



Pathways

Hospital Creates Change, Sees Dramatic Results

Spring 2001

Case Study of a Hospital Innovation Project

Hospital leadership knew it could make the patient experience better, and also fulfill the hospital's mission.

"We have great staff, and our processes needed improvement to achieve our mission to be the best ED in the system." The Vice President of Patient Care* continued, "We needed help with our processes, to ultimately achieve greater patient satisfaction, help our staff be more successful, and attain excellent outcomes."

This vision put into motion a project which originally focused on the Emergency Department (ED), then encompassed broad-based inpatient processes. It involved hundreds of hospital personnel, generated over 1400 recommendations, and resulted in significant improvement in both the ED and inpatient environments. And in the end, it provided the training and tools to sustain that change.

* names of the hospital and interviewees have been omitted for confidentiality.



"We had the fundamental knowledge within our hospital to do a major change project, but we did not have the internal resources...hence we needed outside support," the VP of Patient Care said. "I believe an outsider would push us harder than we would push ourselves, therefore gaining greater results."

Change on such a scale is a mixture of challenge, adversity, and reward. Hospital staff involved with this project attest to its thoroughness, the significant demands and challenges inherent with systems change, notable results, and improvements that have been sustained over time.

Changing Scope, Changing Goals

Over a nine month period ending in May 2000, the EMPATH team led this western U.S. academic hospital through its Hospital Innovation Project. The hospital is located in a major metropolitan city with a population of over 1.4 million. See Figure 1 for a hospital profile.

The goals and scope of the project reflect hospital senior leadership support for dra-

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**Figure 1
Hospital Profile**

Total hospital beds	569
Total Annual ED visits	45,000
Annual outpatient ER (combined)	352,230
Annual discharge	24,064
Daily census	348
OR Rooms	10
Surgery inpatient	10,701
Surgery outpatient	8,441
Number Full-Time Employees	2,688

matic, comprehensive change. The project was led by hospital staff, and would address the full range of both ED and inpatient processes:

- Create and sustain dramatic change by reducing patient length of stay and increasing the quality of care
- Design a faster, more efficient ED that would improve customer satisfaction
- Ensure patients are seen in a more timely and consistent manner
- Increase the ED volume for both EMS and ambulatory patients
- Improve performance for both ED patient care and inpatient intake/discharge processes.
- Increase consistency of patient care processes
- Implement a performance measurement system
- Develop plans for consistent interdepartmental communication and feedback
- Revise and define job expectations, responsibilities, and performance evaluations
- Incorporate IT solutions into patient care

Performance: Before and After Results

Through detailed observation and interviews, numerous performance measurements for ED patient care and inpatient intake/discharge processes and sub-processes were benchmarked. Figure 2 shows results in key performance categories.

Getting Results – The PAT Model

The desire for improving patient care and systems is a primary motivation for creating change. When many hospital departments, services, and staff are involved, the challenge is how to effect change on a broad scale.

**Figure 2
Key Performance Measurement Results (1)**

	(2)	(3)
ED Patient Care		
Patient Arrival to Bed Placement	8%	78%
Patient Arrival to MD Exam	40%	69%
Length Of Stay—Patient Admitted to Floor	42%	68%
Length Of Stay—Patient Discharged	21%	64%
Length Of Stay—All ED Patients	30%	62%
Radiology Turn Around Time	23%	68%
Laboratory Turn Around Time	50%	71%
Inpatient Intake/Discharge Processes		
ED Request Floor Bed to Bed Identified	20%	74%
ED Request Floor Bed to Patient Leave ED	29%	78%
Physician Order to Patient Discharge	21%	64%
Patient Discharge to Cleaning Complete	35%	62%
(1) Performance percentiles rank how the facility performed compared to other facilities of similar size and characteristics. For example, a facility at 75% is performing better than 75% of other facilities in the specified performance category.		
(2) Performance percentile during first phase of project, 1/2000		
(3) Performance percentile at end of project, 6/2000		

EMPATH takes the approach that change led by hospital employees creates lasting results. With the support of hospital senior leadership, EMPATH develops and guides a team of hospital staff



who lead the change process. Called a Process Action Team (PAT), it is a multi-disciplinary group of health care providers and non-clinical

“The concept of employee-driven change, that all voices were heard, is a key benefit of this project. Plus, having an administration that supported and empowered the staff to lead the change process, was critical to the success we achieved.”

(RN, Inpatient Process Action Team)

staff from both the ED and hospital who are stakeholders in the processes being redesigned. They have knowledge of how a process works, insight into how it can be improved, and credibility with other staff involved with the redesign effort.

The PAT is involved in all aspects of the project – identifying areas for improvement, designing the plans for change, and leading implementation of the change. Through their involvement, PAT members gain skills in problem solving, process redesign, change management training, and leadership.

From a training perspective, the hospital’s Manager of Case Management attested to the value of employee-driven change. “The training was wonderful; it really worked (to) bring people together, (to) create a cohesiveness for the project. It

“Process Action Teams are the driving force behind the design of process changes and the implementation of those changes. Simply put, the PAT allows staff to lead and to continue the improvements.”

Senior Project Manager, EMPATH

showed that everyone was part of the project and not just a recipient of new rules and regulations.”

The Laboratory Manager gave a department-specific view on the PAT model. “Lab turnaround times had been monitored for years, and the department found there was a lot of finger pointing,

AMBULANCE DIVERSION

As EDs increasingly overload with patients, and as hospitals face a shortage of critical care beds, ambulances are more frequently turned away from the ED.

Ambulance diversion is now a national health care crisis, threatening the ability of the ED to deliver high quality care. Top health officials in the country, including the U.S. Surgeon General, and presidents of both the JCAHO and the American College of Emergency Physicians, have recognized the problem and debated its causes and solutions.

State and local governments are also marshaling forces to attempt solutions. Primary explanations for the situation that these entities offer include:

- decreasing number of emergency departments
- increasing volume of emergency patients
- lack of adequate number of inpatient beds
- nursing and other staff shortages
- managed care pressures that place greater burden on EDs through after-hours care and with authorization and reimbursement pressures
- “prudent lay person” emergency definition, causing managed care to send more patients to the ED (*American Medical News*, February 12, 2001)
- closures of after-hours clinics
- aging population requiring more services
- Federal EMTALA and state mandates requiring hospitals to evaluate and stabilize patients, and the increasing scrutiny by agencies to enforce mandates

A study published in the February, 2001 issue of *Academic Emergency Medicine* highlights the causes of ED overcrowding. These include high patient acuity, hospital bed shortage, high ED patient volume, and radiology/laboratory delays.

To assist a hospital with this crisis, EMPATH offers its **Ambulance Diversion Diagnostic and Treatment Plan**—a comprehensive evaluation of the high impact areas that affect patient movement into or out of the hospital. With our partnership, hospitals can improve these processes by addressing the problems that cause ED overcrowding and ambulance diversions.

What else did staff say about the Hospital Innovation Project?

“ED team-based care and staffing in (geographic) zones was very positive. Also, the Clinical Supervisor role works; they now really run ED flow.”

ED Medical Director

“The concept of Clinical Supervisor was an excellent change. The CS really manages the department flow and processes.”

ED Director

(Editor’s note: the Clinical Supervisor role was modified to not carry a case load, focus on managing the flow and processes of the ED, and assist with direct patient care only when necessary.)

“We posted Lab Turnaround Time (TAT) graphs between shifts, and let the teams work out an approach to improvement. The three shifts are staying very close to each other in TATs, which is positive, and indicates all shifts are using similar processes.”

Laboratory Manager

“The concept of process improvement vs. staff improvement was key. And overall, the project was good for us; there is still a lot of work to do, but now we are focused in the right direction and we know how to create change.”

RN, Inpatient Process Action Team

(Ownership and accountability) “was difficult, but ultimately important. When processes were implemented, people tried them, didn’t like them, and reverted to old ways. But through ownership of the process, the section heads stayed on top of keeping processes in place, and took responsibility for ensuring staff stayed with the change.”

Laboratory Manager

“A lot of good flowed from implementing staggered work hours”, resulting in more interaction between case workers, non-physician clinical staff, and the physicians.

Manager, Case Management

that various departments did not work together. This project pulled people together; it promoted the philosophy of interdepartmental cooperation and the feeling of working together as teams. I see the best outcome of this project as the increased cooperation between the lab and the ED, and the willingness to help each other out.”

PAT’s Tools

The right tool for the job is essential for success. The PAT used a number of techniques and tools which remain viable beyond project completion.

The “Dashboard”

EMPATH’s “Dashboard” system helps the hospital monitor performance. During the first weeks of detailed observation, the PAT documents critical data and information, which is developed into the “Dashboard” – a performance measurement database. This then provides staff with a snapshot of current practices at key junctures in the project, with monitoring performed in the ED, laboratory, radiology, housekeeping, and transportation.

Though the hospital had previously tracked some performance, one PAT member felt that “because the performance measurements were created by an outside source (EMPATH), there was the belief that the data was more reliable.” See Figure 2 for performance measurement results in key performance categories.

“As-Is” and “To-Be” Scenarios

After completing the initial observation and data gathering, the PAT created “As-Is” and “To-Be” scenarios – where we are today, where we want to be for success.

The hospital’s Laboratory Manager was clear on the value of these scenarios. “They showed how our work flowed, and brought out a lot of recommendations, most of which were implemented and are still being using. They were a painful process



to map out, but once the problems were identified, we saw how it could streamline the process.”

“Rapid Cycle Testing”

Before implementation of a recommended change, “Rapid Cycle Testing” (RCT) is performed. During RCT, changes are tested in a deliberately controlled and selected environment before presenting the change to the department or environment at-large. The PAT can quickly train staff to implement changes, identify roadblocks, and make course corrections—a method of testing, adjusting, and testing again before implementation. According to the hospital’s ED Director, “The biggest gift of this project is Rapid Cycle Testing.”

To Change, To Sustain Change

Part of all EMPATH projects is to transfer the tools and knowledge base to hospital personnel, enabling them to continue and sustain change. This transfer is accomplished through an emphasis on staff orientation, mentoring, and training.

“The Hospital Innovation Project broke a long-time mold— now we are more open to continuous change, change that is sweeping and not only incremental.”

ED Director

Interviews with hospital leadership support the claim that that significant change *can* be sustained. Various PAT members reported that, eight months after completion of the project, “the knowledge base was retained,” and “PAT teams continue to perform rounds, check lists, and do course corrections.” According to the VP of Patient Care, “The transition from EMPATH on-site to only our own personnel (guiding the process) was well done.”

Maintaining the change is arguably the biggest factor to long-term success. The Hospital Innovation Project at this hospital continues to provide the climate, tools, and incentive for continuous quality improvements.

IT INITIATIVES

Information Technology is now a priority as hospitals seek to improve health care services. Three IT initiatives were addressed during this project.

Bed Tracking

A phone-based Bed Tracking System (BTS) enables staff to better locate patients in the system, track bed availability, and eliminate any gaming of hidden beds.

Through BTS, “we know that transportation is a success; the Transportation staff has greater accountability; the Environmental Services staff has greater accountability; they have identified (bed tracking) problems and fixes.” -RN, *Inpatient Process Action Team*

Bedside Registration

ED bedside registration is widely utilized. There are 4 mobile laptops, network connections at every bed and in the waiting room. There are 6 stationery units in 6 rooms, and 2 more in an inner waiting room. And most importantly, the system has been sustained.

“This system works well,” stated the ER Admitting Supervisor. “(It is) so effective that Pediatric ICU will be implementing it in September, 2001, and Day Surgery has requested it.”

Patient Tracking System

A computer-based program tracks the progress and status of any ED patient. It facilitates management of patients, as well as the important hand-off between shifts. Data can be input at multiple computers in each zone of the ED. “When the system is used appropriately”, states the ED Medical Director, “it is brilliant.”



WORTHY ON THE WEB

Why do clinical quality initiatives fail?

For an engaging discussion on the effectiveness of clinical improvement, go to www.healthleaders.com and search for the question stated above.



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CREATING NEW PATHWAYS OF CHANGE FOR HEALTHCARE

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We look forward to hearing from you!

- Hospital Overcrowding** Processes that hinder patient flow, care, intake, and discharge contribute to hospital overcrowding and impaired operational and financial success. A comprehensive look at these processes can help reduce overall patient length of stay and the critical issue of overcrowding. EMPATH is expert at improving bed monitoring, housekeeping, transportation, and systems that impact patient care and the integration of ED and inpatient services. What results is timelier, more consistent intake, transfer, and discharge of patients, greater availability of beds, and improved patient satisfaction.

- Ambulance Diversion** Now a national healthcare crisis, ambulance diversions threaten the ability of the ED to deliver efficient, high quality care. EMPATH concentrates on the factors creating diversions, including ED and inpatient overcrowding, shortage of critical care and inpatient beds, increasing number of ED patients, and staffing shortages. A focused plan to address these compound problems can significantly reduce ambulance diversion times.

- ED Overcrowding** Overcrowding in the ED causes stress to patients and hospital staff. It can be successfully minimized by reducing patient length of stay, providing faster, more efficient patient care, and enhancing the inpatient intake/discharge processes. With rigorous attention to detail, EMPATH can assist your facility in managing this difficult and costly situation.

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Annual Hospital Patient Visits _____