Safety Express: a strategic health authority’s approach

Trish Morris-Thompson, Vicky Aldred, Nicola Clark and Di Marks-Maran

Safety Express is a national programme based on the principles of improving the patient experience of care by minimising four of the main avoidable harms in health care. These are:

- Pressure ulcers
- Falls
- Urinary tract infections in patients with catheters
- Venous thromboembolism (VTE).

Although a national programme, each Strategic Health Authority has the responsibility of establishing its own local Safety Express programmes. The programme for NHS London, a 2-year initiative, began in January 2011. The pilot ran from January to September 2011.

This paper provides an overview of the national Safety Express programme and how NHS London implemented it. Three case studies are presented as exemplars of the implementation of Safety Express in London. Conclusions are drawn from the three case studies and the overall evaluation of the pilot in London, and plans for the next phase of Safety Express are presented.

Literature review

International evidence shows that at least 10% of hospital inpatients suffer significant harm related to their care and between 30 and 50% of this harm is probably preventable (Vincent, 2008). Older patients are more likely to suffer some sort of harm and many suffer multiple harms. Landrigan et al (2010) also found that patient harm has not diminished significantly over time despite many countries paying attention to patient safety over the past 10 years. The Health Foundation (2011) suggests that most research has been carried out on acute hospital inpatients but very little information is available about harm to patients in primary and community settings, such as care homes, community hospitals or their own homes.

Most of the literature on patient safety and harm comes from the US, and tends to focus on those harms that are normally recorded in patients' medical records: medication errors, hospital-acquired infection, medical complications and mistakes made in operating theatres (Landrigan et al, 2010; Office of the Inspector General, 2010). As a result, conditions such as pressure ulcers and falls are probably underreported (Landrigan et al, 2010). In the literature, patient harm is measured in a number of ways. Professionals involved in patient safety, when reporting on patient harms, include any occurrence that lengthens a patient’s stay, or an incident that has serious long-term implication. Incidents of harm that may require some sort of intervention but do not prolong the hospital stay are largely unreported (Landrigan et al, 2010).

Ways of detecting and measuring patient harm include:

- Case note review
- Incident reports
- Analysis of routinely collected administrative data
- Studies and audits of prevalence of particular harms.

Landrigan et al (2010) suggest that all of these have strengths and weaknesses. Many safety researchers use standardised instruments, e.g. the Global Trigger Tool (Classen et al, 2008), together with case note reviews, to provide a more comprehensive overall picture of patient harm. One drawback, however, is that harm incidents are sometimes unrecorded in patient records, which can distort findings. In addition, this method of measuring harm is resource intensive and, as a retrospective review of patient harm, offers no scope for immediate intervention.

Incident reporting systems are another set of useful tools for examining patterns in patient harm. As with the Global Trigger Tool, it identifies only a fraction of actual patient

Abstract

The Safety Express programme is a national workstream within the Quality, Innovation, Productivity and Prevention (QIPP) programme that is designed to improve health outcomes and quality care, as well as reduce costs associated with the following four patient harms: pressure ulcers, falls, urinary tract infections in patients with catheters and venous thromboembolism (VTE). NHS London developed a pilot project to implement Safety Express across London. This paper presents case studies of the outcomes of the Safety Express pilot in three locations in London. Findings from the pilot showed that the proportion of patients who were harm-free from pressure ulcers, falls, urinary infections (in patients with a catheter) and new VTE compares favourably with the national average, with an overall decrease in all four.

Key words: Safety Express ■ QIPP ■ Patient harm ■ Pressure ulcers ■ Falls ■ Urinary tract infections (UTI) ■ Venous thromboembolism (VTE)
harm incidents because the data comes from individual patient incident forms and not all incidents of patient harm are reported (Quality, Innovation, Productivity and Prevention (QIPP), 2011b).

A third method is through routine collection of administrative data such as Hospital Episode Statistics (HES) data in England. HES data are dependent on the quality of the clinical coding method used to report incidents. Spencer (2011) found that the quality of administrative data collected currently in England is poor, often owing to the absence of clinical involvement in coding. Issues with the quality of the clinical coding make this method of measuring patient harm less used than others.

A final way of measuring patient harm, which overcomes some of the weaknesses of other measurement tools, is the point prevalence survey. An example, which has been used in the Safety Express project, is the NHS Safety Thermometer (NHS Information Centre, 2010). It is relatively inexpensive and easy to use. One of its strengths is that any information gained can be used immediately by clinical staff to rectify problems. By taking several measures over time using the NHS Safety Thermometer, improvement can be tracked.

Risk of pressure ulcers is well documented in the literature (e.g. Norton et al, 1962; Waterlow, 1987). Prevalence of pressure ulceration has also been studied. Landrigan et al (2010) cited two studies in the US showing that prevalence was 6% and 7% respectively. Another study from Belgium, which surveyed nearly 20,000 patients, found that pressure ulcer prevalence was 7% for category 2, 3 and 4 pressure ulcers (Vanderwee et al, 2011). On the other hand, data from HES in England suggests that pressure ulcers occur in less than 1% of patients. This is likely a result of underreporting of pressure ulcers. Foster and Bolger (2010) also suggest that the incidence of pressure ulceration is underreported.

Accidental falls are the most often reported incident of patient harm. The National Patient Safety Agency (NPSA) (2007) reported that in 2005/6, falls in hospital accounted for about 200,000 reports of patient harm and this, too, is likely to be an underestimate of the actual incidence of patient falls. Healey et al (2008) estimated that any given hospital ward will have about 10 falls per month. Of these, some 30% will cause actual harm to a patient and up to 5% will cause serious injury. Older people, those who are confused, have poor balance or are seriously ill, and those on multiple medications are most likely to suffer falls (NPSA, 2007).

With regard to incidence of urinary tract infection (UTI) in patients with catheters, there is a degree of controversy about how to define ‘catheter-associated’ UTI. This makes it difficult to measure incidence and prevalence. There is a clear link between length of catheterisation and risk of infection. Infection can be reduced by avoiding catheterisation if possible and, if it is necessary, by limiting the time period of catheterisation (NHS Scotland, 2005; Association for Professionals in Infection Control and Epidemiology, 2008).

Cohen et al (2007) found that venous thromboembolism (VTE) leads to approximately 25,000 deaths per year in the UK. How many of these are preventable remains unclear but it has been demonstrated that half of patients who develop a VTE had been hospitalised within the previous 2 months, and approximately 70% of patients who were at risk of VTE did not receive appropriate prophylaxis (Cohen et al, 2007).

**The national Safety Express programme**

The Safety Express programme was created as a workstream...
within the QIPP programme and was designed to improve health outcomes and quality care, as well as reduce costs associated with the above four harms. The NHS Outcomes Framework 2011/12 (Department of Health (DH), 2011) included a number of domains, one of which (domain 5) recognised that patient safety is of paramount importance in terms of quality of care and delivering better health outcomes. Improving patient safety, however, is more than simply reducing the number of incidents of harm; it includes having an understanding of how safety can be continuously improved and is also about creating a culture that supports improvement. This is of particular importance to nurses whose work puts them at the forefront of issues related to the above four harms. Nurses, therefore, are playing a major role in Safety Express.

A measurement system was developed – the NHS Safety Thermometer – as a way of identifying patients who have travelled through the healthcare system harm-free or have experienced one or more of the harms. The entire Safety Express programme was guided by a driver diagram (see Figure 1), which indicated the overall range of activities required to achieve harm-free care.

Safety Express: pilot phase in London

NHS London recruited ten teams from London who worked together across their health and social care economies to drive real improvement for patients and demonstrate significant cost improvement. Each team was hosted by an acute trust, and comprised partners across acute, community and local authority services.

Using the Breakthrough Series Collaborative methodology (Institute for Healthcare Improvement, 2003), the teams worked on each primary driver in turn, making small tests of change before pursuing spread across organisations. A Breakthrough Series Collaborative is a short-term (6–15 months) learning system that brings together teams from hospitals or clinics to make improvement in a focused area. The teams participated in three face-to-face learning sessions over the course of the Collaborative. They then worked together to make improvements in the local organisation, in this case, improvements to care delivery that reduce patient harm.

In between learning sessions, there were action periods where teams tested changes and refined actions. The approach used was the PDSA cycle – plan, do, study, act (Langley et al, 2009). Improvements within the four harms were measured monthly using the NHS Safety Thermometer. The monthly measurement enabled participants to:

- Measure harm at the bedside in a systematic way
- Ask the right questions about key outcomes
- Integrate measurement of harm into their daily work
- Support patient care and patient experience
- Understand how things can be improved
- Measure across the health economy in any care setting.

The measurement aim was to demonstrate the burden of harm on individual patients, and to identify those patients whose healthcare experience in hospital was ‘harm-free’ within the definitions laid out by the programme delivery guide (available at www.harmfreecare.org).

By the end of September 2011, 9379 patients in London had been surveyed using the NHS Safety Thermometer with measurements taken at nine monthly data points. Safety Express aimed to work on those elements which, when present, improved the overall delivery of care, and contributed to harm-free care. Table 1 summarises the findings from the evaluation of the Safety Express pilot in London.

Three case studies of the pilot Safety Express programme in London

Case 1: Outer North East London Community Services (hosted by NHS Havering)

The Outer North East London Community Services (ONEL CS) joined the Safety Express pilot in December 2011. This work in ONEL CS was led by the practice development manager who is a nurse. In April 2011, NHS Havering and three primary care trusts (PCTs) merged to form NHS ONEL CS.

These organisations all made a commitment to work together across the health economy, including community hospitals, residential homes and district nursing teams, to use the NHS Safety Thermometer to measure their baseline

### Table 1. Summary of findings from the ‘Safety Express’ pilot in London

<table>
<thead>
<tr>
<th>Harm Measure</th>
<th>Findings</th>
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<tr>
<td><strong>Pressure ulcer prevalence:</strong></td>
<td>Started above the national average at 10.4%. The proportion of patients with a pressure ulcer has remained on a downward trajectory and the final data point was below 6%, which is below the lower control limit.</td>
</tr>
<tr>
<td><strong>Falls:</strong></td>
<td>There is no change over time in the proportion of patients falling.</td>
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<tr>
<td><strong>Catheters and urine infection (in catheterised patients):</strong></td>
<td>Catheter use is in line with the national usage, as is the proportion of patients with a catheter being treated clinically for a urine infection.</td>
</tr>
<tr>
<td><strong>VTE Risk assessment and prophylaxis:</strong></td>
<td>Variation exists in both process measures, which signals possible inconsistencies in data submission from organisations (in particular, those consistently reporting month on month).</td>
</tr>
<tr>
<td><strong>New VTE:</strong></td>
<td>The proportion of patients being treated for a new VTE has remained consistent.</td>
</tr>
<tr>
<td><strong>Harm-free care:</strong></td>
<td>The proportion of patients ‘harm free’ from pressure ulcers, falls, urinary infections (in patients with a catheter) and new VTE is 88.1%. There is a suggestion of improvement as the final data point is above the upper control limit.</td>
</tr>
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and improvement and to ensure their improvement work is across the health economy, bringing together policies, e.g. pressure ulcer prevention and care.

For ONEL, the secondary drivers that were deemed to be most important were:

- Clinical leadership
- Education and training
- Nutrition
- Active clinical risk management.

The actions taken by ONEL CS to address these four secondary drivers are given in Figure 2.

Safety crosses were implemented for the four harms targeted in Safety Express in the pilot areas. A safety cross is a chart in the shape of a cross that contains boxes, with one for each day of the month. Each day a member of the ward/care home team (normally a senior nurse) was responsible for placing a coloured square on the chart indicating the state for that day of one of the four harms. For example, the senior nurse would indicate in green on the pressure ulcer safety cross chart if no new pressure ulcers were found on that day, or in yellow if a patient was admitted to the ward/home that day with an established pressure ulcer, or in red if a ward/care home-acquired pressure ulcer was identified that day. One box was coloured each day using one of these three colours. The safety crosses for all harms were displayed in a prominent area of the ward/unit/care home so that everyone could see at a glance what was happening with regard to the four harms and think about the changes they need to make to result in improvement.

By the end of the pilot period, a total of 761 patients within ONEL CS were surveyed for all four harms using the NHS Safety Thermometer. Figure 3 indicates the results of the evaluation of the Safety Express pilot for ONEL CS. It is clear the ONEL CS scored extremely well in terms of the four harms over the period of the pilot. ONEL CS was flagged as a top performer in the analysis of all providers because their pilot data were outside three standard deviations on the graphs.

**Case Study 2: King’s College Hospital NHS Foundation Trust**

King’s College NHS Foundation Trust joined Safety Express in January 2011. Safety Express has been led by a senior nurse in the Trust, which is working in partnership with its community providers. At the outset, they committed to working together to deliver:

- Five percent reduction in urinary catheter use
- Twenty percent reduction in injurious falls
Eradication of category 4 pressure ulcers
Fifty percent reduction in category 3 pressure ulcers
Ninety percent patients receiving VTE risk assessment and management.

The Trust selected four wards to test the Safety Express programme. They measured progress within the four pilot wards using the NHS Safety Thermometer tool and have used the Safety Express programme to work across organisational boundaries. In line with the secondary drivers (See Figure 1) they have implemented systematic staff training, reviewed equipment stocks and started hourly walk rounds by nurse leaders. In August 2011, the Trust launched Safety Express with governors and by the end of the pilot they developed plans to spread the changes to the wider hospital.

Figure 3 shows how they linked the secondary drivers with each of their targets for Safety Express and Figure 4 compares the Trust’s results with national figures. Clearly, King’s is well on its way towards achieving the reduction in harm it set out to achieve.

King’s College NHS Foundation Trust won two awards presented by the national Safety Express team at the Safety Express National Summit in October 2011: one for Most Improved Trust and one for Inspirational Individual for their improvement team leader.

Case Study 3: West Middlesex University Hospital

This case study has a different, but successful, story to tell. When NHS London began the implementation of Safety Express, West Middlesex University Hospital NHS Trust was chosen as one of the pilot sites from a bid submitted jointly by the Trust, Hounslow and Richmond Healthcare and the London Borough of Hounslow. This joint approach allowed for a multiagency team with clinical and managerial representatives from all organisations to form a steering group. As part of the Safety Express programme, West Middlesex University Hospital began using the NHS Safety Thermometer to monitor patients and identify incidence of the four harms. This Safety Thermometer check was started in December 2010 and initially carried out by the matrons.

Following a very successful 7 months of data collection (December 2010–June 2011), encompassing 10 patients in four ward areas, the project team at West Middlesex University Hospital NHS Trust reviewed the data and concluded that statistically, the sample was very small and not as meaningful as it could have been. They took the view that the larger the sample size, the more informative the data. To enhance the quality of data collected, the decision was made to extend the pilot from four wards to include all acute adult inpatient wards (excluding maternity and ITU). Again, responsibility for Safety Express was nurse-led and, starting in July 2011, each ward sister took responsibility for collecting data from their own ward supported by the Trust’s productive ward facilitator. Despite initial concern about the time this would take, the wards happily completed the process again in August.

The surgical wards went one step further and decided to collect the data as a part of ward handover, emphasising the importance of key safety issues to all staff. In this respect, this Trust was focusing on the secondary drivers (see Figure 1) of clinical leadership and education and training. The medical wards adopted this methodology from September 2011 using ‘Patient Safety Week’ as a catalyst for this improvement. The data was shared and discussed with the Trust board at the September 2011 meeting as part of a regular patient safety update. From October 2011, wards began receiving monthly graphs to display at ward level. These graphs include ward data on each of the harms mapped against hospital-wide data and the national pilot data supplied by the national Safety Express team.

In awards presented by the national Safety Express team at the Safety Express National Summit in October 2011, West Middlesex University Hospital NHS Trust was highly commended for their contribution to Safety Express.

Conclusion

This pilot phase has generated a huge amount of learning, all of which has been archived and, as part of a national set of learning, is available for future use. A formal evaluation of the entire Safety Express programme is being designed. In the
second phase of Safety Express in London (now rebadged as Harm Free Care), which started in December 2011, the focus is on two specific care delivery settings – harm-free care for mental health and harm-free care for care homes with nursing. In addition, support will be provided to further the spread of harm-free care in existing and new acute and community provider organisations. The trusts that participated in the pilot in London showed significant improvement in harm-free care and have been commended for their approaches to Safety Express and their outcomes. As frontline health professionals, nurses have been at the forefront of leadership in Safety Express and will continue to do so, nationally and locally, in the next phase of the project.

Acknowledgement: The authors gratefully acknowledge the work of the national Safe Care team, particularly Dr. Maxine Power, QIPP Safe Care National Workstream Director, Dr. Ailsa Brotherton, Programme Director, National Safe Care Team and Abigail Warren, Project Manager, National Safe Care Team.

Conflict of interest: none


KEY POINTS

- Approximately 10% of hospital patients suffer significant harm, the majority of which are avoidable and are related to pressure ulcers, falls, urinary tract infections in patients with catheters and thromboembolisms.
- Safety Express was a national programme that has been implemented in all Strategic Health Authorities to reduce or minimise these four patient harms.
- Using a quality improvement approach, known as the Breakthrough Series, Collaborative teams across London have worked together to reduce patient harm in their trusts.
- A new measurement tool – the NHS Safety Thermometer – was devised and used for Safety Express.
- Findings from a national evaluation of Safety Express indicated that London has reduced patient harms in all four of the harm areas measured.
PATIENT SAFETY


The Health Foundation (2011) Does improving safety culture affect patient outcomes? The Health Foundation, London


About this book

This book offers a wide range of views on the emergence of patient safety in the NHS, which is now considered an area of high priority in healthcare.

This book begins with an introduction charting the genealogy of patient safety both internationally and in the UK from the late 1980s up until the present time.

Other chapters in the book discuss the patient’s role in safety and the role of the National Patient Safety Agency, the role of the professionals in keeping patients safe, safe staffing levels, risk management, infection control, how patients evaluate safety, information for safety, evidence-based practice for safety, and the importance of learning the lessons from safety failures.

About the editor

Lynne Currie is Project Manager: Evaluating and Improvement, Royal College of Nursing Institute, Oxford

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About the editor

Lynne Currie is Project Manager: Evaluating and Improvement, Royal College of Nursing Institute, Oxford

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