

# Dedicated Point-of-care testing improves patient throughput and reduces admission rates



EMERGENCY DEPARTMENT (ED) SNAPSHOT

130,000 VISITS PER YEAR

Point-of-care testing and service redesign improves the flow of patients through the ED in a medium sized UK hospital\*.

- **130,000** ED visits per year, over two separate sites
- **5** ED consultants supported by a team of emergency Nurse Practitioners
- The most common test using the *i-STAT® System* is *CHEM8*+, for assessing renal function

<sup>\*</sup> The information presented here is based on an actual facility, but the institution has requested anonymity in this promotional material. The results described here are specific to one healthcare facility and may differ from those achieved by other institutions.



## Positive Impact: Integration of the i-STAT® System in the patient care process



### Background

The ED of this hospital is part of one of the top performing Trusts in the country. As it approaches its 50th anniversary, it continues to modernise and invest in its health services to build on its strong reputation.

The primary challenge faced was slow patient throughput leading to overcrowding, delayed clinical decision-making and low staff morale.

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#### Goals

The overall goal was to speed up patient assessment and reduce the amount of time the patient spent in the ED. In order to achieve this, point-of-care testing via the Emergency Department Intervention Team (EDIT) was introduced. As part of this new protocol, the *i-STAT System CHEM8+* (basic metabolic panel) was implemented in place of the traditional blood test analysis by remote laboratory.

#### Specific goals were to:

- increase patient throughput
- improve clinical efficiency
- reduce re-attendance and admission rates
- improve staff morale

### Building the confidence to change

Prior to implementing the *i-STAT System* in the ED, a performance verification was undertaken by the lab. This demonstrated lab quality results and ensured that the biochemistry department were happy with the performance of the *i-STAT System* prior to go-live.





## Positive Impact: Integration of the i-STAT® System in the patient care process

Incorporating *i-STAT System CHEM8*+ into a consultant-driven POC testing protocol has contributed to important and measurable advancements in department efficiency and improved clinical decision making and patient care.



Patient Registration





### Diagnostic testing

Based on symptomatology:



Nurse draws blood for analysis



*i-STAT System*CHEM8+ testing

conducted at bedside



CHEM8+ included in all emergent protocols

### Assessment by ED Intervention Team

- Consultant and senior nurse at the front door
- Blood taking at the very beginning of the patient's journey



#### Clinical intervention

The process improvements that were implemented helped the institution improve patient throughput, improve clinical efficiency, reduce reattendance and admission rates, and improve staff morale.



up to 95% quicker in clinical decision making



### Measurable results against specific goals

Goals	Results
Reduce the time patients spend in ED	Prior to change: 2 hours 20 minutes After change: 1 hour 15 minutes Improvement: 1 hour 5 minutes (46%)
Reduce the number of patients in the ED at any one time	Prior to change: 10 patients After change: 5 patients Improvement: 5 patients (50%)
Accelerate clinical decision making by improving turnaround times for critical tests	Prior to change: 63 minutes After change: 3 minutes Improvement: 60 minutes (95%)
Increase the proportion of ED population processed in 30 mins	Prior to change: 3% After change: 10% Improvement: 233% increase
Reduce the 7 day re-attendance rate	Prior to change: 11% After change: 9% Improvement: 18% reduction
Reduce the number of admissions from the ED	Prior to change: <b>22%</b> After change: <b>19%</b> Improvement: <b>14% reduction</b>

<sup>&</sup>quot;As a senior clinician, the biggest improvement in the care that we delivered was in the turnaround time from the laboratories. I was able to make a decision based on clinical information within three minutes using the i-STAT System, compared to 63 minutes with our remote laboratory. These improvements have led to great excitement amongst our staff, primarily around looking at the additional tests we can add to our POC testing, such as troponin and BNP, that will improve the care of even more patients."

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