BRINGING CRITICAL POINT-OF-CARE IMPROVEMENTS TO ONE OF FLORIDA’S BUSIEST EMERGENCY DEPARTMENTS*

BACKGROUND

This medical center is one of the largest facilities in Florida, serving its community for over 80 years. It is a Level II Trauma Center.

- ED visits: 150,000 per year
- Potential chest pain patients: 25-40 per day
- ED beds: 100
- Nurses: 19 per shift, two shifts per day

Timely workups and bed shortages were a chronic problem. The ED frequently ran over capacity, and nurses reported feeling overwhelmed. Delays in patient care and diagnostic testing were frequent.

GOALS

The overall goal was to develop a new care protocol and new documentation tools for patients with chest pain. As part of the new protocol, 2 beds in a private room were dedicated to chest screening, and additional i-STAT® System equipment was purchased for bedside testing.

SPECIFIC GOALS WERE TO:

- Improve time to evaluation and initial treatment of chest pain patients
- Reduce ED length-of-stay (LOS) for chest pain patients
- Facilitate recognition of acute myocardial infarction and improve process of ruling out cardiac etiology

*The results shown here are specific to one health care facility and may differ from those achieved by other institutions. The information presented here is based on an actual facility, but the institution has requested anonymity in this promotional material.
**POSITIVE IMPACT: i-STAT SYSTEM INTEGRATION INTO THE PATIENT CARE PROCESS**

i-STAT System use was expanded and integrated into the new chest pain screening process. This process change facilitated patient care and made a measurable difference.

### CHEST PAIN EVALUATION

#### TRIAGE

- Chest Pain Screening Area **OR** ED Critical Care Area

#### INITIATE PROTOCOL

- Patient registered and labels generated
- Nurse-driven chest pain screening protocols initiated

#### DIAGNOSTIC TESTING

- ED tech performs ECG; Nurse draws blood for analysis
- i-STAT testing conducted at bedside or workstation

- **cTnI**
  - Uniform serial cTnI testing with i-STAT System completed at 0, 3, and 6 hours

- **CHEM8+**
  - cTnI testing and CHEM8+ panels conducted on all patients with chest pain

- **BNP**
  - i-STAT B-type natriuretic peptide (BNP) testing conducted on all patients with acute dyspnea

#### CLINICAL INTERVENTION

The i-STAT System helped the institution:

- improve patient flow
- shorten door-to-disposition times, and
- reduce overall ED length of stay by 58 minutes

*See intended use information on back panel*
The new use model strengthened the collaboration between lab and ED staff, including physicians and nurses. Patient care became a more cooperative effort.

With nurses and ED technicians as primary i-STAT operators, overall efficiency was increased. Clinicians could focus on their patients and receive critical diagnostic test information at the bedside, when every minute counts.

The i-STAT System further empowers the ED to treat chest pain patients differently—providing critical diagnostic test information in accelerated time.

**Qualitative Observations**

- The new use model strengthened the collaboration between lab and ED staff, including physicians and nurses.
- Patient care became a more cooperative effort.
- With nurses and ED technicians as primary i-STAT operators, overall efficiency was increased. Clinicians could focus on their patients and receive critical diagnostic test information at the bedside, when every minute counts.
- The i-STAT System further empowers the ED to treat chest pain patients differently—providing critical diagnostic test information in accelerated time.
## MEASURABLE RESULTS: PROCESS CHANGE AT ONE OF FLORIDA’S BUSIEST EDs

### GOALS vs. RESULTS

<table>
<thead>
<tr>
<th>GOALS</th>
<th>RESULTS</th>
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| • Improve time to initial evaluation and treatment of chest pain patients | Prior to process change: 28 minutes  
After process change: 21 minutes  
**Improvement:** 7 minutes |
| • Reduce ED LOS for chest pain patients | Prior to process change: 4 hours 25 minutes  
After process change: 3 hours 27 minutes  
**Reduction:** 58 minutes |
| • Facilitate recognition of acute myocardial infarction and improve process of ruling out cardiac etiology | Avg door-to-ECG: 7 minutes  
Avg door-to cardiac cath lab: 66 minutes  
**Improvement:** 88.5% faster  
**Turnaround time (TAT) for cTnI testing** |

### WITH THE IMPLEMENTATION OF THE CHEST PAIN EVALUATION PROCESS, PATIENT FLOW AND STAFF SATISFACTION IMPROVED.

For in vitro diagnostic use only.

### Intended Use

**The i-STAT® cardiac troponin I (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.

The **i-STAT® BNP test** is an in vitro diagnostic test for the quantitative measurement of B-type natriuretic peptide (BNP) in whole blood or plasma samples using EDTA as the anticoagulant. BNP measurements can be used as an aid in the diagnosis and assessment of the severity of congestive heart failure.

See CTI Sheets at www.pointofcare.abbott for full details.

Not all products are available in all regions. Check with your local representative for availability in specific markets.