Enhancing the ED Experience

A time study conducted by Georgian Bay General Hospital (GBGH) and The Shams Group (TSG) on Self Service Kiosks in the Emergency Department

The purpose of this time study was to measure the total time savings for Triage Nurses & Registration Clerks in the **ED, after GBGH implemented TSG's Patient Kiosk solution.**

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The Customer

Georgian Bay General Hospital is a 105-bed hospital with sites located in the municipalities of Midland and Penetanguishene. Georgian Bay General Hospital serves a population base of 55,000, swelling to more than 150,000 for six months of the year when seasonal residents return.

At the Midland site, services include 24-hour emergency department, inpatient medicine, obstetrics, general surgery, outpatient day surgery, diagnostic imaging (radiology, ultrasound, and CT scan), pharmacy, respiratory therapy, in-patient physiotherapy, in and outpatient labs and ambulatory care.

Implementation Highlights

Implementation Approach
GBGH decided on a phased rollout approach for the Kiosks in their Emergency Department:
- Phase I included Pre-Registration (Receiving) & E-Triage at the kiosks;
- Phase II (not yet implemented) will include Full Registration at the kiosks.

Goals
GBGH set out to achieve the following metrics / goals with the Patient Kiosks:
- Increase patient involvement & engagement in their own care, and increase satisfaction;
- Alleviate pressure on Triage Nurse and Registration Clerks during peak volumes;
- Decrease wait times;
- Track and decrease door to physician times;
- Track and decrease LWBS patients.

Results
The following results were achieved with Phase I of the kiosk:
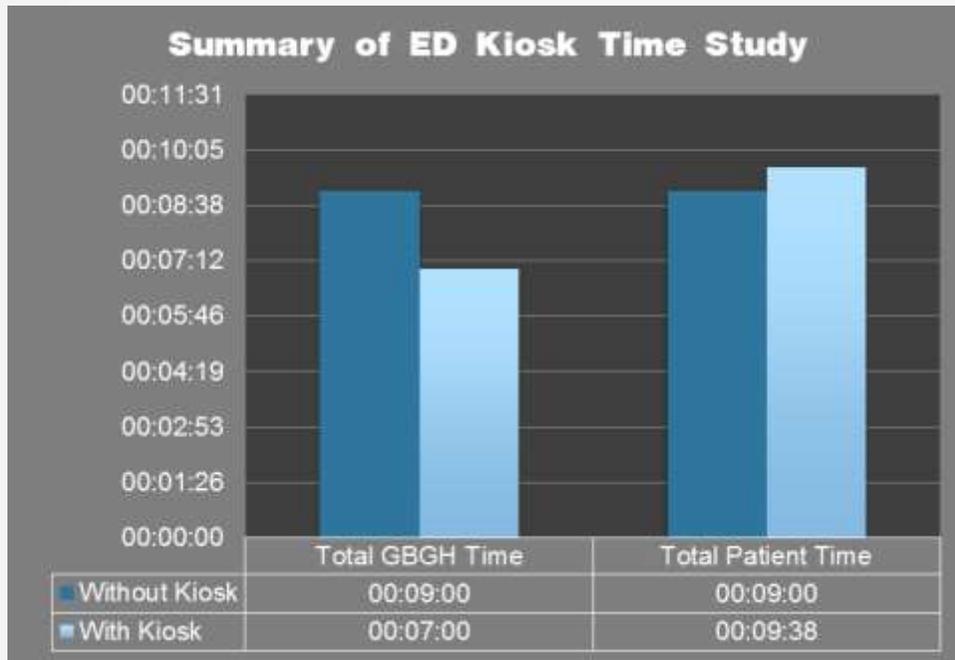- 80% - 90% adoption for all See & Treat patients
- 2-4 min time savings per patient
- Registration Process cut down by 46 secs on average
- Triage Nurse Process cut down by 1min 20sec on average

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Summary of ED Kiosk Time Study

Process	Pre-Reg	N	Triage	N	Full-Reg	N	Total GBGH Time	Total Patient Time
Without Kiosk	00:00:52	23	00:05:47	26	00:02:27	26	00:09:00	00:09:00
With Kiosk	00:00:00	0	00:04:27	36	00:02:33	36	00:07:00	00:09:38

Notes:
Times shown are the sample averages in h:mm:ss format.
Total GBGH Time is the total working time required of the Triage Nurse & the Registration Clerk.
Total Patient Time is the total working time required of the Patient.
Sampling was conducted on October 16, 17,20, 22, & 23, 2014 between 10:00 AM & 4:00 PM by Owen Harries & Lynda Hookham.

Conclusions:

The total GBGH staff time is 2 - 4 minutes less per patient when the kiosk is used.

The registration process without the kiosk consumes about 3 minutes and 19 seconds on average (52 sec + 2 min 27 sec)

The registration process with the kiosk consumes about 2 minutes and 33 seconds on average .

The registration time saved per patient who uses the kiosk is 46 seconds on average . (3 min 19 sec -2 min 33 sec)

The triage time saved per patient who uses the kiosk is on average 1 minute and 20 seconds. (5 min 47 sec - 4 min 27 sec)

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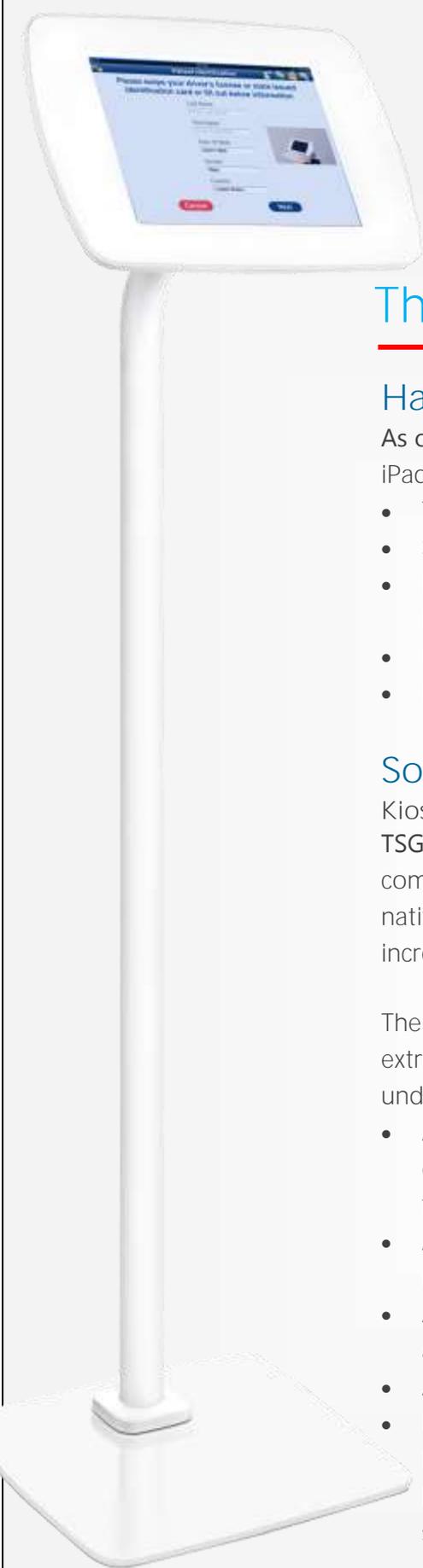
The Solution

Hardware

As opposed to today's PC-based kiosk, TSG's Patient Kiosk is build native on the iPad, which offers the following benefits:

- Touch-based, easy to adopt, zero training needed
- Smaller footprint for quick & easy deployment
- Flexibility of mounting options: full-standing, tabletop, wall-mounted or hand-held/mobile
- Low IT cost and easy maintenance, repairs and replacement
- Preferred computing platform by patients and professionals

Software

Kiosk Application

TSG's Patient Kiosk application, for patient registration and check-in, is just one component of TSG's Mobile Solutions Platform (MSP). The end-user application is a native iPad app, creating a familiar and pleasant experience for the end user; thus increasing patient adoption.

The back-end architecture of TSG's MSP is what transforms this simple app into an extremely dynamic and robust cloud-based platform - comprising of the following underlying technology:

- A Forms Generation Engine – Allowing personalization of each and every element on every screen (fields, buttons, dropdowns, checkboxes, text, voice files; etc.) to create fully custom workflows from bottom-up.
- A Rule-based Workflow Engine - To automate and drive workflows with intelligent business rules and logic.
- A Database Engine - Using open database technology for alerts, triggers and BI analytics capabilities.
- An Integration Engine - For multi-layer integration with any EHR.
- Real-time MPI Database Synchronization - For speedy MPI search at the kiosk level, and support for EHR downtime: Patients can continue to register at the kiosk when EHR is down, and when the system is back up everything is synched.

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The Patient Kiosk's robust functionality includes:
- Discrete data capture
- Electronic/digitized forms with e-sign
- Quick patient identification (via Driver's License or Health Card)
- Image capture
- Payment collection
- Health card validation
- Insurance eligibility checking
- Live chat
- Multi-lingual capabilities
- Voice Narration
- Wayfinding and more...

Pre-Registration Portal
Patients who wish to go online and pre-register from the comfort of their home can use TSG's Pre-Registration Portal, which integrates with the Kiosk application. Patients can log in to a Patient Portal, or the hospital's primary website, and fully pre-register themselves before their visit (demographic information, consent forms, payment; etc.). Pre-registration is very simple – it is an online form that patients fill out. Most fields are auto-populated by the system, as we gather this information when the patient uses the portal for the first time. Patients only then need to fill out any additionally required information. TSG's portal can be accessed with any computer, smartphone, or device with a browser.

Kiosk Dashboard
When ancillary departments and clinics become busy, patient management and flow becomes difficult. TSG's kiosk dashboard empowers staff to monitor everything going on at one or more kiosks in near real-time, and enables them to see patient check-in time, the order in which patients arrived, and how long each patient has been waiting. This allows the staff to successfully manage patient flow and satisfaction. Additionally, the staff can use the dashboard to interact with the kiosk – by initiating a live chat session with the user, reviewing and updating information entered by the user, running reports on a specific kiosk, and more.

Wayfinding
Hospitals are always looking to improve how patients interact with their facilities, making sure the patient experience is harmonious and less stressful. This incurs thousands of dollars for costs of signs and other directional help.

TSG's Patient Kiosk includes an ezWayFinder indoor mapping application that engages patients and visitors. Once a patient completes registration, the kiosk uses ezWayFinder to intelligently calculate and display the quickest route to the location of the service for which the patient has checked in. The patient can view the interactive map and textual directions on the kiosk, and can print the directions or access them on his or her own iOS device.

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Integration

The Shams Group has been working with Hospitals and Health Systems for the last 25 years, and has integrated with all over 80 different systems, platforms, versions and modules. TSG's product comes with a pre-built integration engine that supports HL7 protocol, SQL to SQL protocol, and for Meditech hospitals we provide an Interface Engine (Astro) and Meditech adapter that are capable of extracting data from MEDTITECH and uploading data back into MEDITECH. No Interfaces need to be purchased from MEDITECH.

The standard interfaces TSG's kiosk solution uses are Scheduling, ADT / Patient Demographics, Billing, and Insurance Verification/Health Card Validation. All interfaces are real-time and the data is always kept in sync between the EHR, Kiosk and Portal systems.

Additionally, we go a step further and download your entire Master Person Index (MPI). Therefore, TSG's solution can act as a mini registration module that offers you a down-time mechanism. When your EHR or existing registration module is **down, you don't have to resort to paper. Patients can continue registering at the** kiosks, and when the system is back up, everything is automatically synchronized.

Contact Info

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