Emergency Department (ED) Snapshot

Improving Patient Flow Through Bedside Testing at a Texas Emergency Department*

**The results shown here are specific to this facility and may differ from those achieved at other institutions. The information presented here is based on an actual facility, but the institution has requested anonymity in this promotional material.*

Background

This medical center is a 332-bed full-service hospital, and it is part of a hospital network in Texas. Serving the community since 1995, this institution is a regional trauma center with an accredited cardiac acute care unit.

- ED visits: **60,000 per year**
- ED beds: **30**
- Most common patients are those with abdominal pain, chest pain, and fever

Primary challenges were overcrowding and extended ED length of stay (LOS) due to operational demands and system inefficiencies.

Goals

The overall goal was to implement a new patient evaluation process based on nurse-driven protocols. As part of the new protocol, the *i-STAT ® System CHEM8+* and *cTnI* were implemented to facilitate testing for a broad range of patients.

Specific goals were to:

- **Reduce ED LOS times** by eliminating barriers to patient care and accelerating patient throughput
- **Reduce door-to-lab results** for patients through efficiencies in processing
- **Shorten door-to-physician time** to expedite patient treatment

Goals	Results**
• Reduce ED LOS times and accelerate patient throughput	Prior to process change: **3 hours, 3 minutes** After process change: **2 hours, 40 minutes** **Improvement: 23 minutes**
• Reduce door-to-lab results	Prior to process change: **70 minutes** After process change: **20 minutes** **Improvement: 50 minutes**
• Reduce door-to-physician time to expedite patient treatment	Prior to process change: **45 minutes** After process change: **38 minutes** **Improvement: 7 minutes**

***i-STAT cTnI* testing not included in outcomes data or original protocol. New nurse-driven protocols were instituted using *i-STAT CHEM8+* in 50% of patients.

These process improvements enabled 17% growth in number of patients seen in 2010.
For example, 20 more patients per day (average) were seen by the ED in February 2011 vs. February 2010.

The *i-STAT cTnI* test is an *in vitro* diagnostic test for the quantitative measurement of cardiac troponin I (cTnI) in whole blood or plasma. Measurements of cardiac troponin I are used in the diagnosis and treatment of myocardial infarction and as an aid in the risk stratification of patients with acute coronary syndromes with respect to their relative risk of mortality.