



Project to Reduce Elopement of Vulnerable Patients from the A&E

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Abstract

Provision of a safe patient journey in any big hospitals begins at the Accident and Emergency (A&E) Department. The A&E Department is often the stressful and emotional entry point to a hospital and is usually busy and packed with patients and their relatives 24/7. There are patients who abscond while waiting to seek medical attention because of the long waiting time. The balance between provision of due diligent care and respecting patient autonomy in a busy department was challenged while finding ways to prevent the vulnerable group of patients from absconding while they are waiting for medical attention at A&E.

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Introduction: Changi General Hospital (CGH) is a busy teaching hospital serving the eastern side of Singapore. There are 1000 inpatient beds in CGH and the Accident and Emergency (A&E) department is one of the busiest A&E departments in Singapore. The unique feature of the A&E department in CGH is that its doors open directly into the main street which makes it easy for the patients to abscond from care. There were 20 A&E elopement reports put up in 2016.

Elopement is defined as patients who depart from the facility unnoticed, even if they are still within the premises. Patients with cognitive issues often wander and the risk of harm to themselves is high when their decision making capacity is in doubt. Hospitals need to have procedures to identify and provide close supervision for patients at risk, with procedures to mount an urgent response once a patient goes missing.

The challenge was to correctly identify the patients at risk, balance against patients' autonomy and causing minimal disruption to the busy A&E department. The authors were also concerned about putting a stigma on patients with cognitive issues. Protecting the patients' dignity was a major factor while designing a system which is effective while being discreet.

Keywords: Elopement; Cognitive Impairment; Vulnerable Patients; Elderly; RFID

Project aims

- Early identification of the elderly >65 years of age who are confused.
- Provide a safe environment in A&E to reduce patient eloping while getting medical attention.

- Provide an alarm system where patients are prevented from leaving, and yet doing so discretely.

Methodology

Using Plan-Do-Study-Act (PDSA) methodology, we devised methods to identify the patients with cognitive problems in A&E

in order to apply measures to reduce the risk of them absconding while receiving medical attention. PDSA is a tool used commonly in Quality Improvement projects where a plan is developed (Plan) and tested (Do) to effect a change. Data collection during the testing phase is examined and reflected on (Study). With the result analysis, changes are planned and implemented (Act) before the next cycle of PDSA.

Plan

A multidisciplinary work group led by a specialist Geriatrician is formed. The team consists of A&E nurses, security experts from the Department of General Services, senior A&E doctors, and the staff from A&E Operations.

The team brainstormed and completed a fishbone diagram to outline the possible causes and solutions for this problem (Figure 1).

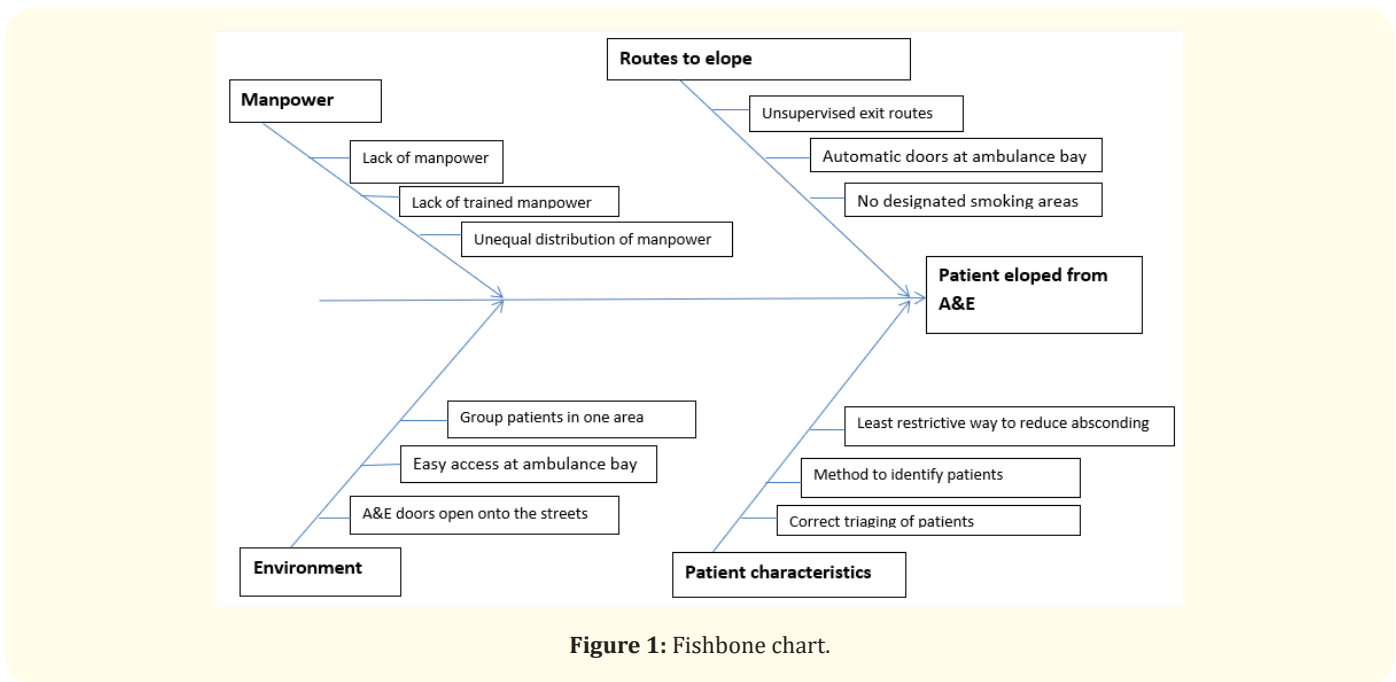


Figure 1: Fishbone chart.

The team reviewed the electronic medical records and discovered that there were 310 patients whose final A&E disposition was labelled as elopement in the last 6 months of 2016. Most of these cases were patients who registered to get medical attention but subsequently left without being seen by a doctor.

The team then reviewed the incident reports submitted by the A&E staff for patients who absconded. Incident reports are compulsory in the hospital if there have been events which put a patient or a staff member at risk. In total, 20 incident reports in 2016 were reviewed.

The team came up few suggestions to be addressed in each PDSA cycle:

1. Correctly identify the patients at risk of eloping.
2. Usage of best assessment tool to identify the patients at risk
3. Assessment of the exit routes.

The team then prioritised the suggestions and embarked on the project, beginning with screening and assessing the group of patients at risk of eloping.

Do

Identification of the appropriate patients

The team brainstormed on the ways to identify patients who require closer supervision while they receive medical attention in the busy A&E. The patients who have normal mental capacity have the autonomy to refuse treatment in the hospital, if they so wish. The team therefore classified the at risk patients under 2 groups- the vulnerable group and the elderly >65 years of age who may have cognitive issues such as dementia or delirium.

Patient group	Features	Tools to identify
Elderly >65	Cognitive issues- delirium or dementia	<ul style="list-style-type: none"> • AMT (10 items) • MMSE (score out of 30) • Orientation to time, place and person
Vulnerable group	Unaccompanied elderly, those who are unaccompanied and disorientated, brought in by ambulance for wandering in the community, alcohol or drug intoxication, patients with psychiatric disorders, residents from institutions.	<ul style="list-style-type: none"> • AMT (10 items) • MMSE (score out of 30) • Orientation to time, place and person

Table a

The team utilized the current assessment methods which the A&E triage nurses use to assess patients for confusion. Assessment of mental status is included as part of the routine fall risk assessment. Fall risk assessment is compulsory for all patients attending the A&E and is performed by the triage nurses. However, there was no fixed method to assess confusion. Most of the assessment by the nurses is subjectively done, decisions made by conversing with the patients and deciding if they were confused or orientated.

To increase awareness of clinicians and other staff of the special groups of patients at risk of elopement, the team decided to use an orange file to hold the patient’s healthcare documents and clip a green tag on the patient’s pyjamas (Figure 2). The security officers were informed about the reason of patients wearing a green name tag and they would not to allow them to leave the premises alone.

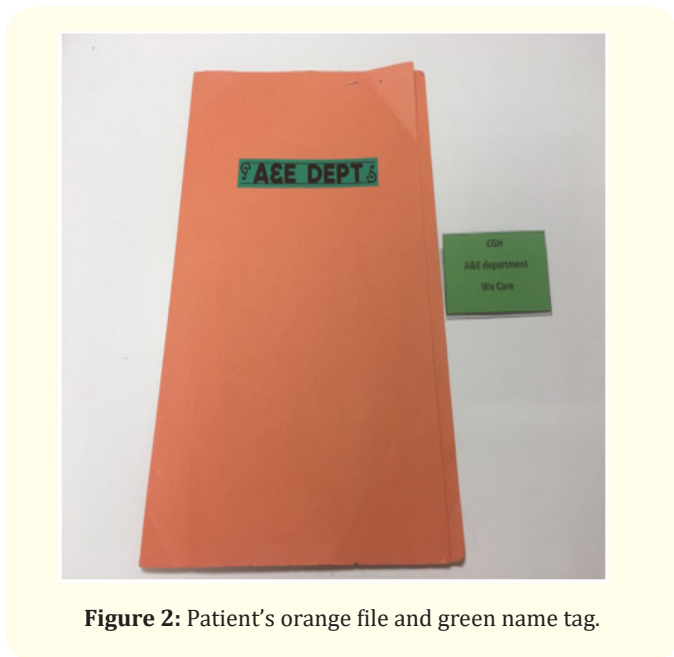


Figure 2: Patient’s orange file and green name tag.

The team met again after 2 weeks and evaluated the outcomes of implementing the orange file and pyjamas to tag the vulnerable patients. It was unanimously agreed that the “test” methods were inadequate and not ideal because the tags/ pyjamas may be removed and the orange file could be easily misplaced. In addition, there were concerns regarding these two non-disposable items flouting infection control policies. The orange file and green name tag pilot ended after two weeks with poor feedback from the staff.

The assessment of confusion was thought to be inconsistent, inaccurate and subjective. This is particularly worrisome in a multicultural society where there are elderly subjects who converse in dialects while the younger generations are not fluent with dialects. A large proportion of the nursing staff in the hospital are from the neighbouring Asian countries who are not familiar with the local dialects which makes conversations difficult and assessment of mental status inaccurate.

The team then worked on a second method which was more objective. The team decided on assessing patients’ orientation to time, place and person as a test. The team leader conducted tutorial to the senior nurses in the A&E on delirium, dementia and various validated assessment tools like Abbreviated Mental Test (AMT) and Mini Mental Status Examination (MMSE). The AMT and MMSE were reserved for patients who were orientated to time, place and person but whom the nurses still felt had something amiss. AMT has 10 items and takes roughly 5 minutes to complete while MMSE needs about 20 minutes to complete and the team felt that doing these tests routinely on all the patients at A&E is time consuming and may affect the through put. The A&E nurses were competent in assessing for disorientation to time, place and person. The disorientated patients are identified with a purple coloured wrist tag.

To reduce the rate of patients wearing purple tags from eloping A&E, this time, the security officers were told to keep a look out for the purple tags and stop them from leaving the hospital premises unaccompanied. The team reconvened after a month of piloting the purple wrist tag to collect feedback. There were difficulties for the security officers such as patients hiding wrist tags under their long sleeve shirts, or cutting off the tags or poor visibility of the tags from a distance. Despite this, during the pilot period of 4 months there was no report of patients wearing purple tag eloping from the A&E department.

Assessment of the exit routes

The third PDSA cycle involved studying the incident reports to identify and assess the commonly used exit routes by eloping patients. The team examined the security features of the doors and felt that there are 3 doors which open directly into the main street (marked red on figure 3). These doors should have double sided staff card access to deter easy entrance and exit from A&E. Besides, these 3 doors open directly into the main streets, and there is always a danger of patients running into oncoming traffic.

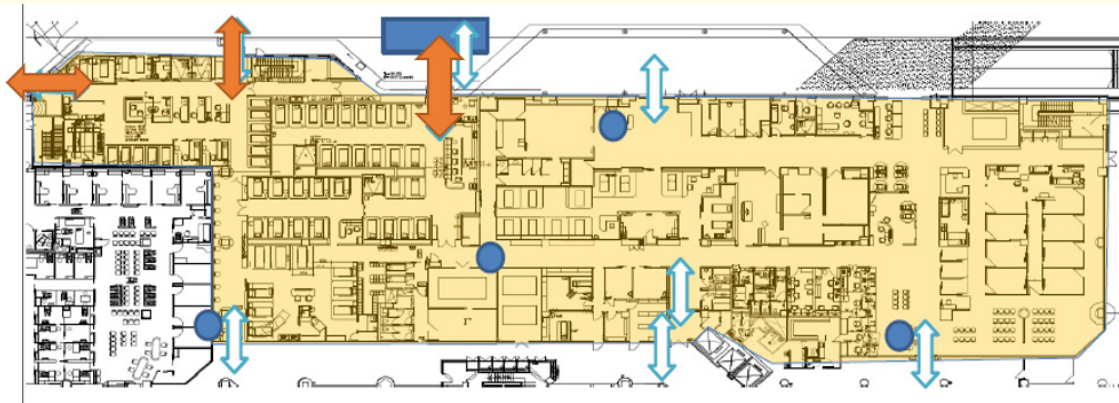


Figure 3: The A&E floor plan.

To comply with the fire safety requirements, it was compulsory to install an emergency break glass next to the doors, as shown in figure 4. This emergency feature will allow the doors to be unlocked without a pass during emergencies. During the pilot period of 2 months, no patients eloped from these double sided card access doors and the emergency break glass was not broken.



Figure 4: Showing double sided card access from inside and an emergency break glass feature.

The fourth PDSA cycle examined the door next to the ambulance bay which is a large sliding glass door that opens when motion is detected. This door needs to open quickly and widely for patients to be transferred into the A&E Resuscitation Room from the ambulances. There were no fixed security measures at this door. There are clerical staff sitting at the registration counter next to this door who processes the paperwork for the ambulance patients. Often, the counter staff are often preoccupied with their work paperwork and they are unable to monitor closely or stop the patients or members of the public from leaving A&E through this door. There is a large human traffic walking in and out through the ambulance bay every day.

The team decided to try out a control button placed at the registration counter to manually open the door at the ambulance bay to control the passage of people out of A&E. This was piloted for 2 months and it was effective in reducing the flow of people since it was inconvenient to ask the counter staff to tap open the door for exit. The implementation was successful and there were no reports of patients with purple tags absconding through the ambulance

bay during the trial period. However, the staff were bothered by the frequent interruptions for requests to open the door especially during the busy periods.

The suggested long term, permanent solution suggested was to install a passive radio frequency identification system (RFID) for the door (Figure 5) at the ambulance bay, one which is activated by a chip embedded in the purple wrist tag, as shown in figure 6.

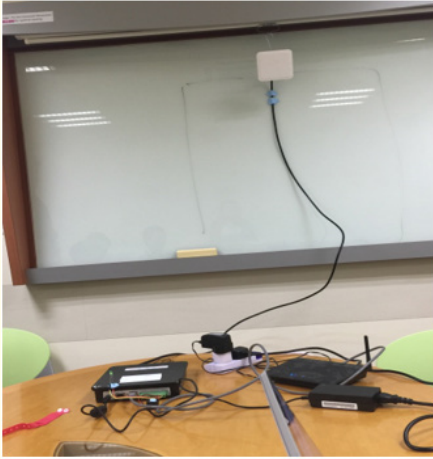


Figure 5: Passive RFID antenna.



Figure 6: Security chip embedded in a wrist tag.

Since the full implementation of the RFID sensors at the ambulance bay matched with wrist tagging of admitted patients, together with the other safety features introduced, we have no documented incidents of the vulnerable patients eloping from the A&E Department in the hospital for 18 months so far. The alarm

triggered by the RFID promptly alert a member of staff to attend to the patients wearing the purple wrist tag in order to reduce elopement.

The A&E department will continue to monitor the effectiveness of the various implemented measures and monitor closely the rate of purple wrist tagged patients absconding from the A&E.

Discussion

The demographic of inpatients in the hospitals have changed over the recent years, with increasing numbers of elderly patients [1]. The prevalence of dementia in Singapore is 10% among the elderly >60 years of age in Singapore, and the risk of dementia increases with increasing age [2]. The elderly with dementia is on the rise worldwide and the majority of these patients with dementia remained undiagnosed. Delayed diagnosis of dementia causes the patients to miss out on medications, referrals to community services, increased caregiver burden and may cause harm [3], as in this project where the elderly with dementia should not have been allowed to leave the hospital premises.

In a busy department like A&E where the waiting time is long, patients have the autonomy to seek medical attention elsewhere, if they choose to do so. However, if they are in the A&E department unaccompanied, and if they have an underlying cognitive impairment, it is the duty of the hospital to ensure that they are well cared for in a safe environment. Unlike in a long term care setting where the staff are familiar with their residents' needs and behavior patterns. The acute hospital's environment is busy, with high patient turnover and staff are busy with their urgent tasks to complete on schedule, making it less feasible to provide close supervision for patients' whereabouts at all time. Wandering and elopement in an acute hospital setting is not uncommon, and these incidents are considered as sentinel events. Once the patients with cognitive issues wander off the premises, they are risks of serious harms and there must be measures are in place to trigger an immediate search. According to Rowe M, only 46% of those found missing were found in the first five hours, 36% found between 5-12 hours later and 9% required 12-24 hours to be found. The remaining 9% took more than 24 to locate, and the patients who took more than 24 hours to be located are more likely to be dead than alive when found [4]. In the author's hospital, once the patient with the purple wrist tag is within 2 metres of the RFID sensors, alarm is triggered where a member of staff will immediately escort the patient back to their beds discretely.

The team also had to balance competing priorities between enhanced throughput and better flow of human traffic versus the need for increased patient's safety and reduction of unintentional elopement among the vulnerable patients. In a busy department like A&E, slowing down the work processes will cause further delay in patient care. The team had to balance between alarm being triggered and a staff member at hand to respond immediately. The response team consists of nurses and security guards in an attempt to reduce pressure on the nursing time.

The interventions the team put forward utilized technologies where cost is also taken into consideration. The costing of the purple wrist tags and the chip were not substantial compared to the risk of losing a vulnerable patient. Extra manpower was not required to man the exits, with a change in work culture where the staff were encouraged to work more closely as a team.

The challenge of diagnosing cognitive impairment was compounded by the wide variety of screening tools available and the team needed to use a tool which is easy and quick to administer in a busy environment like the A&E. The tool also must be user friendly and does not require much training with reasonable accuracy. Orientation to time place and person was felt to be adequate and these are basic skills taught at nursing schools.

The next challenge was to avoid stigmatizing the vulnerable patients. The team considered using different colour pyjamas which was too obvious and eventually settled for a wrist tag. The impact of stigmatizing a person with mental health issues like dementia or mental disorders is two-fold. Public stigma is the reactions of the public to the persons with mental disorders and self-stigma is what the person with mental disorder feels about themselves. Public stigma often has a negative impact such as job opportunities, social isolation, etc. For the people with dementia, many felt that there was a lack of knowledge and understanding of dementia in the society. It is perhaps due to this negative stigma that people with early dementia refuse to seek help. The caregivers for people with dementia too, face social stigmatization, with negative associations. As a result, both the caregivers and the persons with dementia tend to conceal their diagnosis, especially if there are behavioural and psychological symptoms of dementia [5].

The tagging of patients with cognitive impairment also improves the care of admitted patients upstream in the inpatient wards. The medical and nursing staff are taught on the care needs of this special group of patients and encouraged to apply measures to reduce hospital associated complications like falls, incontinence, delirium, pressure sores and restraint use. There are currently several teams of Geriatricians and Geriatric trained Practice Nurses who conduct regular didactic lectures and bedside teaching rounds to improve the care of the elderly with special needs.

Conclusion

The objectives of the project were achieved and outcomes were beyond expectations. The author's team members were able to identify patients with cognitive impairment, put in place care bundle for this group of vulnerable patients with impaired communication. The elopement rate was significantly reduced at the A&E and similar technology is applied at the inpatient ward setting. The overall care was made safer for the elderly with cognitive impairment as well as the younger group of vulnerable patients.

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