



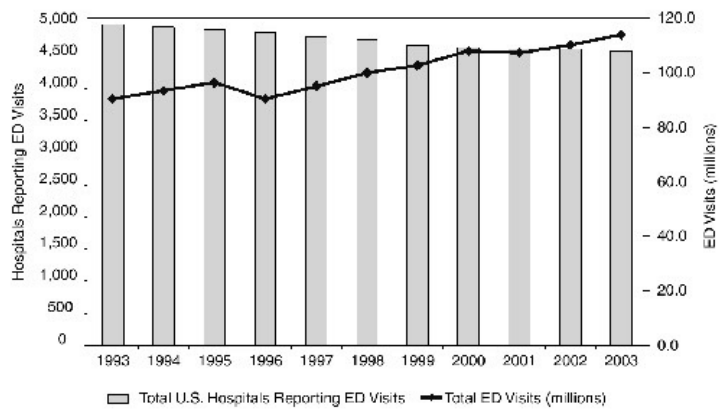
A Voluntary Collaborative to Improve Quality and Save Lives

MHA Keystone: Emergency Room (ER) Overview

According to the Institute of Medicine (IOM) 2006 report *Hospital-Based Emergency Care: At the Breaking Point*, between 1993 and 2003, United States hospital emergency department visits rose 26 percent.

In 2003, emergency room physicians treated 120 million patients, representing nearly one out of every three Americansⁱ. In addition, hospital emergency rooms are seeing patients who are “older and sicker and require more complex and time-consuming workups and treatmentsⁱⁱ.” This demand on hospital emergency departments will be further exacerbated as cuts to Medicaid and Medicare continue and 1.1 million Michigan residents are now without health insuranceⁱⁱⁱ.

This growing dependency on hospital emergency departments had a direct bearing on the issues raised in the IOM report, including patient flow and information technology; patient safety and the quality and efficiency of emergency care services; and the special challenges of emergency care in rural settings. As a result of higher ER utilization, two problems in particular have been identified: longer patient stays and emergency department (ED) overcrowding.



In a recent Harris Interactive survey, 67 percent of surveyed Americans expressed concerns regarding wait times in the ED^{iv}. A report published by the National Association of Public Hospitals and Health Systems reported that in one Georgia hospital, the average patient stay was around 7 hours in the ED and 10 hours in Fast Track (a separate process for patients with less serious conditions who can be treated more quickly and then released)^v. As a result of the long wait times, some patients enter the ED, but leave prior to being treated. In short, there is increasing evidence that shows a clear opportunity to greatly improve the care patients receive in the ED.

The MHA Keystone Center has partnered with Lean Transformations Group, LLC, Ann Arbor, to develop and pilot a collaborative to prevent harm and improve care in the emergency room. *MHA Keystone: ER* seeks to prevent harm to emergency patients through interventions including a comprehensive unit-based safety program (CUSP) to improve safety attitudes and practices; the reduction of boarding/overcrowding and waiting times using Lean; and the early treatment of sepsis using evidence-based best practices. This ensures that the most critically ill patients receive treatment first and reduces the likelihood that a patient will leave a hospital before receiving appropriate treatment.

The three interventions for this collaborative are:

Intervention 1: The CUSP follows a six step iterative process to improve patient safety and the culture that drives safety attitudes and practices. Culture is a major focus because it is the set of shared attitudes, values, goals, and practices that characterize an organization (or unit/clinical area). CUSP is continuous and should become a part of daily activities in each unit or clinical area.

Intervention 2: The application of the Lean approach and continuous improvement processes to address patient flow, boarding/overcrowding, and wait times. The Lean approach guides teams step by step through an in-depth look into their organization (or unit/clinical area) while mapping their current state and their future state to help identify areas of opportunity. Lean problem solving and continuous improvement are full-time jobs that need to be pursued as part of the daily way of doing business. In this work MHA *Keystone: ER* will assist teams in making the transition from a culture in which problem solving is the job of a few to one that fosters and enables continuous problem solving and improvement efforts at all levels by all who see the need.

Intervention 3: The implementation of early identification and treatment of sepsis in the emergency department using Early Goal Directed Therapy (EGDT). As a continued work resulting from the success in treating sepsis in the MHA *Keystone: Intensive Care Unit (ICU)* collaborative, MHA *Keystone: ER* will initiate the Severe Sepsis Resuscitation Algorithm and Severe Sepsis Clinical Pathway as developed and implemented with respect to evidence-based practice.

The measures for this collaborative follow the Donabedian^{vi} model using structure, process, and outcome measures. In using Lean as the primary mechanism to improve patient flow, **structural** measures will be based on the results of organization-specific evaluation and planning that is derived from the Lean scoping process and determination of present and future process states.

Both the process and outcome measures are collected on a monthly basis. As the pilot concludes, the measure set will be finalized. At this time, the anticipated measures include:

Process measures:

- Sepsis early goal directed therapy
 - a. central venous pressure of greater than or equal to 8mmHg achieved for patients with septic shock (hypotension after fluid bolus and/or lactate >4mmol/L) over the first six hours following identification of septic shock
 - b. mean arterial pressure (MAP) greater than or equal to 65mmHg in six hours from identification of septic shock

- c. central venous oxygen saturation (ScvO₂) greater than or equal to 70 percent achieved for septic shock with lactate greater than 4mmol/L over the first six hours following identification of septic shock
- d. blood cultures collected within the first six hours following septic shock identification and prior to broad-spectrum antibiotic administration.
- e. median time to antibiotic administration
- f. Activated Protein C eligibility assessed in accordance with ICU policy following septic shock identification
- g. patients with septic shock who expire during hospital admission
- h. organism identified was sensitive to the initial antibiotic(s)
- i. low tidal volume ventilation
- j. inspiratory plateau pressure less than 30cmH₂O

Outcome measures:

- median time from emergency department arrival to departure from the emergency room for patients admitted to the facility from the emergency department
- median time from emergency department arrival to departure from the emergency room for patients discharged from the emergency department
- median time from emergency department arrival to departure from the emergency room for patients discharged to tertiary care from the emergency department
- unplanned return within 48 hours
- number of patients leaving the emergency department without being seen/against medical advice (AMA)

It is anticipated that, as a result of the MHA *Keystone: ER* collaborative, patients will receive more efficient, higher quality and safer care. Also anticipated is a higher degree of patient and staff satisfaction.

MHA *Keystone: ER* began in late summer 2008 when the MHA Keystone Center identified three hospitals — a large teaching center, a mid-sized community hospital and a critical access hospital — to participate in a one-year pilot program. The MHA Keystone Center spent months visiting hospital emergency departments across Michigan to gain a better understanding of operations and issues and has identified MHA members to help guide MHA *Keystone: ER*. To better support the project, staff of the MHA Keystone Center has become Lean certified via the University of Michigan Hospitals & Health Centers, Ann Arbor.

The MHA *Keystone: ER* pilot hospitals are:

- MidMichigan Medical Center-Midland
- MidMichigan Medical Center-Gladwin
- University of Michigan Hospitals & Health Centers, Ann Arbor

Three hospitals shadowed the pilot hospitals to learn about the use of Lean and to provide input to the MHA Keystone Center on the development of MHA *Keystone: ER*. The MHA *Keystone: ER* mentor hospitals are:

- Sparrow Health System, Lansing
- Beaumont Hospital-Troy
- Holland Hospital

Upon the conclusion of the pilot program, the MHA Keystone Center will evaluate the collaborative implementation and measures, incorporate adjustments (if necessary) to strengthen the program and roll out the statewide program to Michigan hospitals in the fall of 2009.

For more information, contact Sam R. Watson, senior vice president, Patient Safety and Quality, at (517) 323-3443 or swatson@mha.org at the MHA Keystone Center.

- i. Pitts SR, Niska RW, Xu J, Burt CW. National Hospital Ambulatory Medical Care Survey: 2006 emergency department summary. National health statistics reports; no 7. Hyattsville, MD: National Center for Health Statistics. 2008.
- ii. Hospital-Based Emergency Care: At the Breaking Point. Committee on the Future of Emergency Care in the United States Health System Institute of Medicine. The National Academies Press, Washington, DC.
- iii. http://www.michigan.gov/documents/mdch/Project_Report_-_FINAL_182904_7.pdf
- iv. <http://www.acep.org/PrintFriendly.aspx?id=45694>
- v. <http://www.rwjf.org/files/publications/other/PerfectingPatientFlow.pdf>
- vi. Donabedian A: *Explorations in Quality Assessment and Monitoring, Volume I. The Definition of Quality and Approaches to its Assessment*. Ann Arbor, MI, Health Administration Press; 1980:1-164.



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MHA Keystone: Emergency Room (ER) Letter of Commitment

To: Sam R. Watson, senior vice president, Patient Safety and Quality
MHA Keystone Center for Patient Safety & Quality
Michigan Health & Hospital Association

Re: Request to Participate in MHA *Keystone: Emergency Room* Collaborative

Date:

We have received the information you provided about the new MHA *Keystone: Emergency Room (ER)* collaborative. We are supportive of the unique opportunity being developed for Michigan hospitals to collaborate to ensure that patients will receive more efficient, higher quality and safer care, and patient and staff satisfaction increases under the coordination of Sam Watson and staff at the MHA Keystone Center for Patient Safety & Quality.

We would like to be included as a participant in this collaborative. We understand that work of this nature is not without effort. **We agree to commit to the following to achieve success:**

Participating Hospital Commitment

1. All teams will be expected to implement each intervention during the course of the collaborative. Teams will also be expected to collect data and report on specific measures during the duration of the project. Our standard of rigorous measurement and reporting will be a hallmark of this project. We will strive to minimize the burden of data collection by using data that is already collected where feasible, to focus on methods to improve performance, and commit to the philosophy that harm is not tenable.
2. Team members will be expected to participate in all face-to-face training functions and site visits for the duration of the project. The face-to-face meetings will assess project progress, clarify emerging issues and to develop a peer network. In addition, there will be monthly participant conference calls for content presentation, coaching and problem solving.

Each hospital must officially designate a team by name and title. Each team should have, at a minimum, the following members to commit to the project:

- senior executive champion
- chief medical officer, who will commit 4-8 hours per month
- director of emergency medicine
- at least one (preferably two) other physicians willing to participate
- ED nursing leader, “operational leader” who will commit 4-8 hours per week

- two ED floor nurses
- Risk Management representative
- quality improvement representative

If appropriate, additional staff participants should include department head of Ancillary Services (radiology, laboratory, housekeeping); admissions coordinator/bed placement coordinator, intensive care unit nurse, vice president of nursing, and/or director of surgical services.

Project Timeline

Sept. 2, 2009:	Teams receive invitation and commitment letters
Sept. 10, 2009, 1-2 p.m.	Introductory conference call to familiarize hospitals with project Phone number (888) 204-4368, passcode 3291347
Sept. 21, 2009	Due date for teams to return letter of commitment
Oct. 2, 2009, 10-11 a.m.	Immersion conference call for committed teams Phone number (888) 204-4368, passcode 3291347
Oct. 7, 2009, 7-8 a.m.	Physician champion conference call Phone number (888) 204-4368, passcode 3291347
Oct. 22, 2009:	MHA <i>Keystone: ER</i> Kick-off Workshop located at the Dearborn Inn, Dearborn
October 2009	Monthly coaching and content calls to occur throughout the duration of the initiative.

Thank you for the opportunity to be included in this important statewide collaborative project.

Hospital Name:	
Address:	City:
	ZIP Code:
Project Contact Name:	Title:
E-mail Address:	Phone:

Sincerely,

Signature of Authorizing Hospital Executive for participation

Each participating hospital must indicate whether it will be using the central institutional review board (IRB) offered by the MHA Keystone Center, or whether it will use its own, individual IRB to gain approval for this project. Please check the box below indicating your decision.

- Hospital wishes to use a central IRB coordinated by the MHA Keystone Center.
- Hospital wishes to use own, individual IRB.

If you do NOT wish to participate in this project, please indicate that below.

- _____ (*Name of hospital*) does NOT wish to participate in the MHA Keystone: *Emergency Room (ER)* Collaborative.

Please Fax to (517) 703-0601

Conference Title: MHA *Keystone: ER* Introductory Call

Date: 9/10/2009

Time: 1 p.m. ET

Scheduled Duration: 60 min

In order to hear the audio for the conference, you must dial the number listed below and reference the listed passcode for the operator or automated response system.

Call title: **Keystone: ER**

Audio Dial-in Number: **(888) 204-4368**

Passcode: **3291347**

Dial *0 for Technical Assistance