

SEEN IN 15: IMPROVING CLINICAL INDICATORS THROUGH AUTOMATED CHECK-IN AND TRIAGE

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INTRODUCTION

The Department of Health has a range of clinical quality indicators for Trusts, one of which is whether patients can be seen, treated and discharged (or admitted) from the emergency department within 4 hours of their arrival. Another is for patients to have an initial assessment by a qualified healthcare professional within 15 minutes of their arrival. The average wait for patients attending is much higher, presenting a risk for critically ill patients.

In November 2019, NHS England figures showed that every major emergency department in England had failed to hit its 4 hour waiting time target for the first time, the worst performance since targets were introduced in 2004.¹ In 2018/19, there were 24.8 million attendances in emergency departments in England, a 21% increase compared to a 2009/10, and this number continues to grow.²

To our knowledge, eTriage is the first solution of its kind implemented within an urgent and emergency care setting within the NHS. An evaluation was carried out to assess changes in operational efficiency against several national key performance indicators. The following questions were asked:

1. How does using the eTriage system affect waiting times for service users?
2. At what point in the patient journey through the UCC are time savings felt?
3. Does eTriage improve the UCC's performance against specific care quality indicators?
4. Does the eTriage implementation result in faster movement through the hospital system?

METHOD

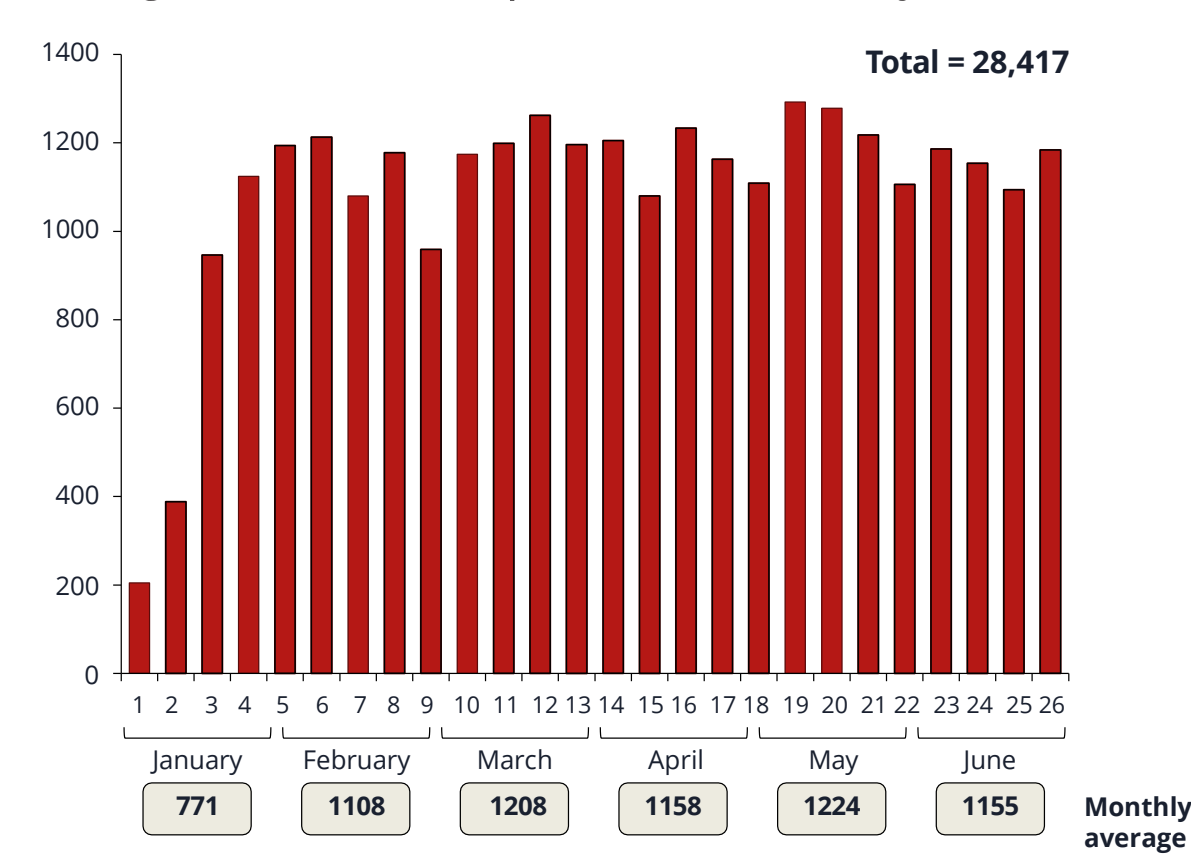
eTriage has been live in Queen Mary's Hospital Sidcup Urgent Care (South London, 200 daily attendances) since January 2018. Data collection and anonymous staff and patient surveys were carried out over a 6 month period from January to June 2018. Data from the centre's clinical system was retrospectively collected regarding patient wait times, time to initial assessment and treatment, time in department and the authors assessed experience metrics and user demographics through anonymous online surveys of patients in the waiting room, post check-in.

RESULTS

Over the 6-month evaluation period from the start of eTriage implementation, there were over 28,000 check-ins using this new digital process (99% of patients). All of these patients were assessed within 15 minutes of arrival, a substantial improvement compared to before eTriage (75%). Wait time in the department for patients also reduced, and time to treatment reduced on average by 7 minutes. Staff reported patients with life threatening symptoms that were picked up and brought to the attention of clinicians immediately.

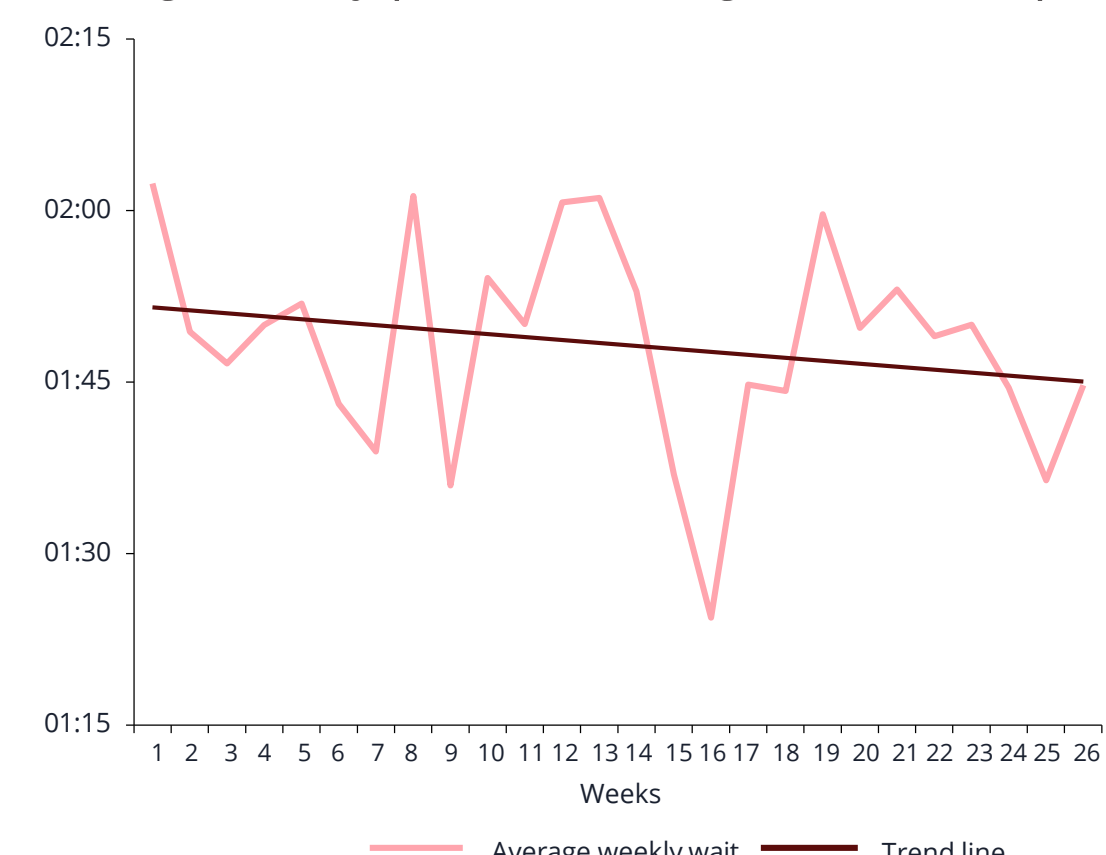
Most patients completed the history take and check-in process on tablets in under 5 minutes (85%), with the same proportion reporting they waited less than 1 minute from arrival to starting their check-in. Patients also recognised that the service can be used easily, with 26% of patients using eTriage being aged 65 years and over.

eTriage submissions per week, January to June 2018



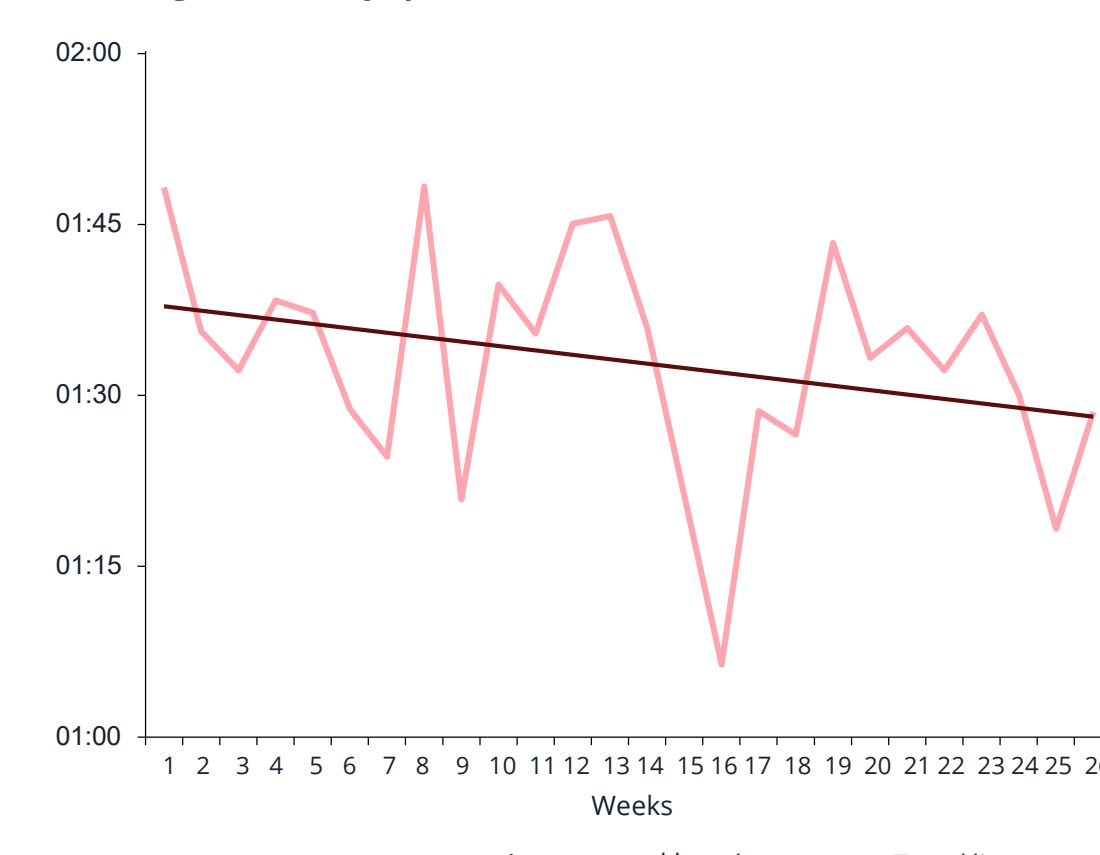
Within a month of introducing eTriage, 99% of patients were using the tablets to check in. Over the evaluated 6 month period this equated to 28,417 submissions.

Average weekly patient waiting time to complete visit, hrs



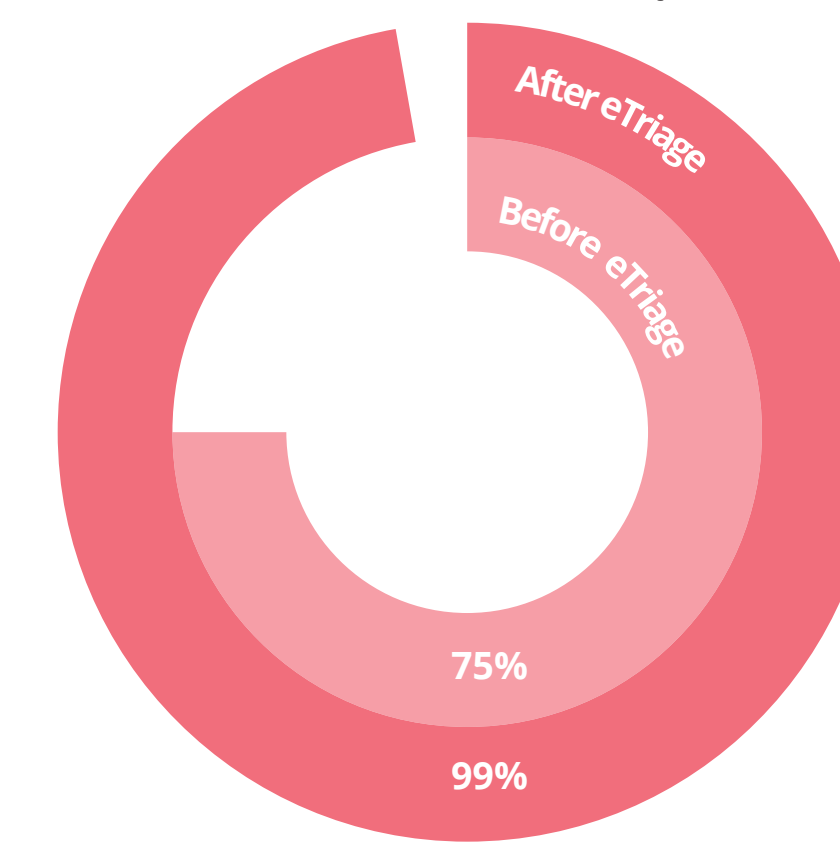
Average patient waiting times at the centre reduced during this period and were below 2 hours on average - comfortably below the 4 hour target.

Average weekly patient time to treatment, hrs



Patients are waiting a shorter amount of time to get their treatment at the UCC, 7 minutes less on average. Time to treatment is listed as a clinical quality indicator by the Department of Health.

Patients assessed within 15 minutes of arrival at the UCC, %



eTriage has resulted in 99% of patients undergoing their initial assessment with a healthcare professional within 15 minutes of arrival. This is above the national target of 95%.

Reducing the time to treatment and the total wait time for patients indicates faster movement through the hospital system, which is a key improvement that benefits hospitals and helps them to function more efficiently. The similarity in pictures between time to treat and total time indicate that the time saving as a result of eTriage is occurring while the patient is waiting for treatment.

DISCUSSION

This 6-month pilot followed the implementation of a new digital check-in and automated triage process at Queen Mary's Hospital, Sidcup. The implementation of the eTriage software has demonstrated benefits to clinical safety (in identifying sick patients quickly by risk stratification and alerting of clinicians), improvements in efficiency and clinical quality indicators (in reduced wait times within the department and improved time to clinical assessment metrics), and an improved patient experience (reduced or removed wait times).

Identification of patients by their clinical risk and need also enables patients' first contact to be with the right clinician based on their symptoms, or speedy redirection to a more appropriate healthcare provider. This can reduce the pressure currently facing our emergency care system. However, it is important to note that wider system changes are needed to ensure that the workload is not unduly shifted to other already stretched providers in the NHS.

In this UCC, a 7-minute decrease in time waiting for treatment would result in a combined saving of around 5.5 days per month for patients (based on a monthly average of 1,170 patients). The initial assessment clinical quality indicator for the UCC is now comfortably above the 95% target. Patients of all ages were comfortable using the digital check-in and history taking software, and staff also reported calmer waiting rooms due to removal of queues to check-in with receptionists.

Over 120,000 patients have been safely 'eTriaged' to date in Sidcup, and the software is being developed further and rolled out to additional emergency departments across the UK. Features such as the automatic collection of the Emergency Care Data Set (ECDS) will support efforts across the urgent and emergency care sector to better monitor, reach and surpass clinical indicator targets, ultimately leading to improved patient experience and outcomes.