The Hull Royal Infirmary (HRI) emergency department (ED) has deployed the use of self-service kiosks

The Hull Royal Infirmary (HRI) emergency department (ED) has deployed the use of self-service kiosks – a first of its type in the UK for unselected, self-presenting, adult patients to the ED.

Hull and East Yorkshire Hospitals NHS NHS Trust

Patients use Savience CareExpress and touch-screen kiosks to input their demographic details, contact and arrival information, plus the clinical information specific to their immediate condition. The use and benefits of the kiosks were studied during the period May-December 2013 within the ED and reviewed their ease of use and patient satisfaction.

The outcome of this is the allocation of patients onto one of three streams - nurse practitioner, GP or ED physician. The three streams are colour coded and patients allocated a red, amber, or green flag. In addition, the clinical information presented by the patient was used to highlight at risk patient groups with high risk-presenting complaints.

These included:
- **central chest pain**
- **shortness of breath**
- **heavy bleeding and collapse**
- **severe pain**

Patients with the 'red flag' allocation were expedited for immediate nurse assessment.

Key Indicators
A number of significant key indicators have been identified.
- Since implementation 82% of patients used the kiosks as their primary data collection point.
- 67% of patients are able to get a unique match with the PAS and successfully check-in
- The patient's details were made immediately available to the three clinical teams allowing for over 10% of patients to be called through within the first 15 minutes of patients true arrival.
- Nearly half of patients attending ED have been assessed and safely managed without the need for nurse triaging akin to the historical triage model.
- Less than 8% of patients remained a priority 'red flag' concern for the duration of their care episode.

A patient satisfaction survey of over 100 patients has indicated good satisfaction with both the location of kiosk and the instructions provided.

Business Drivers for ED at Hull RI
Commonly, emergency departments follow the model of a receptionist sitting behind a barrier responding in a reactive style to a patient's arrival, booking in and administration.

Careexpress enhances reception and speed of treatment:
By reducing or removing 2/3 of their primary administrative role, this time can now be better utilised in providing patient support with updating information, active patient enquiry, signposting and a coordinated approach to patient care.

The clinical teams can access immediately any of the patient's details upon their completion of the kiosk process allowing over 10% of patients to be managed within the first 15 minutes of their arrival.

Dr Marc Simpson,
Chief Clinical Information Officer
Hull Royal Infirmary

The subsequent use of the nurse triage model then allows patients clinical assessment and some limited intervention. Unfortunately this "see and treat" model created a single pinch point and the creation of queues to be assessed, thus preventing the clinical teams from speedily accessing patient's admin details, brief clinical history and access to the patient.

Now, with the Savience CareExpress solution, instead of one channel (nurse assessment) the patient can be called through by any of the practitioners because they can now see whether the patient has been assessed and has a red flag clinical concern or green status.

Savience CareExpress has implemented a whole new model of working for the receptionist. By reducing or removing 2/3 of their primary administrative role, this time can now be better utilised in providing patient support with updating information, active patient enquiry, signposting and a coordinated approach to patient care with the nurse coordinating team. The result is the nurse coordinator role now becomes more focused on the initial flow of patient arrival, including a focus on those patients requiring initial analgesia and those at high risk with red flag concerns.
In summary the drivers have been to:
- reduce the burden on the nurse triage model
- improve direct flow to the clinical teams
- reduce single queuing bottlenecks
- allow more rapid management of analgesia.

The conclusion of the study has been that the patient self-service kiosks are a viable alternative or adjunct to more typical reception areas in receiving unplanned or unscheduled patients in urgent or emergency care facilities. They have the capability of creating unique matches, ability to update PAS data items (mobile numbers, contact details) and capture clinical data to allow for automated streaming. This safely reduces the burden on nurse triaging, which can then focus more time on those patients at higher risk.

Lessons learned
The primary concern for the introduction of the kiosks was safety and to that end it was expected that the number of patients flagging red as a concern would be high yet allow further future refinements without loss of safety. In the study period, nearly 50% of patients required no nurse assessment and allowed that time to be focused on patient coordination and better patient flow.

For further information call Savience on 01604 878510 or email us at info@savience.com

Streaming patients in ED using kiosks has benefits:
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About Savience Ltd

Savience is constantly pushing the boundaries of technology to build brilliance and improve the global future of healthcare.

Specialists in shaping the patient journey through hospitals, clinics and GP surgeries, the systems developed by Savience have already helped millions of people worldwide.

The team design clinic-management solutions using multi-channel, multi-media smart technologies to connect, involve and engage patients and staff. We work closely with health professionals and managers to ensure our technology can be fully and seamlessly integrated with existing systems.

Founded in 2001, the directors of Savience have over 75 years of IT experience between them in a wide range of sectors. The company is the major supplier of self-service patient arrival and flow systems in the UK and Northern Ireland, and has proven success in the Republic of Ireland and more recently Canada. 100,000 patients are currently using Savience systems every day.