1050 can be prolonged due to lapses in time between completion of a patient=s lab results and his or her provider obtaining the reports.

- Additional time is added to a patient visit after the clinical encounter is completed for patients who must go to the pharmacy and wait in another line to obtain a prescription.

Stations Affected:

#	Room 1050	#	Hudson Urgent Care
5.	Up Front Clinical Station	2.	Up Front Clinical Station
6.	Booth Clinical Station	6.	Exam Rooms

The provision of ancillary services involves patient hand-offs and unnecessary patient wait time. While ancillary services were technically beyond the scope of this reengineering project, the approach is to assess services from the patients viewpoint and to analyze related processes for their impact on the patient regardless of departmental borders. Patients don't distinguish between Room 1050 staff and ancillary service staff; they are all part of the hospital and they all play a role in the encounter. On that basis, it is critical that all related processes be well coordinated and share the goal of efficient service for the patient.

Patients who need laboratory or radiology work either have the tests or procedures performed in the booth or are sent from Room 1050 to other locations in the Medical Center. After tests or procedures are performed, specimens are sent to the lab and patients return to Room 1050 to complete their visit with a physician awaiting the results. Delays occur at this point for some patients who have received lab services because the physicians do not know exactly when results will become available. While waiting, they usually become involved seeing other patients. When complete, lab results are posted on the laboratory computer system but the physicians are not notified when this occurs. The choices for the physician are to either keep checking the computer terminal hooked up to

the laboratory system in Room 1050, which is a waste of time if results are not yet posted, or to continue to serve other patients until after the results are posted. In the latter case, patients are often kept waiting longer than necessary.

To remedy these problems, the planned automated order entry function on the CompuCare System, as discussed in Section VI.5, will be a major improvement. In the meantime, increased coordination, particularly between Room 1050 and the laboratory and 1050 and the pharmacy is crucial. Pharmacy management has indicated that they could begin preparing prescriptions as soon as they arrive by facsimile. In terms of laboratory services, several notification systems have been discussed including beepers, an announcement board, and dedicated staff to check computer print-outs for results. Since Patient Resource Workers would serve as care coordinators for patients under the reengineered system, tracking lab results would be an appropriate function for them to perform. Technology that could serve the same purpose should be explored further by LAC+USC staff.

To further expedite ancillary services, Recommendation 1.D. calls for directing the new Patient Representative to order lab or radiology tests upon initial contact with patients and, when there are back-ups, to direct patients to obtain these tests before seeing the Up Front physician. This would make use of time that patients would otherwise spend waiting and help shorten the entire encounter.

In terms of pharmacy services, prescriptions are ordered by the physicians at Room 1050 during encounters. Patients then wait to see the Disposition Clerk and proceed to the pharmacy where they get in line, present their prescription, and wait for the prescription to be filled. Two or more hours can easily pass between the time the prescription is written and filled.

Ancillary services managers have indicated that these changes are all feasible and would not have a negative impact on their operations. Staff from Hudson Urgent Care report that they have less problems along these lines because of the proximity of the ancillary services to the clinic.

Recommendations:

The Department of Health Services should:

6.A. Assign responsibility to Patient Resource Workers for monitoring lab results and reporting their completion back to the providers.

6.B. Explore technological options other than those available through the CompuCare order entry module for alerting medical staff of the availability of lab results.

6.C. Send prescriptions from Room 1050 to the pharmacy via fax at the time they are written by physician or other provider.

Staffing Cost Impact:

Location	Net Cost (Savings)
Room 1050	$0
Hudson Urgent Care	$0

Benefits to Patients:

The average combined wait and transaction time for laboratory and radiology services at Room 1050 is 58 minutes. More timely notification of laboratory results would help reduce this time. Wait time at the pharmacy following a patient visit at Room 1050 was not measured as part of this project but reports from LAC+USC staff and observations by project staff indicate that long wait times are incurred at this station after patients have completed their clinical encounters. Transmitting prescriptions to the pharmacy by fax as soon as they are prepared but before the patient arrives there will help reduce patient wait time after they have left Room 1050.

SECTION VI.7. IMPROVEMENTS IN PHYSICAL LAYOUT AND SECURITY WOULD IMPROVE THE PATIENT EXPERIENCE AT ROOM 1050 AND HUDSON URGENT CARE AND PROVIDE SECURITY PRESENTLY NOT PROVIDED BY THE BULLET-PROOF GLASS WINDOW AT ROOM 1050.

! Conditions in the main room at Room 1050 and the Nurse Triage room at Hudson Urgent Care are crowded and lack privacy. Reductions in the number of stations at both sites recommended in this report provide an opportunity to allocate provider and Patient Resource Worker desks and stations in a less congested fashion.

! Some remodeling at Hudson Urgent Care would provide more needed space and greatly enhance implementation of the recommendations in this report.

! The bullet-proof glass window at Room 1050 is not user friendly and provides only moderate security to the staff and public.

Stations Affected:

#	Room 1050	#	Hudson Urgent Care
	All		*All*

Physical layout - Room 1050

The main treatment area at Room 1050 is cramped with numerous desks and stations and a constant parade of patients and staff. Privacy is nearly non-existent at the Vital Signs and Up Front Assessment stations where patients sit in plain view and are constantly surrounded by people walking through the room. At the Up Front Assessment station, up to four patients at a time sit side by side at a long table across from their physician, separated by only a small partition from the other patients being seen at the same time.

The reengineered processes recommended in the previous sections would enable improvements in the allocation of space at Room 1050 by eliminating the following stations and making more space available for the remaining providers and Patient Resource Workers:

! Nurse Triage (this function would now be performed by the Patient Representative in the lobby);

! Vital Signs (this function would now be performed by either the Patient Representative in the lobby or the Up Front providers); and,

! Disposition (these functions would be performed by either the providers or the Patient Resource Workers).

In addition, there would be a reduction in the number of Patient Resource Worker desks needed since fewer of these positions than currently exist are recommended.

All of these changes will reduce the number of staff in the main treatment area of Room 1050 and allow the physicians and other providers to be more dispersed around the room at separate desks instead of all grouped together at one long table. Partitions could be set around each provider desk to provide privacy. Patient Resource Workers should also be stationed throughout the room so that they can interact with patients face to face at their desks, not through the bullet-proof glass windows.

Physical layout - Hudson Urgent Care

The current space configuration at Hudson Urgent Care consists of five examination rooms, an observation room, and a cramped nurse triage area where partitions have been erected to create a number of separate cubicles for triage. Clinic clerks are located behind a glassed-in counter off the triage area. Registration clerks are located outside of the clinic at the main registration area for the whole facility.

The recommended new Up Front Clinical station should logically be located in the partitioned cubicles where nurse triage stations now exist. All patients would continue to be seen here first, but many would complete their encounter at this point under the reengineered process. The space is cramped whether it's used for nurse triage or Up Front assessments and treatment. It could possibly be expanded by moving the front wall west out

into the hallway. Since there are two wide hallways connecting the lobby to the clinics, elimination of one would not impede patient access to the other clinics.

The wall in the Urgent Care clerk area adjacent to Nurse Triage could also be opened up to expand the Up Front Clinical station area and to allow the Patient Resource Workers space to be located at desks throughout the room, not all side by side behind a counter. This would be more conducive to their new role of coordinating all administrative aspects of patient care.

The five individual examination rooms and one observation room are reported by staff to be inadequate for the number of patients currently seen. However, under the reengineered process, fewer patients would be seen in the examination rooms. The lower acuity patients would be seen at the Up Front Assessment stations only and would not need to use an examination room.

The waiting area at Hudson Urgent Care poses a problem for the new education function and the taking of vital signs. The area now serves as both the Urgent Care waiting area and the main entry to the entire Hudson Comprehensive Health Center facility. All patients entering the facility walk through the waiting area. As a result, it is loud and often very congested. It is not conducive to patient education, particularly from a video monitor which probably could not be heard over the din in the room. Moving the main entrance to the facility just west of its current location so that it is aligned with the hallway on the west side of the building would enable enclosure of the Urgent Care waiting area. Enclosure of the waiting area would also facilitate the work of the Patient Representative who would be better able to observe and track patients as they are waiting. Finally, a partitioned sub-space within the waiting area would be useful for taking vital signs when and if additional privacy is needed for some patients.

Security at Room 1050

Security at Room 1050 consists of guards in the adjacent hallway and bullet-proof glass and locked doors separating the waiting area from the main room. Guards are also stationed at all main entrances to the facility where they screen patients at random for weapons. These measures, particularly the bullet-proof glass, reportedly provides staff with a greater sense of security. But the glass creates an unfortunate barrier between patients and staff and does not provide real security.

Patients have to yell out information about their ailment and symptoms to a nurse through the glass and provide financial information to a Patient Resource Worker sitting behind the glass. After that, patients are admitted into the main room through a locked door without being screened and could easily carry a weapon in at that point. The bullet-proof glass does prevent someone from running in to the waiting area and shooting at or attacking staff but this could be better prevented through facility-wide security that controlled the perimeter of the buildings. Such a plan was proposed in a County study published in 1993[36,] but the recommendations in the plan have never been fully implemented.

Security at Hudson Urgent Care is provided by a team of security officers who serve the entire comprehensive health center. There is no bullet-proof glass separating patients and staff though the clinic door is kept locked and patients are buzzed in when they are to be seen. This is not so much a security measure as a means of controlling inappropriate entry by patients looking for other clinics, or those trying to obtain information about how long they will be waiting, looking for family members, etc. There is no weapon screening or guards at the entrance to the Hudson Comprehensive Health Center. Registration clerks are not located behind bullet-proof glass in the main reception area. Within the Urgent Care clinic, the clerks are located behind glass but this is appropriate to provide privacy to the patients in the adjoining nurse triage room.

The County is currently considering replacement of LAC+USC with a new facility. Completion of this project, if approved, would not be completed for several years. The recommendations below for Room 1050 mostly involve reconfiguring the desks and stations within the main room and not new construction. Any outlays for furniture would be modest. If the new facility is approved, the new emergency department's layout should be conducive to the type of patient services recommended in this report.

The costs of implementing a comprehensive security system (Recommendation 7.C.) may be greater than appropriate if a new facility is approved. However, the principles in the security plan should be incorporated into the plan for the new facility.

[36] Los Angeles County Chief Administrative Officer, Office of Security Management Hospitals Security Recommendations, July 21, 1993.

Recommendations:

The Department of Health Services should:

7.A. Reconfigure the physical layout and placement of staff in Room 1050 and at Hudson Urgent Care as detailed in this report section to provide more space to clinicians, to improve privacy in the waiting area for vital signs and to provide a less impersonal environment for patients.

7.B. Discontinue communications through the bullet-proof glass at Room 1050. Place all interactions between patients and staff on the same side of the window.

7.C. Determine the costs and plan for remodeling the lobby at Hudson Comprehensive Health Center to expand the space for an Up Front Assessment Station and enclosed waiting area at the Urgent Care Clinic.

7.D. Implement a facility-wide security plan to ensure perimeter control at LAC+USC so that measures that are not fully effective such as the bullet-proof glass at Room 1050 can be discontinued (note: if replacement to LAC+USC is approved, the principles of a full security plan should be implemented in the new facility).

Staffing Cost Impact:

Location	Net Cost (Savings)
Room 1050	$0
Hudson Urgent Care	$0

There are no ongoing costs associated with these recommendations but one-time construction and furniture costs of an undetermined amount would be incurred. Implementation of a facility-wide security system at LAC+USC would entail costs as detailed in the 1993 County security study. Those costs should not be attributed to reengineering Room 1050 processes as this project□s recommendation could be accomplished without a full Medical Center security system. However, the quality of the overall patient experience in Room 1050 and the security of the staff and public would certainly be enhanced by a full facility-wide security system.

One time costs of an undetermined amount would also be incurred for moving the wall to expand the Up Front Assessment space at Hudson Urgent Care and moving the main

entrance to align it with the west hallway of the building. Implementation of the recommended reengineered processes do not depend on these physical changes. however, the changes would enhance the recommended processes and improve working conditions for staff at the facility.

Benefits to Patients:

The primary benefit of implementing these recommendations would be a less confusing and hostile environment for patients. Privacy would be enhanced for patient encounters with both the Patient Resource Workers and the Up Front providers.

At LAC+USC, implementing a facility-wide security system would benefit Room 1050 patients and employees alike as they would be safer and no longer required to interact with the bullet-proof glass between them.

SECTION VI.8. LONG TERM ISSUES

This section presents issues and recommendations that were identified during this project as critical issues affecting the operations of Room 1050 and Hudson Urgent Care. These are issues that cannot be solved in the short term but, over time, could have a significant impact on reengineering patient care at Room 1050 and Hudson Urgent Care. The issues are:

- Some emergency departments refuse service to nonurgent patients by diverting them to primary care services elsewhere. DHS currently has such limited primary care capacity that this type of approach to decongesting Room 1050 and Hudson Urgent Care is probably not feasible at this time.

- Many patients at Room 1050 and Hudson Urgent Care do not have a regular physician or source of primary care and tend to be treated episodically at the two facilities. Under pending managed care, it is in the interests of DHS and the patient to make every effort to link patients with primary care services and to manage their use of health care services.

- Operating on a drop-in basis with extended hours are two of the features of Room 1050 and Hudson Urgent Care popular with patients. These attributes should be incorporated in primary and other outpatient services at LAC+USC and Hudson Urgent Care.

- Expanded information systems capabilities with the ability to share data between DHS facilities and track patients throughout the system are critical to the department□s efficiency and to providing higher quality care to patients at Room 1050 and Hudson Urgent Care.

Providing more appropriate primary care services to patients

As part of this project, a number of alternatives to the current system of treating patients with nonurgent problems at the Emergency Department at LAC+USC and the Urgent Care clinic at the Hudson Comprehensive Health Center were considered. One approach that has been tried in some locations to decrease overcrowding in the emergency room is to deny service to nonurgent patients and divert them to other, more appropriate settings such as outpatient clinics. One such attempt in Sacramento found that with proper triage protocols, nonurgent patients could be diverted out of the emergency room to other

non-hospital clinics without adverse consequences[37]. Similarly, the idea of discontinuing service for ambulatory patients at LAC+USC was discussed at great length by project participants because hospitals are more costly to operate than outpatient clinics.

While these ideas have some merit, they are not applicable to Room 1050 or Hudson Urgent Care, at least in the short run. First of all, denying service to patients who present at an emergency room is only plausible if there are other, more appropriate facilities available in the community for the patients. For the majority of patients at Room 1050 and Hudson Urgent Care, there are few private sector alternatives available since most of these patients do not have private medical insurance coverage or Medi-Cal, according to DHS records. The main alternative for the uninsured are DHS clinics but most of them report severe backlogs. Some clinics at LAC+USC are not accepting patients at all due to their extreme backlog.

Moving some of the Room 1050 services out of the Medical Center and into community based settings might be more convenient for patients but would not necessarily lower DHS's costs. The higher costs at Room 1050 compared to Hudson Urgent Care are mostly due to differences in overhead costs. The Department would continue to incur these overhead costs as long as the hospital is open. The marginal cost of operating Room 1050 is not unlike what those costs would be in an outpatient setting.

To address the shortage of primary care, LAC+USC's Department of Medicine has proposed reconfiguring their outpatient staff and services to increase primary care services. The proposal calls for establishing 16 medical groups, each comprised of one Attending Physician, a Case Facilitator (nurse), and eight medical residents. With proper support from the Case Facilitator for administrative matters, each resident would see 10 patients per session. Each group would follow 2,000 patients per year. By reallocating some resident hours from inpatient services to outpatient services, three clinics would be held per day, five days per week, instead of the current four clinics two days per week. This represents a near doubling of primary care sessions with each session would accommodate a greater number of patients than is presently the case.

Other features of the Outpatient Department Plan include a 24 hour per day telephone service, a 30 minute maximum standard for patient waiting time, appointments available within one week for new patients, specialty consultations available on a timely

[37] See Derlet, Robert, et al, "Prospective Identification and Triage of Nonemergency Patients Out of an Emergency Department: a 5-Year Study", Annals of Emergency Medicine, February, 1995, 25:2, 215:223

basis, and creation of a new service called MURGE Care, a daytime urgent care facility for patients who are being followed by a Primary Care Medical Group. MURGE Care would allow patients who need urgent care to be seen within their regular practice group with all records and information about the patient readily available.

The goals of the Department of Medicine proposal are to increase primary care capacity and to provide greater continuity of care and coordination of services for patients being seen by this group. The Department assumes that this will reduce the use of Room 1050 and Hudson Urgent Care as patients under the care of a Primary Care group would be required to go to their own walk-in clinic (MURGE Care) and would have access to medical advice and information by telephone 24 hours per day.

As this plan is implemented, and capacity is increased, staff at Room 1050 and Hudson Urgent Care should refer nonurgent patients with no source of regular care to the Department of Medicine's Primary Care clinics so that they can join one of the 16 groups. They should also screen patients to ensure that they are not already being seen by one of the Primary Care groups. For nonurgent patients that are one of the groups, they should be diverted back to their group. All of this should help reduce workload at Room 1050 and Hudson Urgent Care over time and provide patients with more appropriate primary care. The diversion of patients to the Department of Medicine's Primary Care groups should be monitored and, as more and more patients become affiliated with the new program, services at Room 1050 and Hudson Urgent Care should be commensurately reduced.

Eventually, LAC+USC should consider merging Room 1050 into the Department of Medicine's MURGE care and the Outpatient Department as more and more of the patients are affiliated with a Primary Care group. A portion of Room 1050 services should continue to be reserved for patients unaffiliated with a regular physician but the goal of LAC+USC as a whole should be to offload as many patients as possible to a Primary Care group.

Long Term Plans for Information Technology

This report contains specific recommendations for enhancements to the CompuCare system's functionality and to make information technology available to more staff at Room 1050 and Hudson Urgent Care. This will facilitate the reengineered processes recommended. In the long term, DHS needs to expand its information technology to serve more facilities with a wide area network and shared information to support patients receiving services at different facilities throughout the Department's clusters and networks.

Key to a wide area network is a universal patient identification number so that patients can obtain services at different facilities and have their histories and financial information readily accessible. Magnetic stripe cards or smart cards are two technologies available that are being used in a number of states to make information about clients readily available electronically. If such cards were available for DHS patients, administrative requirements could be reduced since patient information would not have to be collected each time a patient visits a different site such as Room 1050 and Hudson Urgent Care. With a smart card (where information is embedded in a silicon chip), clinical information such as prescriptions and previous treatments, could be readily available to any clinician seeing a patient throughout the DHS system.

A detailed analysis will have to be done to plan a shared system, to determine the costs of a unified Department-wide system and to determine the savings and other benefits that would result from such a system. From this project, it is apparent that there is a great deal of paperwork generated for each patient and, often, no information at all available about the patient's medical history. A wide area network and DHS-wide identification number would help alleviate this situation and improve patient care.

Planning and procuring a shared system will take time (a requirements analysis is now in place for a DHS-wide computer-based patient record system) and will likely not be completed for several years. It will also cost money and a funding source has not been identified for such a system at this time. In addition, the exact configuration of services provided by the Department, sites and providers is now being reconsidered as the Department goes through some sever budget curtailments. Until many of these unknowns are resolved, it would not be prudent to design and implement a new shared computer system throughout the Department.

Recommendations:

The Department of Health Services should:

8.A. Prepare an analysis of outpatient backlogs and capacity limitations and develop a plan for expanding these services in addition to implementation of the Department of Medicine plan, including use of contract services.

8.B. Begin a process of merging or coordinating services between outpatient departments and Room 1050 and Hudson Urgent Care so that a certain number of patients are accepted into primary care practices and are required to initiate all non-acute services through a pre-determined gatekeeper.

8.C. Analyze the potential for eventually merging the Room 1050 function into the LAC+USC Outpatient Department and transferring Hudson Urgent Care resources to primary care services to accommodate transferred patients.

8.D. Expand drop-in clinics that operate extended hours, similar to Room 1050 and Hudson Urgent Care, but for patients who are part of a primary care practice.

8.E. Begin an analysis of the costs and benefits of a truly integrated DHS information system including an assessment of wasted resources resulting from provision of duplicate services and other factors resulting from the lack of information about patients across the department.

SECTION VII: SUMMARY OF RECOMMENDATIONS

This section presents a summary of the recommendations presented in this report. The cost impact for each recommendation is also presented. As shown total staffing cost impact of implementing the recommendations would be an estimated annual savings of $1,014,336 at the two facilities. One time costs for items such as new computer terminals would have to be deducted from that amount for the first year. Areas where those costs would be incurred are noted below.

COSTS OF IMPLEMENTING RECOMMENDATIONS

A number of the recommendations below involve one-time costs. Sufficient information is not available to specify these costs. The main areas of cost are:

- Computer Access: Terminals could be procured for clinician desks at a nominal cost. Training could be performed by in-house staff in a matter of days.

- Telephone Triage System: An assessment of current telephone system capabilities and costs of establishing a line for public call-ins was beyond the scope of this project. However, It was assumed that there would be one-time start-up costs associated with such a system, the cost of which would still leave the County with a net savings when measured against the recommended ongoing cost reductions.

- Remodeling at Hudson Urgent Care: These costs would depend on the state of the existing facility, materials to be used, and other details beyond the scope of this project. It was assumed these costs would still provide net savings to the County when measured against the recommended ongoing costs reductions. It should also be noted that the project recommendations could be implemented without remodeling at Hudson Urgent Care.

- Security system at LAC+USC: Implementation of project recommendations do not depend on a full perimeter control security system. However, such a system would make more secure and comfortable dealing with patients.

Table VII.1
Summary of Recommendations

#	Recommendation	Cost Impact
	Section : Introduction, page 1	
I.A.	Direct that DHS implement the reengineering technology utilized in this study, and all applicable recommendations, at all County Urgent Care Centers as rapidly as possible	
I.B.	Direct that DHS establish a reengineering task force with the responsibility for: - identifying reengineering opportunities within the department, - overseeing the implementation efforts, and - the propagation of reengineered processes through the DHS.	
I.C.	Identify an independent review body, such as the Auditor-Controller or the Economy and Efficiency Commission, to meet with the appropriate officials to assist in implementing the recommendations of this report and report to the Board on a semi-annual basis.	
I.D.	Direct that DHS conduct benchmark studies of best practices both within the department and at other health care organizations and to establish the appropriate organizational structures to implement those practices throughout the department.	
I.E.	Establish a business process delivery reengineering investment fund to provide seed money for initial reengineering studies. This fund should be structured like the County Productivity Investment Fund. Departments would commit to repaying the investment from savings achieved. This reinvestment of savings into new reengineering studies will increase the rate at which the benefits from reengineering can be received.	
I.F.	Direct that achievements in reengineering efforts be made a central part of DHS executive evaluations.	
	Section Introduction subtotal	**($0)**

Section VI.1, page 80-81

1.A.	Create a Patient Representative position, staffed by an RN and filled with 4.86 Full time Equivalents, to be located in the patient waiting areas, to serve as the first point of contact with patients after they enter and take a number at Room 1050 and Hudson Urgent Care.	+$237,238
1.B.	Eliminate the stand-alone Nurse Triage, Vital Signs, and Ombudsperson stations at Room 1050 and the 9.02 Full Time Equivalents that staff them and transfer the functions from those stations to the Patient Representative and Up Front clinicians.	($360,021)
1.C.	Eliminate the stand-alone Information Booth station at Hudson Urgent Care and the 2 Full time Equivalents that staff them and transfer the functions to the new Patient Representative.	($60,862)
1.D.	Delegate roles and responsibilities to the Patient Representative, as specified in Section VI.1 of this report.	
1.E.	Furnish the Patient Representative with a computer terminal to enable starting patient records and to enable patient tracking.	
1.F.	Install a partition in the lobbies at both facilities to provide privacy for patients whose vital signs and histories are taken by the Patient Representative.	
	Section VI. I subtotal	**($183,645)**

Section VI.2, page 90-91

2.A.	Consolidate registration, financial screening, and disposition functions to be performed by a single cross-trained Patient Resource Worker for each patient.	
2.B.	Delegate the following additional tasks to Patient Resource Workers: follow-up appointment setting for patients, providing referrals, and responding to follow up telephone calls from patients.	
2.C.	Eliminate the stand-alone Disposition station and 9.24 Full Time Equivalents at Room 1050.	($231,562)
2.D.	Reduce the number of Patient Resource Workers at Room 1050 from 23.06 to 19.26. Full Time Equivalents to provide sufficient staff to perform all recommended functions and enable a 30 minute maximum wait time for patients. Include more part-time shifts to accommodate the uneven distribution of patients throughout the day.	($117,654)
2.E.	Replace the 9.6 Urgent Care Clerks and Student Workers at Hudson Urgent	$106,187

	Care with 10.18 Full Time Equivalents Patient Resource Workers to provide sufficient staff to perform all recommended functions and enable a 30 minute maximum wait time for patients.	
2.F.	Make the sequencing of the Patient Resource Worker station and the Up Front Clinical station interchangeable, with patients directed to the station where the back-up is shortest.	
2.G.	Direct Patient Resource Workers to financially screen patients who call in for an appointment over the telephone.	
2.H.	Discontinue requiring patients to complete Patient Information Forms and make collection of data on that form part of the transaction between patient and Patient Resource Worker.	
	Section VI. 2 subtotal	**($243,029)**
	Section VI.3, page 101-102	
3.A.	Maintain the Up Front Clinical station at Room 1050 and create one at Hudson Urgent Care, staffed by providers now assigned to the Examination Room at Hudson Urgent Care.	$349,507
3.B.	Replace one physician per shift with a Nurse Practitioner or a Physician Assistant for the Up Front Clinical stations (savings are net of increased clinical staff for new duties).	($382,309)
3.C.	Amend the contract with the Hudson Urgent Care physician contractor to allow a reduction in costs based on the savings resulting from the assignment of one nurse practitioner per shift to the Up Front Assessment station.	
3.D.	Eliminate the Vital Signs station at Room 1050, the Nurse Triage station at Hudson Urgent Care, and the 13.8 Full Time Equivalents staffing Nurse Triage, and transfer the functions of the two stations to a combination of the Up Front Clinical station and the recommended new Patient Representative (see Recommendation #1.A in Section VI.1)	($622,234)
3.E.	Provide all clinical services for lower acuity patients at the Up Front Clinical stations: assessment, treatment, aftercare education, referral, and clerical disposition.	
3.F.	Establish flexibility in the sequencing of stations. Patients should first see either an Up Front Clinical station provider or a Patient Resource Worker, depending on which is available first. If there is a wait to see both, vital signs should be taken by the Patient Representative stationed in the waiting room. If there is no wait at the Up Front Clinical station, vital signs should be taken by the providers themselves.	

3.G.	Direct Up Front Assessment station providers and Patient Resource Workers to schedule follow-up appointments at other clinics for their patients. The determination of who schedules appointments should depend on who sees the patient last (since the function will be interchangeable).	
3.H.	Provide each clinician with a computer terminal at their desk and access to their facility computer system to enable appointment scheduling and collection and entering of data at multiple locations.	
3.I.	Send only higher acuity patients who need more extensive treatment to the Booth or Examination Room Medical Team at Hudson Urgent Care.	
	Section VI. 3 subtotal	**($655,036)**
	Section VI.4, page 108-109	
4.A.	Establish an appointment system for Room 1050 and the Hudson Urgent Care Clinic and encourage patients to use it by making it known that patients with appointments have less wait time.	
4.B.	Establish a telephone number for patients to call to ask medical advice or the location of appropriate services, to obtain triage, and to schedule appointments at Hudson Urgent Care or Room 1050.	
4.C.	Add one Patient Resource Worker position (1.15 Full Time Equivalents to cover vacation and sick leave) to staff the telephone during day shifts at each facility to respond to calls of an administrative nature; calls that require a medical response should be referred to an available Registered Nurse, Physician or Nurse Practitioner/Physician Assistant for immediate response or a call back if all are busy.	$67,374
4.D.	Make health education information (print and video) available in the waiting rooms at Room 1050 and Hudson Urgent Care and distributed to patients by the Patient Representative recommended in Section VI.1.	
4.E.	Assess the cost and feasibility of purchasing or creating a pre-recorded bilingual audio library on health topics to provide general information without tying up the staff.	
4.F.	Track the impact of the telephone triage system to determine if the number of nonurgent patient visits decreases as a result of the self-care information provided.	
	Section VI.4 subtotal	**$67,374**
	Section VI.5, page 114-115	
5.A.	Install CompuCare terminals at each Up Front Clinical station desk, so providers can disposition and schedule follow-up visits for Fast Track patients	

directly.

5.B. Provide access to the scheduling module in the CompuCare system to all clinical and Patient Resource Worker staff at Room 1050 and Hudson Urgent Care to expedite patient scheduling in other clinics.

5.C. Integrate the Personal computer-based "Sipsey System" used at Room 1050 with CompuCare to reduce duplicate data entry and to develop an integrated set of data on patients.

5.D. Move responsibility for maintenance of the "Sipsey System" in its now stand-alone format from the doctor in Administration who manages it to the LAC+USC MIS department. Continue with this structure after it is integrated with CompuCare.

5.E. Develop key performance measures to be extracted from the CompuCare data base and regularly reported to managers in summary form at Room 1050 and Hudson Urgent Care.

5.F. Assign accountability for managers to monitor and achieve certain goals such as a maximum 30 minute wait time until patients receive service.

5.G. Eventually develop an integrated DHS-wide patient data base using a single patient identification number.

	Section VI.5 subtotal	**$0**

Section VI.6, page 117-118

6.A. Assign responsibility to Patient Resource Workers for monitoring lab results and reporting their completion back to the providers.

6.B. Explore technological options rather than those available through the CompuCare order entry module for alerting medical staff of the availability of lab results.

6.C. Send prescriptions from Room 1050 to the pharmacy via fax at the time they are written by physician or other provider.

	Section VI.6 subtotal	**$0**

Section VI.7, page 123

7.A. Reconfigure the physical layout and placement of staff in Room 1050 and at Hudson Urgent Care as detailed in Section VI.7 of this report to provide more space to providers, to improve privacy in the waiting area for vital signs and to provide a less impersonal environment for patients.

7.B. Discontinue communications through the bullet-proof glass at Room 1050. Place all interactions between patients and staff on the same side of the window.

7.C. Determine the costs and plan for remodeling the lobby at Hudson

	Comprehensive Health Center to expand the space for an Up Front Assessment Station and an enclosed waiting area at the Urgent Care Clinic.	
7.D.	Implement a facility-wide security plan to ensure perimeter control at LAC+USC so that measures that are not fully effective such as the bullet-proof glass at Room 1050 can be discontinued (note: if replacement of LAC+USC is approved, the principles of a full security plan should be implemented in the new facility).	
	Section VI.7 subtotal	**$0**
	Section VI.8, page 128-129	
8.A.	Prepare an analysis of outpatient backlogs and capacity limitations and develop a plan for expanding these services in addition to implementation of the Department of Medicine plan, including use of contract services.	
8.B.	Begin a process of merging or coordinating services between outpatient departments and Room 1050 and Hudson Urgent Care so that a certain number of patients are accepted into primary care practices and are required to initiate all non-acute services through a pre-determined gatekeeper.	
8.C.	Analyze the potential for eventually merging the Room 1050 function into the LAC+USC Outpatient Department and and transferring Hudson Urgent Care resources to primary care services over time to accommodate transferred patients.	
8.D.	Expand drop-in clinics that operate extended hours, similar to Room 1050 and Hudson Urgent Care, but for patients who are part of a primary care practice.	
8.E.	Begin an analysis of the costs and benefits of a truly integrated DHS information system including an assessment of wasted resources resulting from provision of duplicate services and other factors resulting from the lack of information about patients across the department.	
	Section VI.8 subtotal	**$0**
	TOTAL NET IMPACT	**($1,014,336)**

Definition of Emergency Medicine[1]

Emergency medicine is the medical specialty with the principal mission of evaluating, managing, treating and preventing unexpected illness and injury.

Anyone may unexpectedly require medical care at any time. Emergency medical care must therefore be available 24 hours a day as an essential component of all health care delivery systems.

Emergency medicine encompasses a unique body of knowledge, outlined in the "Core Content for Emergency Medicine."2 Emergency physicians provide rapid assessment and treatment of any patient with a medical emergency. In addition, they are responsible for the initial assessment and care of any medical condition that a patient believes requires urgent attention, and they provide medical care for individuals who lack access to other avenues of care.

The specialty of emergency medicine is practiced in a variety of hospital and nonhospital settings. Emergency physicians have a role as both direct providers and coordinators of patient care. As a result, they possess a deep understanding of the logistics of medical care. They are uniquely positioned to play a pivotal role in the planning, development, implementation, and evaluation of effective and efficient health care systems.

Emergency medicine exists to provide access for all to unplanned but needed health care. It is America's health safety net.

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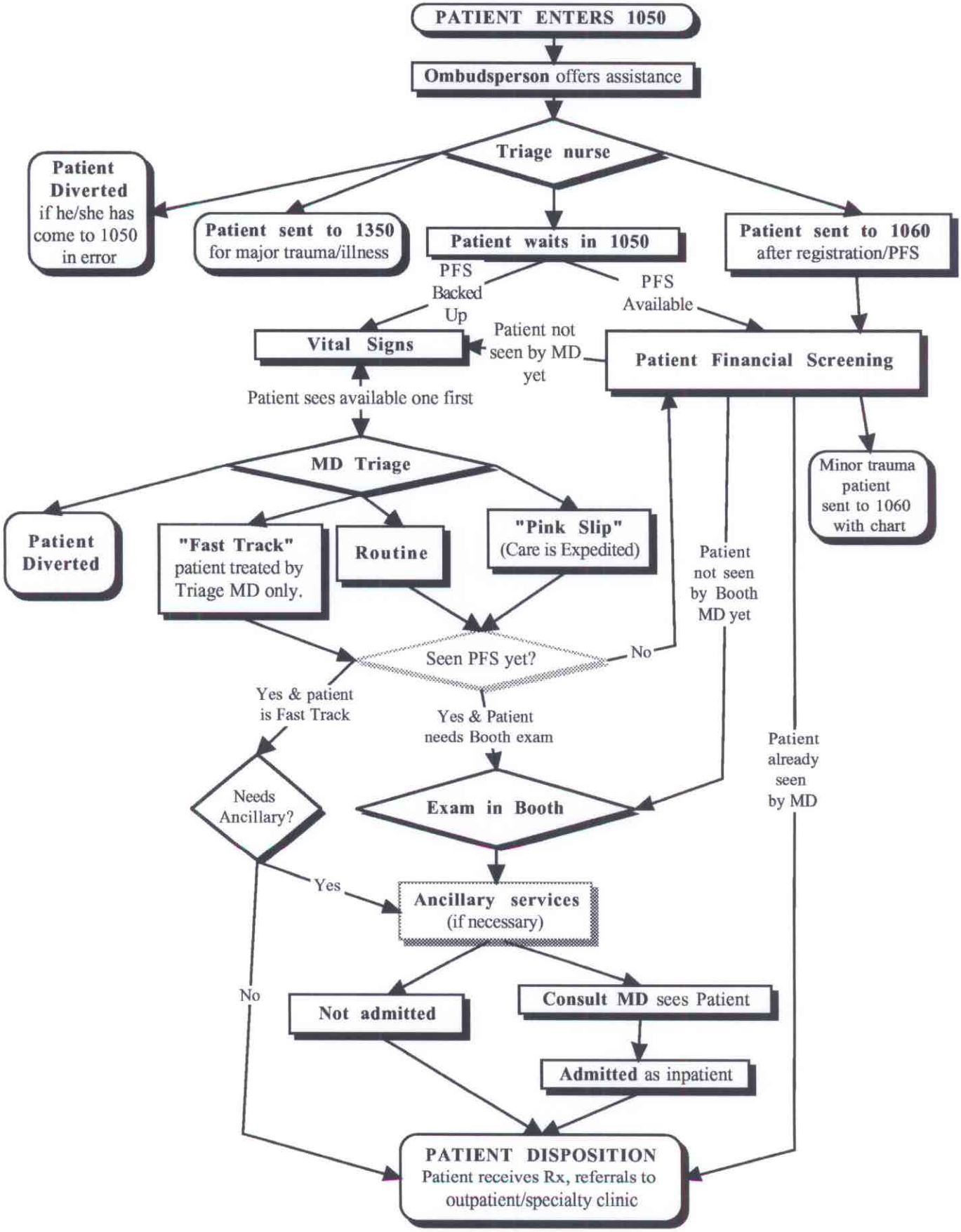
[1] American College of Emergency Physicians, Annals of Emergency Medicine, September, 1994, 24, 553-554.

[2] American College of Emergency Physicians. Core content for emergency medicine. Annals of Emergency Medicine 1992, 20, 920-934.


PATIENT ENTERS 1050
Ombudsperson offers assistance
Triage nurse
Patient Diverted if he/she has come to 1050 in error
Patient sent to 1350 for major trauma/illness
Patient waits in 1050
Patient sent to 1060 after registration/PFS
PFS Backed Up
PFS Available
Vital Signs
Patient not seen by MD yet
Patient Financial Screening
Patient sees available one first
MD Triage
Minor trauma patient sent to 1060 with chart
Patient Diverted
"Fast Track" patient treated by Triage MD only.
Routine
"Pink Slip" (Care is Expedited)
Patient not seen by Booth MD yet
Seen PFS yet?
No
Yes & patient is Fast Track
Yes & Patient needs Booth exam
Patient already seen by MD
Needs Ancillary?
Exam in Booth
Yes
Ancillary services (if necessary)
No
Not admitted
Consult MD sees Patient
Admitted as inpatient
PATIENT DISPOSITION
Patient receives Rx, referrals to outpatient/specialty clinic

10/25/95

ATTACHMENT 3

Allergies
no ☐ yes ☐ _____ (specify)

Tetanus Immunization
Primary ☐ yes ☐ no Last booster _____ (date)

Vital Signs
P_____ BP_____ R_____ T o_____ r_____

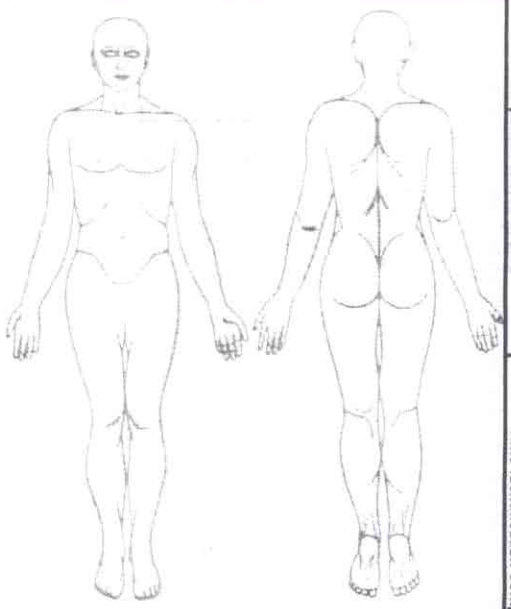
Check desired test
- ☐ Na _____
- ☐ K _____
- ☐ Glu _____
- ☐ BUN _____
- ☐ HCO_3 _____
- ☐ Amylase _____
- ☐ Diastase _____
- ☐ Protime _____
- ☐ Other _____

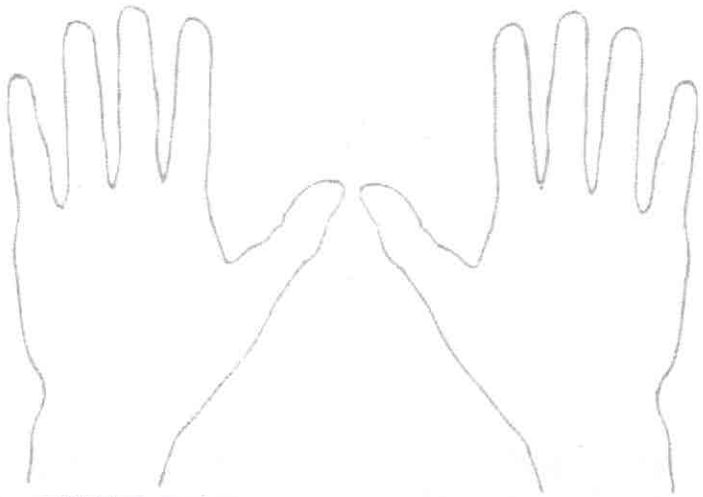
☐ **EKG**

☐ **CBC**
Hct
Time
Hgb
Wbc
Diff P____ M____
S____ E____
L____ B____
ESR

☐ **Urinalysis**

☐ **ABG** (Times)
PO_2
PCo_2
Ph
HCo_3





Initial Impression:

Time patient arrived in area

Time identification complete

Time patient seen by physician

X-RAYS

TREATMENT/PROCEDURE/RESULTS

MEDICATION/DISCHARGE INSTRUCTIONS

DEPARTMENT OF EMERGENCY MEDICINE
LAC/USC Medical Center
1200 N. State Street,
Los Angeles, CA, 90033
(213) 226-6763

℞ 1 REP. 1 2 3

℞ 2 1 2 3

℞ 3 1 2 3

DATE _____ _____ M.D.

LICENSE # _____ DEA # _____ PRINT NAME _____

DIAGNOSIS:
1. _____
2. _____
3. _____

THIS ORDER IS NOT VALID UNTIL STAMPED WITH VALIDATION IN ROOM 2P82, 1125 1D36A or 2K10

NAME

P.F. #

ADDRESS

RX AREA 1

DISPOSITION:

☐ Admit (ward)_____
☐ red blanket ☐ Stat expedite ☐ routine

☐ Home condition on D/C_____

REFER TO:

Disability: ☐ no ☐ yes ____

(date) (signature)

(time) (print name)

USP, NF OR GENERIC EQUIVALENT

76P598L 26OE (REV. 4/88) 12/93 **EMERGENCY ROOM RECORD**

PATIENT INFORMATION
INFORMACION DEL PACIENTE

ATTACHMENT 4

Date _____ MRUN# _____

PATIENT'S NAME - LAST/Apellido	FIRST/Primer Nombre	MIDDLE/Segundo Nombre	SEX/Sexo	BIRTH DATE/Fecha de Nacimiento

SOCIAL SECURITY NUMBER/ # Del Seguro Social	RACE/ Raza	MARITAL STATUS/ Estado Civil	INFO FROM/Quien dio informacion	BIRTHPLACE/Lugar de nacimiento

FATHER'S NAME/Nombre Y apellido de su padre	MOTHER'S NAME/Nombre de su madre	SPOUSE NAME/Nombre de esposo(a)	ARRIVED BY/Vino al hospital via

ADDRESS/Domicilio:Numero Y Calle	CITY/Ciudad	STATE/Estado	ZIP/Zona Postal	COUNTY/Condado	OUT OF COUNTY PT?

HOME PHONE #/# de telefono	WORK PHONE #/# de trabajo	MOTHER'S MAIDEN NAME/Apellido de soltera de su madre	RELIGION/Religion	LANGUAGE/Idioma

NEXT OF KIN NAME (Person to Notify)/Persona a quien notificar	RELATIONSHIP/Parentesco	NEXT OF KIN PH #/# De persona a quien notificar

NEXT OF KIN ADDRESS/Domicilio de la persona a quien notificar	ACCIDENT TYPE/Tipo de accidente Traffic/Trafico____ Industrial/Industrial____ Non-Industrial/No-Industrial____

DATE OF ACCIDENT/ Fecha del accidente	HOW AND WHERE DID ACCIDENT OCCUR/ Como y Donde occurio el accidente	GUARANTOR NAME (RESPONSIBLE PARTY)/ persona responsable	RELATIONSHIP TO INSURED/ Relacion al paciente	TELEPHONE #/ # de telefono

RESOURCE INFORMATION

1. Does patient receive Medicare benefits? YES _____ NO _____ HIC #_____
   HMO/PHP YES _____ NO _____ Part A Coverage Effective Date _____
   Phone call to PHP ___ Part B Coverage Effective Date _____
   Contact Person _____

2. Does patient receive Medi-Cal benefits? YES _____ NO _____ STATE # _____
   APPROVED _____ PENDING _____ Effective Date _____ Expiration Date _____
   Share of Cost amount $_____

3. Does patient have other insurance coverage (OTHER RESOURCE)? YES _____ NO ____

   If yes, name of insurance (RESOURCE): _____

   Is insurance HMO/PHP? YES _____ NO _____

   Address: _____

   Phone #: _____ Employer's Name _____

   Group #: _____ Employer's Address _____

   Policy#: _____ _____

   Authorization? YES _____ NO _____ Auth/Pre Cert #_____

   Phone call to HMO/PHP ____ Contact Person _____ Ded. Amt.$_____

   Subscriber's Name _____ Relationship to Insured _____

   Military: Status _____ Branch _____

4. Is patient enrolled in the Ability to Pay program? YES _____ NO _____
   Family Size _____ Gross Monthly Income$_____ Type of Income _____
   Type of Employment _____

5. Does patient have an Advance Directive? YES _____ NO _____ UNKNOWN _____
   If yes, copy on file? YES _____ NO _____ Brochure given to patient? YES _____ NO _____

6. Was address verified? YES _____ NO _____ Source _____

7. Was Social Security # verified? YES _____ NO _____ Source _____

INTERVIEWER'S NAME _____

MKL 9/8/93

ATTACHMENT 5

COUNTY OF LOS ANGELES

DEPARTMENT OF HEALTH SERVICES

APPLICATION RECORD

CHART COPY

Person Accompanying Patient | Relationship | Phone

Address of Person Accompanying Patient | City | State

PATIENT INFORMATION

ADDRESS OF PATIENT | CITY | STATE | ZIP CODE | PHONE

BIRTHDATE | AGE | SEX | RACE | BIRTHPLACE | OTHER NAME USED | LAST DISCHARGE WARD / DATE | DOC. ACCT. NO. | HIC OR RR NO

PERSON TO NOTIFY | RELATION | ADDRESS OF PERSON TO NOTIFY | CITY | STATE-ZIP | PHONE

RELIGION | MARITAL STATUS | FULL NAME OF SPOUSE | D. L. S. | CARRIER CODES

MOTHER'S MAIDEN NAME | FATHER'S FULL NAME | INFO FROM

CAME TO HOSP. VIA → TAXI, WALKED, IN-ARMS, BUS | AUTO: PRIVATE, SHERIFF, POLICE | AMBULANCE: PRIVATE, COUNTY, POLICE | IDENT FROM

REFERRED HERE BY | ADDRESS | CITY | PHONE

STATE AID NUMBER | O. COV. | ELIG. DATE | LIABILITY | TRANS | PHP | SOC. SEC. NO.

ADMISSION NO. _____ DATE _____

ADMISSION DATE _____ SERIAL NO. _____

WARD _____ ROOM _____ BED _____

PF NO.

NAME

76AR54 (260D) (1/80) 10/93

County of Los Angeles

FINANCIAL INFORMATION

OUTPATIENT BILLING INSTRUCTIONS

	YES	NO	
1. Are you receiving or are there pending MEDI-CAL only benefits? ☐ MNO ☐ HOSP NON-CAT ☐ MI	☐	☐	
2. Are you receiving any CASH AID with MEDI-CAL?	☐	☐	
If NO: Have you applied for aid through DPSS?	☐	☐	
3. Are you receiving SSI/SSP (from Soc. Sec. Administration)?	☐	☐	
If NO: Have you applied through Soc. Sec. Admin.?	☐	☐	
If YES: Location of Soc. Sec. office:			
4. Do you have a SHARE OF COST to meet?	☐	☐	☐ MC-177
5. Are you a member of a PREPAID HEALTH PLAN (PHP)?	☐	☐	☐ PHP-1
6. Are you currently receiving MEDICAID benefits?	☐	☐	☐ Photocopy
7. Are you currently receiving MEDICARE benefits?	☐	☐	☐ Photocopy
If NO: Have you applied for MEDICARE benefits?	☐	☐	
Beneficiary: Coverage: A- ☐ B- ☐			☐ Adm. Adv.
8. Do you have CHAMPUS or CHAMPVA coverage?	☐	☐	☐ Photocopy
☐ 1863-1 ☐ 1863-1R ☐ 1863-5 ☐ DD1251			
9. Do you have PRIVATE HEALTH INSURANCE coverage?	☐	☐	☐ Photocopy
☐ MA-43 ☐ MA-43 ☐ MA-43 ☐ MA-43 sent home			
10. Is patient on California Childrens Services Program (CCS)?	☐	☐	☐ Photocopy
11. Are you covered by any SPECIAL PROGRAMS?	☐	☐	
☐ TB ☐ RENAL ☐ POST POLIO ☐ SHORT DOYLE			☐ MA-61
OTHER PROGRAM:			☐ Photocopy
12. Were you involved in an ACCIDENT?	☐	☐	☐ PA 971
☐ TRAFFIC ☐ I.A. ☐ Home			☐ MA-83A
13. Were you a victim of CRIME?	☐	☐	☐ B/C I-D
14. Does patient have 100% coverage?	☐	☐	
15. Was patient screened for Medi-Cal?	☐	☐	
Was patient referred to a PFSW - II ?	☐	☐	
16. Medicare prior hospitalization - Last 60 days	☐	☐	Facility
Last 24 hours	☐	☐	Facility
17. Is patient U.S. citizen? YES ☐ NO ☐ Resident Alien? Other			
18. Do you own, or are you buying property in Calif? YES ☐ NO ☐ Location			
19. MEDI-CAL eligible Will apply YES ☐ NO ☐ 20. Address verified? YES ☐ NO ☐			
21. Medical staff notification sent YES ☐ NO ☐			

MEDI-CAL VERIFICATION

WCMIS		CID	
H4009		SDX	
OTHER			

MEDI-CAL LABEL

BILLING IDENTIFICATION

MEDI-CAL NUMBER | DISTRICT

ELIGIBILITY DATE | DISCONTINUANCE DATE | S.O.C. | AR 2 1 2 3

	THIRD PARTY - NAME	CODE-VER
1		30 31 32
No.		
2		33 34 35
No.		
3		36 37 38
No.		

PROPERTY LIEN ☐ YES ☐ NO. PROP. ☐ REFUSED

REVISION 49

AUTHORIZATION CCS ☐ PHP ☐ #

DOCUMENTS ATTACHED ☐ YES ☐ NO

PAY PLAN ☐ TOTAL LIABILITY $

SPEC. P/P ☐ PER MONTHLY $

COMPLETED

DWI ☐ YES ☐ NO | COMPLETED BY: | DATE

DOCUMENTS ATTACHED ☐ YES ☐ NO | APPROVED BY: | DATE

REMARKS:

Person Accompanying Patient | Relationship | Phone

Address of Person Accompanying Patient | City | State

PATIENT INFORMATION

ADDRESS OF PATIENT | CITY | STATE | ZIP CODE | PHONE

BIRTHDATE | AGE | SEX | RACE | BIRTHPLACE | OTHER NAME USED | LAST DISCHARGE WARD / DATE | DOC. ACCT. NO. | HIC OR RR NO

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CAME TO HOSP. VIA → TAXI IN-ARMS WALKED BUS | AUTO: PRIVATE SHERIFF POLICE | AMBULANCE: PRIVATE COUNTY POLICE | IDENT FROM

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STATE AID NUMBER | O. COV. | ELIG. DATE | LIABILITY | TRANS | PHP | SOC. SEC. NO.

ADMISSION NO. _____ DATE _____

ADMISSION DATE _____ SERIAL NO. _____

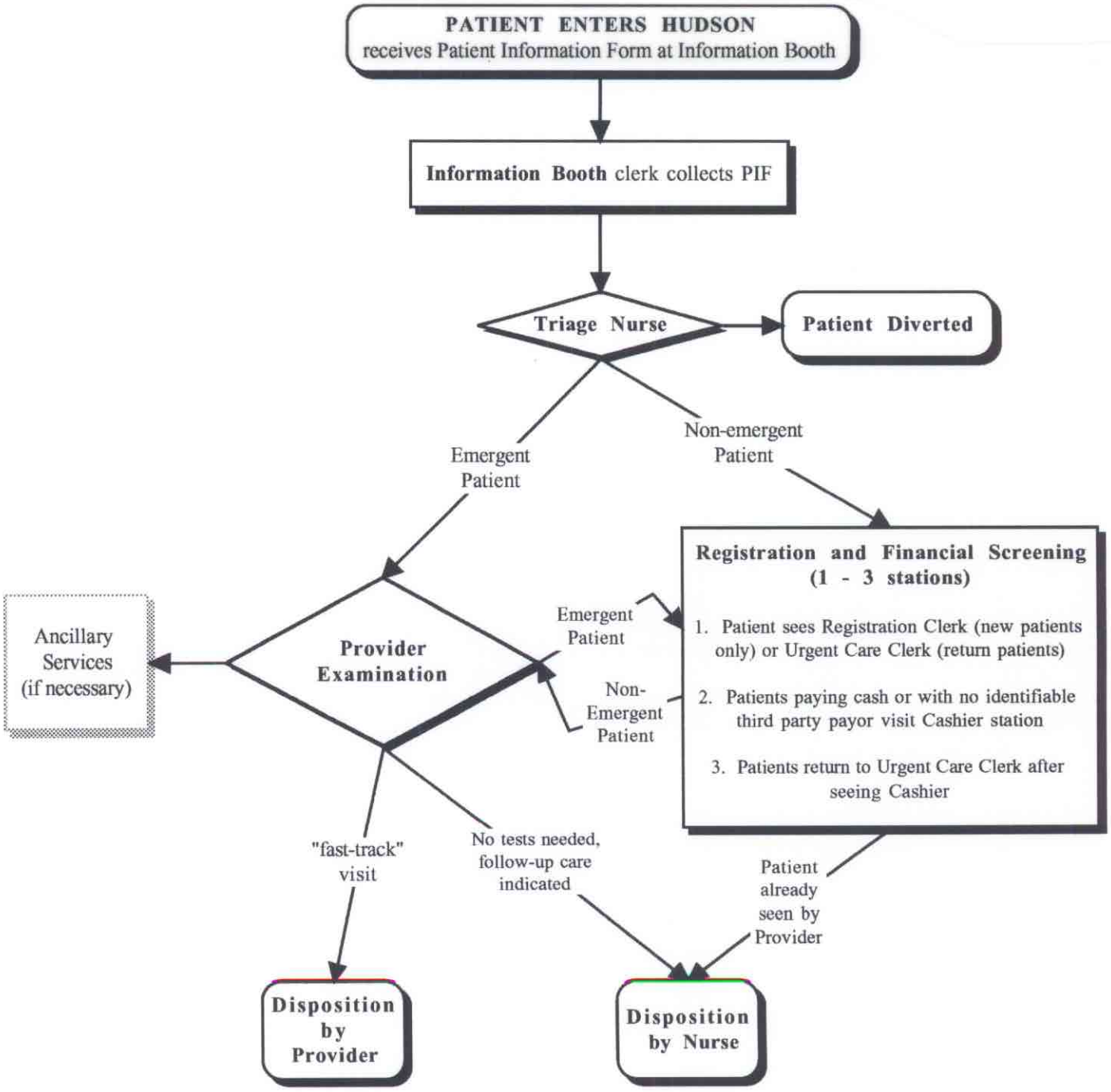
WARD _____ ROOM _____ BED _____

PF NO.

NAME

76A654 (260D) (1/80) 10/93

APPLICATION RECORD
BILLING IDENTIFICATION


PATIENT ENTERS HUDSON
receives Patient Information Form at Information Booth
Information Booth clerk collects PIF
Triage Nurse
Patient Diverted
Emergent Patient
Non-emergent Patient
Registration and Financial Screening (1 - 3 stations)
1. Patient sees Registration Clerk (new patients only) or Urgent Care Clerk (return patients)
2. Patients paying cash or with no identifiable third party payor visit Cashier station
3. Patients return to Urgent Care Clerk after seeing Cashier
Emergent Patient
Non-Emergent Patient
Provider Examination
Ancillary Services (if necessary)
"fast-track" visit
No tests needed, follow-up care indicated
Patient already seen by Provider
Disposition by Provider
Disposition by Nurse

Harvey Rose Corporation Time Study

Time Study Data

A one-day time study was conducted at Hudson Urgent Care on 11/2/94, and at 1050 on 11/8/94. The basic format was similar to the Patient Flow Analysis conducted at 1050 in 1993: upon a patient's entry to the facility, he/she was given a time study form that followed the patient throughout the course of a visit. The study tracked the transaction times at each station during a patient's visit. From this data, wait times between stations and total visit time was also calculated. The time study methodology and results are presented below.

Methodology

Staff at each station were notified of the study and instructed to record the patient's "time in" and "time out" on the patient's time sheet for each step in the process. Each staff member used his/her own watch, or clocks located in the facilities, to record times for the study. In addition to staff participation, a member or members of the Harvey M. Rose Corporation were present throughout the day at each site, observing the process and answering staff questions about the study. At 1050, the Harvey M. Rose staff member recorded the patient's entrance time in the facility and distributed time sheets to the patients. At Hudson, the Information Clerk recorded the entrance times and distributed time sheets.

The transaction time at each station was calculated by subtracting the "time in" from the "time out" (i.e., if a patient arrived at a station at 2:03 and departed at 2:06, the transaction time equals 2:06 minus 2:03, or three minutes), and the wait time for each station was calculated by subtracting the "time in" to that station from the "time out" of the *previous* station (i.e., if a patient's "time in" to Vital Signs was 8:56 and that patient's "time out" of Nurse Triage was 8:45, the wait time equals 8:56 minus 8:45 or 11 minutes).

A total of 207 time forms were collected at 1050, and 131 forms were collected at Hudson. Approximately 50% of the forms were completed appropriately at each site, and the remaining forms contained some data but were not complete. All usable data points were included in the average transaction times and wait times. Data that appeared to be in error was discarded (e.g., if the recorded time of patient disposition was earlier than the recorded time of the physician visit, for example).

Results

Although the process of a patient visit at 1050 and Hudson is quite different in terms of the order of stations, and the functions and staff at each station, the overall average visit

times were quite similar (2 hours, 40 minutes at 1050 versus 2 hours, 50 minutes at Hudson), as were total clerical time (14 minutes at each facility) and total clinical time (21 minutes at 1050 versus 23 minutes at Hudson). Patients waited an average of over two hours at either facility for approximately 35 minutes of "service" (from clerical and clinical staff). As illustrated below, the transaction times at each station were significantly shorter than the wait times for each station (which contributed to the approximately 4:1 ratio of wait time to service time). Table A below summarizes these results for Hudson and 1050.

Table A
Summary Time Study Results

	AVERAGE TIME[1]	
	1050	**Urgent Care**
Wait	0:06	0:43
Triage Nurse	**0:01**	**0:04**
Wait		0:05
Urgent Care Clerk[2]		**0:03**
Wait	0:33	0:15
Registration/Financial Screening[3]	**0:09**	**0:09**
Wait		0:06
Cashier		**0:01**
Wait	0:14	
Vital Signs	**0:01**	
Wait	0:19	
Up Front Physician	**0:09**	
Wait	1:05	0:50
Physician Exam in Back[4]	**0:36**	**0:10**
Lab/XRay/EKG	**0:58**	**0:27**
Wait	0:46	0:11
Disposition	**0:04**	**0:07**
Total Clerical Time	0:14	0:14
Total Clinical Time	0:21	0:23
Total Ancillary Time	0:58	1:51
Total Waiting Time[5]	**2:05**	**2:13**
Total Visit Time	**2:40**	**2:50**
Wait Before Seeing an MD or PA	**0:44**	**2:12**

[1] Based on results of a one-day time study conducted at Hudson on 11/2/94 and at 1050 on 11/8/94.
[2] Includes visits before and after the patient sees the Cashier.
[3] New patients only.
[4] Does not include lab, X-ray or EKG time.
[5] Total visit time less clinical and clerical time.

Limitations of the Time Study Data

The above results were the product of one day of observations at each facility, and as such do not represent statistically significant or definitive figures on transaction and wait times. Although there were over 200 individual observations at 1050 and over 130 individual observations at Hudson Urgent Care, it is noted that transaction times and wait times may vary on a daily basis, as a function of staffing, patient volume or acuity. Where this data is used as the basis for projecting staffing needs for the reengineered process, transaction times were increased to provide for variability in the data.

Comparison With Other Hospital Emergency Rooms

Overview

Other hospitals in Los Angeles County and nationwide were studied for two reasons: to compare the process of service delivery in walk-in emergency rooms in Los Angeles County and in other jurisdictions, and to survey the scope and success of reengineering projects undertaken in either county or private sector hospitals across the country. Los Angeles County hospitals studied include Martin Luther King-Drew, Olive View, and Harbor-UCLA. High Desert and Rancho Los Amigos were not studied due to differences in patient populations at these facilities. In addition, other hospitals were contacted: those in large urban areas that are comparable to Los Angeles County (in terms of population and patient demographics), and those that have implemented patient flow improvement or reengineering projects. Staff from the following hospitals outside Los Angeles County were interviewed:

- Cook County Hospital;
- Jackson Memorial Hospital (Dade County);
- City of New York (Bellevue);
- San Francisco General Hospital;
- San Mateo County General Hospital;
- Mercy Hospital (San Diego);
- Strong Memorial Hospital (Rochester, NY);
- Beaver Medical Center (Pittsburgh, PA).

Review of Other Los Angeles County Hospital Walk-in Emergency Rooms

Site visits and interviews with staff were conducted at the emergency rooms and walk-in emergency rooms at Harbor-UCLA, Martin Luther King-Drew, and Olive View Medical Centers. Following is an overview of the similarities and differences in terms of procedures, staffing and services at each facility.

- At each facility, ambulatory patients are triaged in the main Emergency Room and subsequently routed to that facility's walk-in/urgent care area.

- Patient examinations at each facility occur in an exam booth (LAC+USC is the only County facility where a physician encounter is completed outside an exam room).

- Patients are generally dispositioned from the exam area by a nurse.

! Although these facilities use different information systems (CompuCare, PARS, HCOIS), the patient registration and financial screening process is essentially the same in all facilities.

! Total visit times are significantly longer at other County facilities (as previously shown in Section II). The current total visit time at LAC+USC Room 1050 is approximately two hours and 40 minutes, as compared to an average of anywhere between three to five hours (at King-Drew) and six to twelve hours (at Harbor-UCLA).

! Harbor-UCLA is the only County hospital that has instituted an appointment system for its Urgent Care patients. The Urgent Care clinic is only accessable to patients who physically present for triage at the main Emergency Room and are subsequently appointed to the Urgent Care clinic that same day or the following day. These patients are also offered the option of waiting for care in the main Emergency Room.

Review of Hospitals Outside Los Angeles County

Few hospitals nationwide have undertaken reengineering efforts in their emergency or walk-in emergency rooms. However, some emergency departments have undertaken patient flow projects designed either to 1) improve the tracking and linkages of patients between an emergency setting and a primary care setting, and/or 2) reduce the waiting and total visit time for patients. Only one hospital that we contacted (Beaver Medical Center) has implemented a reengineering project that resulted in both reduced patient waiting time and documented cost savings.

The hospitals surveyed were asked 1) what projects were either underway or previously implemented to improve patient care and reduce waiting time, 2) whether there has been any documented cost savings from improved patient flow processes, 3) whether there has been any documented reduction in patient waiting time, and 4) whether there have been any written reports detailing the changes (costs/savings/reduction in waiting time).

For those hospitals contacted, several projects have been implemented to improve the tracking and linkages between patients seen in the emergency room and patients seen in a primary care clinic setting. For example:

! San Francisco General Hospital (SFGH) is implementing an information system that can track patient visits at SFGH and other County health facilities. In addition, all patients seen for the first time in the newly established Urgent Care Center will be

assigned a primary care physician, who will become the patient's primary contact and will be responsible for case management for that patient.

! The City of New York (Bellevue Hospital) prints lists of patients seen in the hospital emergency room and at Bellevue clinics to track patients that have received follow-up care in a primary care clinical setting.

! San Mateo County General Hospital faxes patient information to satellite clinics to track patients that have previously been seen in the emergency room.

In addition, hospitals have implemented patient flow projects in an effort to reduce the overall waiting and total visit time of patients. For example:

! Patients entering the emergency room at Jackson Memorial Hospital (Dade County) are given the opportunity to go to the Urgent Care Center, or to schedule an appointment at a primary clinic rather than waiting in the emergency room.

! Cook County Hospital "fast-tracks" certain patients, and other patients may be offered an appointment in a primary care clinic rather than waiting in the emergency room (a certain number of clinic appointments are guaranteed daily).

! Strong Memorial Hospital in Rochester orders lab tests up front to expedite the patient visit.

! Mercy Hospital (San Diego) has redesigned services by bringing certain procedures and treatments (such as respiratory treatments and blood analysis, which were previously located outside the emergency room) directly to the patients in the emergency room exam area. These services are now performed by staff that have been cross-trained to perform a variety of procedures and treatments.

Beaver Medical Center, a non-profit hospital in Pittsburgh PA, has reengineered their patient flow process and achieved documented cost savings and reduced waiting times. Total visit time has been reduced from an estimated four hours to two and one half hours as a result of the reengineering effort. In addition, the hospital has saved an estimated $90,000 annually from cross-training staff and consolidating positions.

The reengineered process at Beaver Medical Center focuses on cross-training staff to perform a variety of functions, and on the simultaneous completion of tasks to expedite treatment. The patient is first seen by a triage team, consisting of a nurse who can start treatment and order lab tests. A physician is also available to perform a quick assessment

for the patient. A cross-trained Clinical Technician/Nursing Attendant takes the patient's vital signs, and completes other procedures such as drawing blood and performing EKGs. While the patient is being seen by the triage team, a cross-trained Administrative Technician (Unit Clerk/Registration Clerk) begins to collect patient information from available family members. If the nurse is not available at triage, a Patient Representative will greet the patient and begin to collect general patient information. A Patient Flow Coordinator tracks the patient's waiting time and facilitates any backlogs. A standard has also been set to allow no more than 30 minutes to elapse before a patient is directed to an exam area to be seen by a physician. The Patient Representative also explains the process and expected waiting time to patients and family members.