

Introduction

What, in the beginning, was perceived as a problem with the emergency department, became a solution for the hospital enterprise.

Situation Overview

In 2003, Sacred Heart Medical Center leaders faced several challenges seen through its emergency department (ED). Patient satisfaction levels were average at best. Ambulance diversion seriously impacted patient care. ED volume continued to rise. A lack of inpatient functional capacity exacerbated the problems.

It was the typical ED. Too many patients left before even being seen by a clinician. Patients waited for 2-3 hours just for the next step in the ED process, then waited even longer for admission to the hospital. No one staff member owned the process of moving patients through and out of the department. Everyone managed the patient within his or her own “silo” or sphere of influence.

Additionally, Sacred Heart Medical Center (SHMC) faced low reimbursement rates and significant increases in charity care and uncompensated care due to increased numbers of uninsured. A majority of uninsured/underinsured patients entered the hospital through the emergency room, and the ED was jammed to the point where ambulance diversion reached 20 hours per week. SHMC was losing patients and revenue to other hospitals.

With their ED often the gateway to the hospital, leadership recognized the need to improve operational performance in order to increase patient satisfaction, recapture revenue, remain competitive in the marketplace, and attract and retain high quality committed nursing staff.

Designing the Project

Through its Phase 1 assessment, EMPATH uncovered clear indications that SHMC’s problems existed beyond its ED walls. Solutions were recommended for not only the ED, but also for inpatient units, ICU, admitting, laboratory, radiology, transportation and surgical services. Recommendations

About Sacred Heart Medical Center

SHMC is one of the largest hospitals in the Pacific Northwest. It is a non-profit, faith-based hospital founded by the Sisters of Providence, and serves a Spokane metropolitan population of approximately 415,000. The Sacred Heart Children's Hospital provides family-centered health care for infants, children and adolescents. With a foundation of education and research at its Providence Neuroscience Center, Sacred Heart supports its patient care for the highly advanced treatment and prevention of epilepsy, stroke, and headaches.

- 623 beds
- 25,000 annual inpatient admissions
- 52,000 annual patient ED visits
- Level II Trauma Center treating 40,000 patients per year

included plans for increasing hospital capacity and patient throughput; maintaining the highest levels of quality care; significantly increasing customer satisfaction; and creating a reliable service model for unscheduled and scheduled patient care.

SHMC launched Phase 2, the *Positive Impact* project, on February 17, 2004 and completed this phase 11 months later on March 18, 2005. Reviewing the Phase 1 recommendations, SHMC leadership came to understand the need for extensive process redesign and, more importantly, for deep cultural change. And they knew the commitment for such change had to come from them. The hospital's president summed up leadership's decision. "The pressures from the outside really make (this project) a "no choice"...we have to do this. And the people here need to understand that this ... really is a change in the way we do business, to really optimize the utilization of our resources."

Through a prioritization of recommendations, SHMC leadership decided what processes to focus on in order to effectively measure and achieve success in the project. Though numerous recommendations were analyzed and considered, there were several major processes that would serve as barometers of success.

Emergency Department

- Arrival to Bed Placement
- Bed Placement to EDMD Evaluation
- Ambulance Diversion

Inpatient Units

- Bed Identification and Assignment
- High Census Protocol

Leadership accepted ultimate responsibility for success or failure of the project. Their roles would be key in a hospital-wide project designed to improve quality of care, enhance service to patients, and increase efficiencies, and which would affect over 3,000 employees. Each leader would take ownership and accountability for specific processes and results within the organization, the success of teamwork, communication, and for fixing the root cause of problems by redesigning hundreds of patient care processes.

Leadership developed the following objectives and projected outcomes for the project.

Objectives

- To streamline and standardize operational processes.
- To improve policies and procedures supporting innovations.
- To improve workflows, create back up systems and identify back up resources.
- To provide job aides focused on performance standards, which support ongoing innovations.
- To provide job descriptions, performance evaluations, and training/orientation that support ongoing innovations.

- To provide revenue enhancements.
- To provide IT improvements.

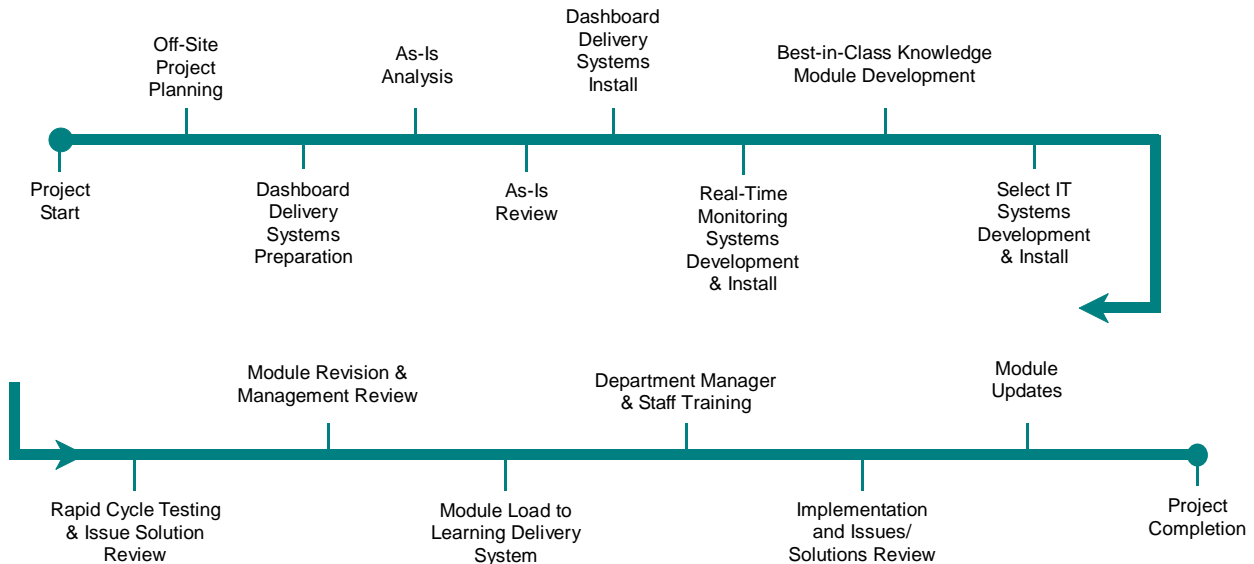
Projected Outcomes

- Improved patient and staff satisfaction.
- Decreased length of stay in the Emergency Department.
- Decreased time to get patients into beds.
- Decreased time to admit patients into the hospital.
- Decreased time and standardized discharge processes for inpatients.
- Increased capacity of Emergency Department
- Improved financial performance.

Implementation

Positive Impact would primarily be a staff-led change, with the hard work done by hospital personnel. EMPATH would guide and mentor teams of hospital employees known as Process Action Teams. These teams would develop, test, and implement the newly designed patient care processes, and then lead the rest of the hospital employees through the change.

EMPATH consultants were on-site weekly, working with the Process Action Teams (PATs) – teams of interdisciplinary staff with broad-based hospital experience and leadership. The PATs, one each for the ED and inpatient units, would help sustain the project once EMPATH consultants completed their work.



The proposed process changes were prioritized into four groupings for implementation. Planning involved creating a timeline for change, including those components shown in the graph above. Much of the work can be categorized into three major areas of the change management process – Best-in-Class Knowledge Modules, Dashboards Change Management System, and IT/Systems.

Best-in-Class Knowledge Modules

For a tool with which to train staff, the PATs developed Best-in-Class Knowledge Modules. The teams analyzed current practices and then defined the ideal patient care processes. These efforts resulted in the creation of nearly 50 training modules covering every constituency and patient care process in the ED and inpatient units, as well as ancillary services.

Delivered via the web, these modules introduced the new and redesigned patient care processes to the staff, incorporating Industry Best Practices as well as the vision and expertise of senior leadership and the PATs. The modules introduce the operational innovations that staff rolls out in their units – patient transitions, thresholds, triggers, communication tools, performance standards and backup systems. The modules also include new job tasks and responsibilities, as well as new policies and procedures for hospital function and operational innovation.

Once the staff was trained on the new processes, implementation of those processes began. Measurement systems were put in place to benchmark, monitor, provide feedback, and create accountability. The PATs moved through rapid cycle testing and implementation cycles, compiled detailed issues and solutions lists for improvement, and created gap closure plans.

Dashboards Change Management System

The development of measurement systems and systems of accountability is critical to the success of a redesign project. Working with managers, PAT members, and IRM/INHS (the IT partner of SHMC), EMPATH designed and implemented a change management system to monitor current performance and proactively create solutions to close performance gaps. This system includes computerized dashboard performance systems to measure ED processes, inpatient intake, discharge, transfer processes, registration processes and bed readiness, housekeeping, transportation, laboratory, radiology and pharmacy.

EMPATH produced graphs that could be updated weekly to report sub-process times. Weekly results of the dashboards were presented to the PATs, the Nurse Management Council and all Steering Committee members. Dashboards reviewed weekly by the ED PAT included: Emergency Department, Registration, Laboratory and Radiology dashboards. Dashboards reviewed weekly by the inpatient PAT included: Inpatient, Housekeeping, Transportation, Registration, and Bed Control dashboards.

EMPATH IT/Systems

As part of the redesign, specific Key Performance Indicators (KPIs) were established for inpatient intake and discharge. A number of Real Time Monitoring Systems or activity systems/boards were developed. Among them were the Hospital Activity Status Board (HASB), the Emergency Department Status Board (EDSB), the Radiology Activity Status Board (RASB), the Pharmacy Activity Status Board (PHASB) and the Operating Room Status Board (ORSB). These monitoring systems create compelling changes in manager and staff behavior. They display the real time performance of the unit against pre-defined KPIs, and offer predefined action plans based on the level

of work activity in that unit. These monitoring systems help in the creation of formalized backup plans across the organization.

A variety of other IT initiatives, systems and tools were implemented in the project, including the following:

- **Department Manager Operation Standardization (DMOS)** focuses on standardizing operational processes. In order to reduce cycle times and increase volume, this system helps manage predictably unpredictable volume surges, and to “squeeze” out the variability in patient care processes. Not just a measurement system, it prioritizes for each nurse manager, 2-3 key priorities plus action plans on a weekly basis. This program encompasses other systems, including Customer Satisfaction Survey Tool, Manager Walks, and Staffing & Scheduling.
- **Customer Satisfaction** program, whose main component is the **Customer Satisfaction Survey Tool (CSST)**. CSST creates an easily identifiable approach for focusing customer satisfaction efforts on the greatest opportunity areas within each unit so that the hospital performs at or above the 90th percentile in customer satisfaction. CSST is a key action tool, and identifies customer satisfaction problems, where they exist, and how the problems are to be addressed. It is not only a data collection methodology tool, but also proactively prioritizes work for each nurse manager and unit, giving 2-3 key priorities and action plans on a weekly basis.
- **Census Activity Worksheet (CAW)** designed to collect data required for the inpatient dashboards. Provides accurate, real time listing of daily admissions and discharges, based on tracking the time stamps that occur as patients move through the hospital. It is compiled by information entered into the Meditech and medTRACK applications by the Admission Transfer Center (ATC) and the units.
- **MedTRACK**. Introduction of an inpatient bed tracking system linked to both transportation and housekeeping. The system allowed the identification of bed status and the pre-planning of bed identification for patient intake and transfer.

Results

The project realized success over its entire course. Some were more dramatic than others, but all signal that change management methodologies can streamline patient care processes in an efficient, patient-care focused manner.

Key Accomplishments

Cycle Time/Parameter	Before Project (min)	Percentile Performance	After Project (min)	Percentile Performance	Change
Emergency Department					
Overall LOS	195	26	168	47	14% reduction
Arrival – Bed Placement	48	18	17	94	65% reduction
Bed Placement – EDMD Exam	24	52	9	88	72% reduction
ED Visits/Month	3,952 (07/04)		5,245 (03/05)		33% increase
ED Admissions/Month	740 (07/04)		1,010 (03/05)		36% increase
Ambulance Diversion (hrs/week)	20 hrs/wk		0 hrs/wk		100% reduction
Patients Left Before Treatment	7% of patient visits		0.41% of patient visits		94% reduction
Press Ganey Overall Score		35		90	157% increase
Inpatient					
Inpatient Admissions	2,328 (06/04)		2,851 (03/05)		22% increase
Discharge Criteria Met to Patient Departure	171	12	102	71	40% reduction
Departure – Bed Ready	171	21	70	72	59% reduction
Bed Assignment – Pt. Arrival	96	37	58	63	40% reduction
Peak Discharge	1300		1100		2 hour

Cycle Time/Parameter	Before Project (min)	Percentile Performance	After Project (min)	Percentile Performance	Change
Hour					improvement

Ongoing Implementation

Currently, the focus of *Positive Impact* is to ensure the success of the worker-led change process as the project transitions fully to SHMC from EMPATH.

Transition Plan

The *Positive Impact* project has provided Sacred Heart Medical Center with the tools and framework for transitioning from consultant to client. EMPATH’s presence in Phase III has been significantly reduced, and the project continues to require SHMC’s time, commitment, personnel, and resources to create successful and sustained change. In addition, the transition process requires that hospital leadership continue its commitment to the changes designed in this project and to reaching goals and sustaining the change.

The mentor teams, along with department managers and service line directors, continue to monitor, analyze, initiate, and mentor change processes based on lowest percentile performance. To monitor the success of implementation, hospital leadership continue to ensure that directors analyze weekly reports on all performance measurement systems, and develop concrete action plans to achieve target.

PAT members continue to meet weekly to focus on course correction, planning and future directions of the change process. They sustain the use of communication tools and job aides, and they rapid cycle test the process changes, train staff, and monitor the implementation of each process change. Task forces meet with departmental leadership to review dashboards, identify existing issues and develop weekly action plans to respond to issues and changes in data.

Sustainability

In Phase III of this project, there is a focus on a number of areas to ensure maintenance of gains and continued improvements. These include:

- New process maturity
- Consistency of dashboard data entry
- Understanding by PAT members and management of dashboard data interpretation and how to use it
- Continued development and implementation of IT initiatives
- Allocation of mentors and the defined expectation of the PAT member during mentoring
- Manager inspection using the Manager Walk Tool
- Medical staff acceptance of new forms and processes

- Reward and recognition of positive behavioral changes

The operational innovation of the project in designing, testing, and implementing the improved patient care processes serve as a valuable platform for sustaining and continuing the operational enterprise. This change process is necessary to sustain performance improvement and improve customer satisfaction to ultimately reach the goals that Sacred Heart Medical Center has identified as important.

Perioperative Services Design and Implementation Project

During the design and implementation of the ED and inpatient project, Sacred Heart Medical Center asked EMPATH to assist in improving operations in its 31-OR perioperative services program. SHMC does approximately 37,000 surgical procedures annually, and the facility includes 6 outpatient suites, 4 CV/thoracic, 4 pediatric, and 4 neurosurgery suites. The program sees a full spectrum of high acuity case types, including open heart, transplant, and da Vinci Robot capabilities.

The hospital was facing challenges on several fronts. There was a wide variety of preoperative preparation processes across physician offices, with less than 20% of patients actually receiving preoperative evaluation prior to surgery. Cancellation rates were at 9%, and SHMC was losing volume. Out of frustration with SHMC's operational performance and patient dissatisfaction, the largest orthopedic group was creating an Ambulatory Surgery Center. New surgeons were unable to access ORs due to a full block schedule, even though room utilization Monday through Friday days was less than 60%. Surgeons were also unable to recruit new surgical colleagues due to lack of OR time caused by all of the assigned blocks being full.

Operational performance benchmarked in the bottom quartile, and labor costs were at the 35th percentile. Few formal metrics existed, and four different tactical initiatives over the last two years had produced little change in operations or culture. Finally, anesthesiology had been acknowledged by everyone to be the major obstacle to overall OR success. Surgeons were demanding replacement of the anesthesiology group, and if that was unsuccessful, replacement of senior leadership. Customer satisfaction was in the 40th percentile.

EMPATH utilized the proven methodologies in the perioperative arena that it had used for the ED and inpatient areas. This project created real-time monitoring systems for preoperative preparation, case day tracking and block/room utilization. Measurement systems/dashboards were installed for pre-surgical screening, preoperative preparation, perioperative case day processes, surgeon and anesthesia providers, block/room utilization, and case delay and cancellations rates. EMPATH created, with SHMC's front line workers, an entire knowledge content and training program for all perioperative staff on how to deliver Best-in-Class performance. In addition, all front line managers and workers received prioritized measurement of all key processes for their specific specialty.



To date, the resulting performance enhancements have affected revenue, satisfaction and performance. Physician satisfaction with OR services has increased from the 9th percentile to above the 80th percentile. On-Time Starts increased from 28% to above 85%, Room Turnover has decreased from 37 to 20 minutes, and Case Cancellation rates have decreased from 9% to below 3%. Anesthesiologists meet Key Performance Indicators more than 95% of the time. Staff satisfaction has improved dramatically. OR performance has now affected surgeon referral patterns due to the focus on operational processes. And all of these improvements have occurred while OR volume has increased 15%, adding an additional 1,000 admissions/year.