

The i-STAT® 1 Wireless System: Supporting a Culture of Continuous Improvement



Background

Cheyenne Regional Medical Center* is a Level II Trauma Center in Cheyenne, Wyoming. The hospital is the largest health care system in the state and treats patients from Wyoming, Colorado, and Nebraska. The 221-bed facility broke ground on a \$60-million expansion in the Fall of 2012. Physicians and nurses annually treat approximately 40,000 patients in the 17-bed emergency department (ED).

In an effort to streamline care for patients who present to the ED with chest pain, Cheyenne Regional introduced point-of-care (POC) testing with the *i-STAT 1 System* from Abbott Point of Care in 2005. In 2011, the ED, catheterization lab, and respiratory therapy department upgraded to the *i-STAT 1 Wireless System*, one of several ongoing initiatives at Cheyenne Regional undertaken to improve quality of care.

Objectives

With roughly 600 cardiac troponin (cTnI)[†] tests performed in the ED each month, physicians at Cheyenne Regional need rapid turnaround so they can make treatment decisions as quickly as possible. Along with the overall goal of improving quality of care, Cheyenne Regional's goals for the *i-STAT 1 Wireless System* in the ED were to:

- Improve door-to-electronic medical record (EMR) cTnI turnaround time (TAT)
- Facilitate testing at the bedside and enhance staff ownership over testing and test results
- Improve door-to-discharge decision and door-to-admission times

“We are pushed way beyond our max in the ED, so it makes a big difference when we can make faster treatment decisions. That helps the bottom line, improves patient throughput, and helps us advance our quality of care.”

– Buffy Kelly, Point of Care Supervisor

For *in vitro* diagnostic use only.

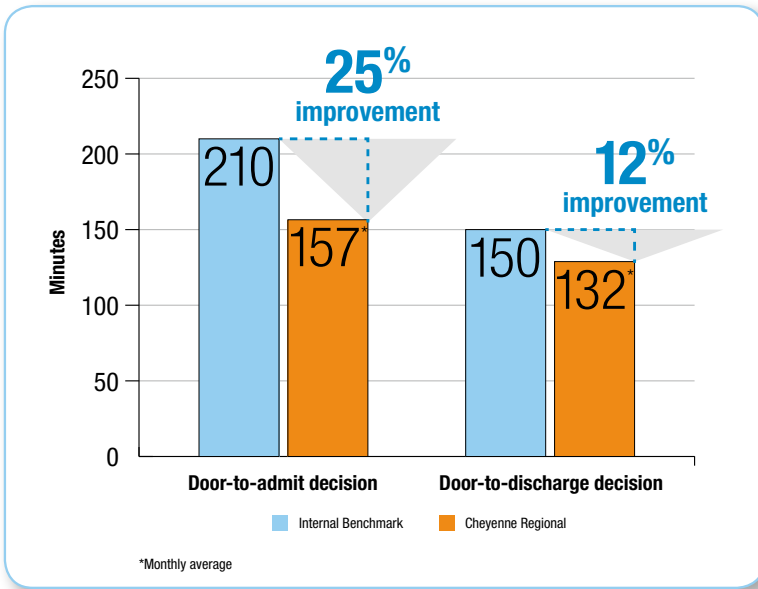
*The results shown here are specific to one health care facility and may differ from those achieved by other institutions.

†See intended use information on last page.

i-STAT 1 Wireless System is not available in all regions.

The i-STAT 1 Wireless System Contributes to Improved Patient Throughput

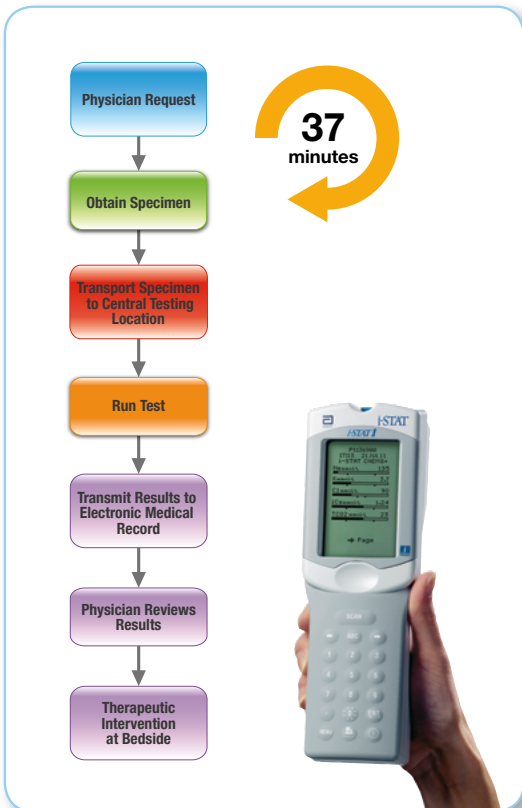
Cheyenne Regional reduced cTnl TAT in its ED and improved its patient throughput compared with internal benchmarks for performance established with Emergency Excellence*, and did so while experiencing a 12% increase in patient visits to the ED.



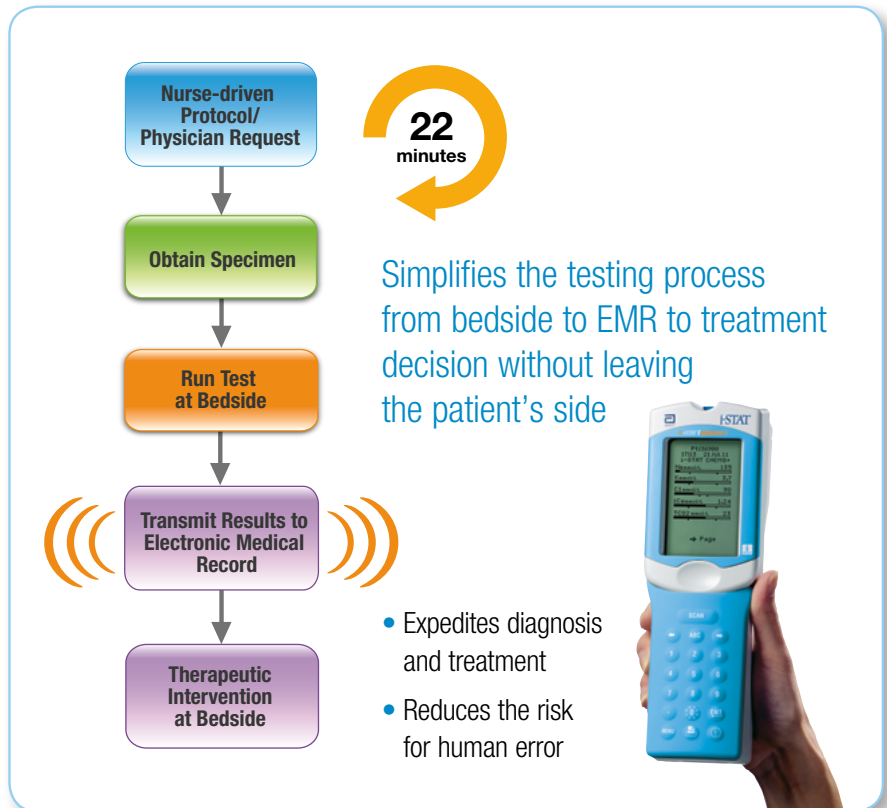
Cheyenne Regional staff said the transition to the *i-STAT 1 Wireless System* was seamless. “It took fewer than 5 minutes to train staff on using the wireless device. We handled training in one pre-shift meeting.”

– Dutch McBride, ED Manager

The i-STAT 1 System at Cheyenne Regional (2005-2011)



The i-STAT 1 Wireless System at Cheyenne Regional (2011-present)

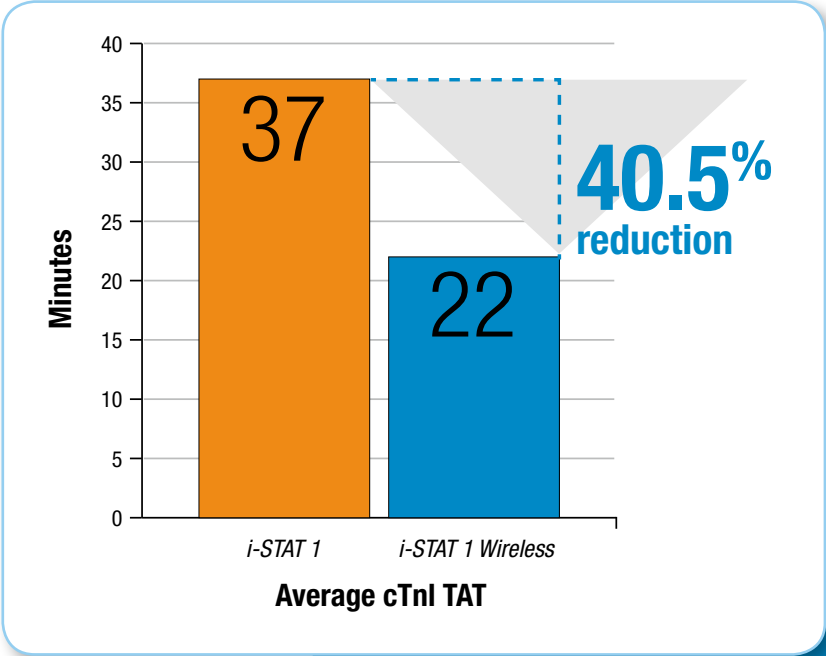


*Emergency Excellence provides emergency department performance improvement services for hospitals.

The i-STAT 1 Wireless System Helps Staff Optimize Efficiencies

Cardiac troponin door-to-EMR TAT initially improved at Cheyenne Regional when the *i-STAT 1 System* was introduced in 2005, but the hospital experienced “process creep” over time and TAT increased drastically. In response, the hospital coordinated with the lab to conduct staff training and named 5 “Super Users” in the ED to ensure nurses adhered to best practices for using POC testing. As a result, by 2010, Cheyenne Regional dramatically improved cTnI door-to-EMR TAT, going from 176 minutes to 37 minutes. With the introduction of the *i-STAT 1 Wireless System* in 2011, the hospital was able to further trim cTnI door-to-EMR TAT to 22 minutes, a 40.5% reduction.

The i-STAT 1 Wireless System Was Integral to Swift and Significant Improvement in cTnI Door-to-EMR TAT



“Staff were really excited about the upgrade to wireless because it meant we would have the capacity to take the handheld unit back to the patient’s bedside, do positive patient identification at the bedside knowing we had that patient’s sample, and automatically transmit our results to the EMR.”

– Buffy Kelly

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The i-STAT 1 Wireless System Empowers Cheyenne Regional Medical Center to Advance Quality of Care



Reduced ED cTnI door-to-EMR from

**37 minutes to
22 minutes**

40.5% reduction

75%
of cTnI testing
now conducted
at the bedside



Helped improve door-to-admit decision and door-to-discharge decision times*

Door-to-admit
decision

25%

Door-to-discharge
decision

12%

*vs internal benchmarks for performance

With the i-STAT 1 Wireless System, Cheyenne Regional Maximized Efficiencies in the ED:

- **Instantly uploaded results** from bedside to EMR
- **Accelerated** patient care decision-making with bedside testing and transmission
- **Increased** cTnI testing at the bedside while reducing risk for sample handling errors
- **Improved** patient throughput in the ED

i-STAT 1 Wireless System is not available in all regions. Check with your Abbott representative for availability in specific markets.

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.

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Cheyenne Success Story 047415 Rev A 12/16

To learn more about the *i-STAT 1 Wireless System*, or to learn about our other technology, process, and service innovations, contact your *i-STAT* Representative or visit www.abbottpointofcare.com

