Acute Adult and Primary Care Programmes: 90-Day Process Report
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Executive Summary

Introduction

The Scottish Patient Safety Programme (SPSP), now part of Healthcare Improvement Scotland’s Improvement Hub which supports improvement across health and social care, is a unique national programme that aims to improve the safety of healthcare and reduce the level of harm experienced by people using healthcare services. SPSP aims to support National Health and Wellbeing Outcome 7: People using health and social care services are safe from harm (Scottish Government 2015).

SPSP includes improvement programmes focused on Acute Adult and Primary Care. Both programmes have contributed to significant reductions in harm including:

- 16.5% reduction in Hospital Standardised Mortality Ratios (HSMR) from the 2007 baseline
- 21% reduction in 30-day mortality sepsis
- 17% reduction in cardiac arrest rate for 12 out of 22 hospitals that have reported consistently from February 2012 to May 2015
- 8 out of 15 reporting NHS boards from March 2014 to February 2015 show the percentage of patients discharged from hospital without any of the Scottish Patient Safety Indicator (SPSI) harms is exceeding the aim with a median of 99.2% (aim 95%), and
- 803 (93%) GP surgeries are engaged in improving reliability in at least one high risk area.

Both programmes concluded their current phase of work at the end of March 2016. In recognition of the need to move from a focus on silos of service delivery to one that looks at harm from the perspective of the whole patient journey, the opportunity was taken to work together to agree the focus for the next stage of both of these programmes. A 90-day process was used to define the content and delivery method for the next stage.

This report sets out the key findings and makes recommendations in relation to both programme content and delivery models. These recommendations have been shaped by the views of key informants, the data and the evidence base.
Proposed programme content

Expanding into new care sectors
The current programmes are at varying levels of maturity, with SPSP Primary Care including innovative work to identify and test interventions to reduce the key areas of harm across:

◊ Community Pharmacy
◊ Community Dentistry, and
◊ Optometry.

This work is in the early exploratory stages and was always planned to continue beyond March 2016.

Existing workstreams
The design phase identified that there are still significant opportunities to reduce harm by continuing work across the following key areas of Acute Adult and Primary Care:

<table>
<thead>
<tr>
<th>Acute Adult</th>
<th>Primary Care</th>
</tr>
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<tbody>
<tr>
<td>Pressure Ulcers</td>
<td>Safety Culture</td>
</tr>
<tr>
<td>Falls</td>
<td>Safer Medicines (Medicines Reconciliation and High Risk Medicines)</td>
</tr>
<tr>
<td>Catheter-Associated Urinary Tract Infection (CAUTI)</td>
<td>Safety Across the Interface</td>
</tr>
<tr>
<td>Deteriorating Patient, including Cardiac Arrest and Sepsis</td>
<td></td>
</tr>
<tr>
<td>Medicines Reconciliation</td>
<td>Medicine Reconciliation</td>
</tr>
</tbody>
</table>

A key message from our stakeholders was the need to continue supporting them in the vital work of reducing harm in these areas. Building on the success of the work to date and drawing on the lessons learned in the future, there will be a greater focus on working across the primary and acute pathways. Furthermore, in recognition of the need to focus locally on the areas of key harm for any particular hospital or service, the emphasis will be on NHS boards and Health and Social Care Partnerships (HSCPs) identifying their priorities from this list of potential workstreams.
Prototyping new workstreams

The design phase highlighted the following additional areas where there is clear evidence of significant avoidable mortality and harm across Scotland:

◊ Acute Kidney Injury, and
◊ Emergency Laparotomy – for review and design following outcomes of Enhanced Peri-Operative Care for High-risk patients (EPOCH) study findings.

It is proposed to progress with work in 2016-2017 with a small number of services to design and test approaches to reducing harm in these areas.

In addition, work is already in place to support one NHS board to better understand the factors enabling and hindering reliable delivery of risk assessment and thromboprophylaxis with the aim of taking the learning and spreading at scale.

A small number of NHS boards and care homes across Scotland will be developing and testing different approaches to reduce pressure ulcers by 50% across acute and care home settings by December 2017. These insights will be used to develop and test interventions to improve rates of delivery with the aim of taking the successful interventions and spreading at scale across Scotland.

System enablers

In addition to highlighting specific pathways and conditions where a focus could reduce harm, the design phase also identified the following as key for delivering safer care:

◊ building the capacity and capability of the system in quality improvement methodologies
◊ effective communication
◊ effective management of care at transitions between services, and
◊ effective Multidisciplinary Team (MDT) working.

Therefore, it is proposed that SPSP includes a focus on supporting services and teams to address these key system enablers for safer care.

Summary of programme content

The design phase identified that the focus can be categorised under three overarching themes:

1. prevention, recognition and response to deterioration
2. medicines, and
3. system enablers for safety.

The SPSP programme content for 2016-2017 is summarised in Table 1.
<table>
<thead>
<tr>
<th>Approach</th>
<th>Sector Focus</th>
<th>Theme</th>
</tr>
</thead>
</table>
| Embed and spread at scale across care sector                           | Acute Adult                   | ◇ Cardiac Arrest  
◇ Sepsis  
◇ Pressure Ulcers  
◇ CAUTI  
◇ Falls                              | ◇ Medicines Reconciliation  
◇ MDT Working  
◇ Communications  
◇ Case note Reviews               |
|                                                                        | Primary Care                   | ◇ Medicines Reconciliation  
◇ High Risk Medicines                               | ◇ Safety Culture  
◇ Case note Reviews  
◇ Safety across the Interface            |
| Prototyping work in 2016-2017                                           | Acute Adult and Primary Care  | ◇ Acute Kidney Injury  
◇ Sepsis (Out Of Hours [OOH] and Primary Care) | Developing core content aligned to the five domains of the Measuring and Monitoring of Safety Framework |
|                                                                        | Primary Care                   | ◇ Pressure Ulcers in Care Homes                              |                                                 |
|                                                                        | Community Dentistry            | Currentlly exploring the key areas of harm and testing interventions with a small number of test sites |                                                 |
|                                                                        | Community Pharmacy             |                                                                     |                                                 |
|                                                                        | Optometry                      |                                                                     |                                                 |
|                                                                        | Acute Adult                    | ◇ Venous Thromboembolism (VTE)  
◇ Emergency Laparotomy* |                                                                     |
| Developing pathway approaches for implementation from 2017-2018         | Sepsis                        | ◇ Sepsis  
◇ Pressure Ulcers  
◇ Acute Kidney Injury                          | ◇ Medicines Reconciliation  
◇ High Risk Medicines               |
|                                                                        | Pressure Ulcers                |                                                                     |                                                 |
|                                                                        | Acute Kidney Injury            |                                                                     |                                                 |
Measurement system

The effective use of data to drive improvement will remain a key foundation of these two SPSP programmes. Overarching aims will be developed to support each of the key themes, with supporting outcome measures developed in relation to specific topic areas. Whilst the theme aims will be set nationally, it is proposed to work with NHS boards to set locally-specific aims against the supporting outcome measures based on existing baselines.

Testing, implementing and measurement of processes are essential components in efforts to improve outcomes. National data reporting will focus on the theme aims and supporting outcome measures, with support around the use of process measures, focusing on development of guidance on potential measures and, where required, advice on how to use them.

Delivery method

The 90-day process identified a range of effective methods to support SPSP, with the report outlining a number of recommendations, including the following.

◊ The need to strengthen the active participation in the design and delivery of SPSP from those receiving and experiencing care across Acute Adult and Primary Care.
◊ Taking a pathway approach to any new workstreams. In the context of health and social care integration, it is essential that improvement work addresses the needs of people throughout their care journey.
◊ Providing a balance between local and national priorities. SPSP will support a ‘menu’ approach where partners will identify an area of focus which will support core national aims. For example, an NHS board may wish to focus on sepsis or acute kidney injury as part of their work on deteriorating patients.
◊ Working with partners to prototype new areas. This will support the development of tested interventions prior to implementation at scale.
◊ Focusing national data reporting on outcomes wherever practical. Process measures will be developed for use locally, with the national team working with NHS boards and HSCPs to support effective use of process measures as key components of local testing and implementation.
◊ Combining national and local support, using a blend of collaborative and networking models.
◊ Combining the use of local and national collaboratives and supporting networks with campaign approaches.
Conclusion

The 90-day process described in this report concludes the following.

◊ Across Scotland, SPSP has enabled significant reductions in the harm experienced by those using healthcare services. We need to build on the work to date and apply the learning we have gained to the design of the next phase. Owing to the success of the work to date, we are now ready to take an approach that asks NHS boards and HSCPs to choose their areas of focus from an overall set of evidence-based priorities.

◊ Existing work can be supported and new areas can be developed under three overarching themes.

◊ The core approach of SPSP (the Model for Improvement and Learning Networks) will be complemented by other approaches, such as the use of campaign models. A process will be put in place to support decisions about which method is to be used and to capture learning to support the ongoing development of knowledge about what works best in what context.

Next steps

The 90-day process identified a need to embed existing work before the addition of new areas of focus. Key informants described that significant service pressures will continue to have an effect on capacity to deliver current SPSP aims. In recognition of this, the report recommends that the coming financial year (2016-2017) is used to:

◊ embed and spread existing work

◊ develop overall aims for each of the overarching themes

◊ work with NHS boards and HSCPs to identify their specific priority areas

◊ develop outcome measures for each of the specific topic areas and work with NHS boards and HSCPs to agree localised aims for their chosen priority areas

◊ agree a model of national support for specific topic areas (this will depend on how many NHS boards and HSCPs elect to work on any given topic area and their views on the extent to which they want to move to localised collaboratives)

◊ identify sites for each of the prototyping areas and initiate prototyping work, and

◊ complete a review of evidence and existing best practices with regard to involving patients and families as active partners in reducing harm and develop approaches and interventions for testing.
Purpose of this report

The current aims of Acute Adult and Primary Care within SPSP are coming to an end. To inform recommendations on the content and delivery of the next stage of these programmes, a 90-day process has been undertaken.

The key questions the process aimed to answer were:

◊ What are the key safety issues that should be addressed within and across the Acute Adult and Primary Care safety programmes?
◊ What are the optimal method(s) of programme delivery?

This report sets out the key findings and makes recommendations in relation to both programme content and future delivery models.

This report will not provide:

◊ a detailed project plan which includes funding requirements
◊ timelines for improvements to be delivered within, or
◊ national or local process and outcome measures associated with improvements.

Following the recommendations within this report being adopted, the above actions will be developed in conjunction with key SPSP partners.
Methodology

SPSP has adapted the Institute for Healthcare Improvement’s (IHI) 90-day process to answer the key questions detailed above. The 90-day innovation process consists of three phases: scan, focus and summarise (Figure 1).

Figure 1: 90-day innovation process

Given the collaborative nature and maturity of SPSP, it was important to ensure that lessons learned from the current programmes were captured. The views of key informants were collected through interview, survey or focus group and used to inform recommendations. The aim of the process was to leverage their knowledge and experience rather than complete a full consultation exercise. When no more new themes were identified, it was agreed to focus on deepening our understanding by asking experts from other national improvement programmes and academia.

A full systematic literature review was not appropriate for this project because of timeframes and previous work identified in the project charter. Instead, several small-scale literature searches were conducted on key themes and topics as they emerged from the engagement exercises. Other relevant evidence was collected through searching reference lists and using citation tracking and recommendations from stakeholders during focus groups and interviews. A more detailed description of the search methodology can be found in Appendix 1.

Relevant patient safety programme websites, discussed in Appendix 2 (Table A), were also searched to identify methods used and topic areas.
Background

Scottish context

The aims of Acute Adult and Primary Care in SPSP are coming to an end during a period of transition for the NHS in Scotland. Integration of health and social care is one of Scotland’s major programmes of reform, with an aim to ensure that those who use these services get the right care and support for their needs at any point in their care journey.

Therefore, the ambition for the next stage of SPSP will focus on the National Health and Wellbeing Outcome 7: People using health and social care services are safe from harm.

Introduction to SPSP

SPSP, led and supported by Healthcare Improvement Scotland, is a unique national programme that aims to improve the safety of healthcare and reduce the level of harm experienced by people using healthcare services. SPSP works in collaboration with NHS boards to support implementation of improvements in relevant care settings.

From an initial focus on acute hospitals, SPSP’s work now includes programmes in:

- Acute Adult
- Healthcare Associated Infections (HAI)
- Maternity and Children Quality Improvement Collaborative (MCQIC)
- Medicines
- Mental Health, and
- Primary Care.
**Acute Adult**

The current aims of Acute Adult are:

◊ 95% of people in acute adult healthcare are free from the harms contained within SPSI, which includes Cardiac Arrest, Pressure Ulcers and Falls with Harm
◊ to reduce CAUTI by 30%, and
◊ to reduce HSMR by 20%.

Since the start of Acute Adult in 2008, SPSP has contributed to:

◊ a reduction in HSMR of 16.5% from the 2007 baseline
◊ a 21% reduction in 30-day mortality sepsis, using ICD-10 A40/41 sepsis codes
◊ a reduction of 17% in cardiac arrest rate for 12 out of 22 hospitals that have reported consistently from February 2012 to May 2015, and
◊ 8 out of 15 reporting NHS boards from March 2014 to February 2015 show the percentage of patients discharged from hospital without any of the SPSI harms exceeding the original aim of 95%, with a median of 99.2%.

Whilst it is accepted that there is some under-reporting, it is proposed this last metric of harm is not continued in the next phase of SPSP. Work will continue on the four original elements of the SPSI: Cardiac Arrest, CAUTI, Pressure Ulcers and Falls with harms.

**Primary Care**

The current aim of Primary Care is:

◊ All NHS boards and 95% of primary care clinical teams will develop their safety culture and achieve reliability in three high risk areas by 2016.

Achievements of Primary Care include:

◊ 93% of all GP surgeries across Scotland completed the safety climate survey during 2014-2015, an increase of 3% over the previous year
◊ 74% of all GP surgeries are carrying out structured case note reviews, and
◊ increased awareness of safety issues in the community and the importance of teamwork and culture in identifying and addressing these issues.
Continuing work

At the start of this process it was understood a number of areas of work would continue as nationally identified priority areas. NHS boards will be expected to continue to work on these as part of the national focus of SPSP. Figure 2 details previously agreed, nationally identified priority areas of work.

Figure 2: SPSP priority areas of work

<table>
<thead>
<tr>
<th>Primary Care</th>
<th>Acute Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Medical Services</td>
<td>Deteriorating Patients</td>
</tr>
<tr>
<td>Community Pharmacy</td>
<td>Pressure Ulcers</td>
</tr>
<tr>
<td>Community Dentistry</td>
<td>CAUTI</td>
</tr>
<tr>
<td>Optometry</td>
<td>Falls</td>
</tr>
<tr>
<td></td>
<td>Venous Thromboembolism</td>
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<tr>
<td></td>
<td>(prototyping)</td>
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</table>

This list includes a number of workstreams, such as Deteriorating Patients, Falls with harms and CAUTI, that require collaboration with other programmes, both internal and external to Healthcare Improvement Scotland. It was recognised by key informants that Healthcare Improvement Scotland should co-ordinate programmes working on similar topics. This is ongoing, with a particular focus on Falls with harms and anticipatory care planning in conjunction with Living Well in Communities and the broader older people in acute care improvement support.

The workstreams identified in Figure 2 will continue to be part of Primary Care and Acute Adult.

Whilst Venous Thromboembolism (VTE) is not new to SPSP, within 2016 a one-year deep dive will be undertaken in one NHS board to explore the systems and factors impeding reliable delivery of risk assessment and VTE. It is also planned to test a public-facing campaign to raise knowledge and awareness of VTE.
Findings

Key safety issues within and across Acute Adult and Primary Care

More than 140 key informants from a wide range of groups contributed to the 90-day process by being interviewed, participating in focus groups or completing a survey. Below is a list of groups approached:

- SPSP programme managers
- SPSP executive leads
- SPSP Fellows
- improvement advisors
- Healthcare Improvement Scotland directors
- Healthcare Improvement Scotland clinical leads
- Healthcare Improvement Scotland improvement leads
- patients, carers and the public
- Scottish Government policy and clinical leads
- academics
- international improvement programme leads
- Royal Colleges, and
- community and social care representatives.

Simultaneously, small-scale literature searches were conducted on themes and topics as they emerged from the engagement exercises. In total, 83 publications were reviewed. Appendix 3 lists the references identified and reviewed in each search cycle.

The feedback provided by our key informants and the evidence reviewed was analysed. Appendix 4 lists all safety issue themes identified during the 90-day process. The following were identified as the most common themes:

1. prevention, recognition and response to deterioration
2. medicines, and
3. system enablers for safety.

Specific topics were identified under these three themes; some describe existing work while others, for example Acute Kidney Injury, are potential new areas of focus for SPSP. Figure 3 illustrates the overarching themes and the identified related topics.
While these themes have been identified with a specific focus on the future content of Acute Adult and Primary Care, they concur with parallel processes under way for SPSP Mental Health and MCQIC. This poses the opportunity to restructure the overall safety programme to three core themes.

The existing communities supporting each of the programmes are vital to the ongoing success of this work and any future alignment must ensure that identities are not lost.

Tables 2–4 detail high-level summaries describing a selection of the evidence and quotes for the topics under each overarching theme. These do not cover all the potential or actual topics contained within each theme.

A full outline of the evidence and key informants’ views on the topics listed can be found in Appendix 5.
Prevention, recognition and response to deterioration

Failure to recognise and respond to deteriorating patients was identified as the most common cause of deaths (23%) in acute settings in a recent study (Donaldson et al 2014).

Table 2

<table>
<thead>
<tr>
<th>Topic</th>
<th>Evidence</th>
</tr>
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<tbody>
<tr>
<td><strong>Acute Kidney Injury (AKI)</strong></td>
<td>AKI is associated with high mortality and adverse long-term outcomes. It is estimated the true prevalence may be as high as 14.15% and it is believed to be rising (Kerr et al 2014). It is estimated AKI is associated with above 40,000 inpatient deaths in England every year and the annual cost of AKI-related inpatient care in England is at £1.02 billion, just over 1% of the NHS budget (Kerr et al 2014). The lifetime cost of post-discharge care for people who had AKI during hospital admission in 2010-2011 is estimated at £179 million (Kerr et al 2014).</td>
</tr>
<tr>
<td><strong>Sepsis</strong></td>
<td>Sepsis has been a priority of the Acute Adult programme since 2012. Sepsis kills around 37,000 people in the UK every year. Evidence shows each hour’s delay in administering antibiotics to people with severe sepsis increases the risk of dying by 7.6% (Kumar et al 2006).</td>
</tr>
<tr>
<td><strong>Emergency Laparotomy</strong></td>
<td>High-risk surgery accounts for 12.5% of surgical procedures but for more than 80% of deaths (Pearse et al 2006). Emergency laparotomy is one of the most common emergency surgical procedures carried out in hospital. However, it is associated with higher mortality than general surgery, with a mortality risk of up to 41.7% (Saunders et al 2012). Mortality risk varies widely for patient groups with unadjusted 30-day mortality rates reported at 14.9% for all patients but 24.4% in patients aged 80 or over, compared with 4.2% for patients in their 30s (Saunders et al 2012).</td>
</tr>
</tbody>
</table>

Quotes from key informants

“AKI should be a priority as it affects many things such as length of stay and medicines reconciliation. It links with Medicine Sick Day Rule cards.”

“It is a big problem across the medical and surgical spectrum (affecting 25% of their orthopaedic patients).” Improvement Advisors/SPSP Fellows (focus group)

“EPOCH reference: ‘High-risk surgical population accounts for 12.5% of surgical procedures but for more than 80% of deaths.’” Clinical Lead (interview)
Medicines
Each year in NHSScotland, 15,000 patients admitted to hospital experience an adverse event due to medicines. (NHSScotland, National Services Scotland Information Services Division. Episodes of Care Report. March 2013/14).

Table 3

<table>
<thead>
<tr>
<th>Topic</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication Errors</td>
<td>Around 4.1% of prescriptions written in primary care may contain an error (Avery et al 2013).</td>
</tr>
<tr>
<td>High Risk Medicines</td>
<td>6.5% of hospital admission is due to medicines/adverse drug reactions (Pirmohamed et al 2004). Five groups of medicines are more commonly associated with hospital admissions – NSAIDs, antiplatelets, anticoagulants, diuretics and antihypertensives – and these are commonly used in ‘high risk’ patients who are elderly or frail.</td>
</tr>
<tr>
<td>Medicines Reconciliation</td>
<td>10–61% of patients have at least one error in their medication history (Tam et al 2005) and up to 46% of medication errors occur when new prescriptions are written at patient admission or discharge (Bates et al 1997).</td>
</tr>
</tbody>
</table>

Quotes from key informants

“Medication safety is a huge area. It is those drugs prescribed most commonly that cause harm such as NSAIDs, diuretics…” Clinical Lead (interview)

“High-risk processes in medicines (for example patient identification, alerts, data on allergies being available).” Improvement Advisors/Fellows (focus group)
## System enablers for safety

### Table 4

<table>
<thead>
<tr>
<th>Topic</th>
<th>Evidence</th>
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</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td>A recent study of reports of death in hospitals due to unsafe care provides an insight into the areas where improvement could be targeted (Donaldson et al 2014). Some common patient safety incidents identified were poor/inadequate handover (5%) and misinterpretation or mishandling of test results (2%).</td>
</tr>
<tr>
<td><strong>Transitions of Care</strong></td>
<td>The ‘boundaries’ of general practice interface with a wide range of other health and care services. The risk of healthcare error is increased by lack of continuity and inadequate communication between different organisations. This is likely to be through interdependence with system issues, including communications between professionals and infrastructure inadequacies.</td>
</tr>
<tr>
<td><strong>Multidisciplinary Team (MDT) Working</strong></td>
<td>A narrative review of four ethnographic studies of patient safety in the UK identified that teamwork and inter-professional communication did not always function well enough to ensure basic procedural information was shared or the required sequence of events was planned (Daker-White et al 2015).</td>
</tr>
<tr>
<td><strong>Capacity and capability</strong></td>
<td>The capability of the workforce to use quality improvement methods and approaches effectively is associated as a factor that may drive improvement. <em>Building Capability to Improve Safety</em> (The Health Foundation 2014) highlighted that the best approach would be a menu of opportunities for developing capability that can meet the need for the diverse range of skills and expertise required for support. This is also likely to be a more productive approach to capability, as people learn in different ways and flexibility is needed in terms of how people access training or knowledge, due to time pressures.</td>
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**Quotes from key informants**

“To work on team work, respectful behaviours and situational awareness at all levels and develop attributes of highly reliable organisations.”

*Scottish Government (survey)*
“Just having a conversation with you makes it easier to make it safer – you’ve got to have a better relationship.” Patient (interview)

“It all comes down to communication. Key communication issue leading to harm: communication between primary and secondary care (no advance care planning done, lack of proper discussions about goals of care). Example: Patient commonly transferred from other hospitals without many notes, only with anticipatory active plan.” Clinical Lead (interview)

Key informants recognised the critical interaction of safety and patient flow. Addressing the system issues is essential to ensure a proactive approach towards safety.

A learning report, Continuous Improvement of Patient Safety (The Health Foundation 2015), concluded that the shift to integrated care frameworks calls for a shift in patient safety. It stated that system measures of safety are required rather than focusing on individual measures of harm, so that safety monitoring can be proactive rather than reactive.

It is acknowledged that system issues are common to all of the programmes in SPSP, and could form future themes for the overall safety programme.
Involving people in safety

To date, across Acute Adult and Primary Care in SPSP, true, active participation from patients and families in the design and delivery of the improvements undertaken has been minimal. A radical shift is required in the way those receiving care are perceived, from passive recipients to full partners in ensuring care is safe. This will require the programmes to consider how they will work with services to achieve this, with implications for both patients and staff.

The Chief Medical Officer’s (CMO) report published in January 2016 highlights this very point, stating: “Focusing completely and relentlessly on what matters most to the people who look to them for care, support and treatment.” The report also poses the question: “How can people (as patients) and professionals combine their expertise to share clinical decisions that focus on outcomes that matter to individuals?” This is not something that can happen quickly and requires personal, organisational and overall system change.

Much of the feedback from a small sample of people with lived experience of acute and primary care services identified a range of issues, including the following.

◊ Communication: including the building of relational trust which only comes about when a person perceives honest, full disclosure of information and an invitation or welcome to participate in their care and in shared decision-making, to ask questions or to raise safety concerns.

◊ Staffing levels: with particular reference to the people receiving care within acute settings commenting on an awareness of the potential for unsafe and inequitable care provision due to a perception of inadequate staffing levels, high workloads and administration pressures. This led to feeling “unsafe”.

◊ No clear understanding of their role as a partner within their care and their safety.

For more information about the activity undertaken to capture and understand the views of people with experience of Acute Adult and Primary Care, their carers and the wider public, refer to our report on Patient and Public Interviews - SPSP Acute Adult and Primary Care Programme 90-Day Process.

During 2016-2017, SPSP will work with stakeholders to undertake a more in-depth review of evidence and existing practices both within and outwith the UK in order to inform how best we can make effective change in Scotland.

Working in conjunction with the Person-Centred Health and Care Programme and translating the learning from SPSP Mental Health, where service user participation has been a core part of the programme from the outset (and with that has come a stepped change in outcomes), will provide the opportunity for meaningful and effective interventions to be developed to ensure not only involvement in care but involvement in the programmes themselves.
Proposed programme aims

In line with the shifting context for Scotland with systems supporting health and social care integration, the future ambition for SPSP will be to support the achievement of Health and Wellbeing Outcome 7: *People using health and social care services are safe from harm.*

Overarching national aims will be developed for each of the three core themes:
1. prevention, recognition and response to deterioration
2. medicines, and
3. system enablers for safety.

Specific aims for each of the related topic areas and care settings will be developed.

In order to have an improved understanding of the safety of a system (at all levels), it is important to also consider how safe care is today, whether it will be safe in the future, and how we learn about safety and integrate this back into the system.

Most safety measures tend to be retrospective or ‘lagging indicators’. A *Framework for Measuring and Monitoring Safety* (The Health Foundation 2014) (Figure 4) encourages us to consider leading measures of safety and how we can anticipate and prevent harm.

*Figure 4: The Framework for Measurement and Monitoring Safety*
The Health Foundation has built on this recently with the *Continuous Improvement of Patient Safety learning report* (2015), which states:

“Adopting the framework also requires a shift in the type of data that are collected and the indicators that are reported as a result. The ‘lagging indicators’ should be complemented by monitoring the conditions that can make harm more likely to occur – known as ‘leading indicators’.

“Leading indicators in health care remain sparse, but can include information gained from staff and patient surveys or safety culture assessments. This shift from lagging to leading indicators should also enable the NHS to move away from reacting to the latest care failing to actively demonstrating the safety of its services.”

The model highlights the importance of systematic learning; for example, mortality and morbidity reviews and learning from adverse events. However, there is a need to draw this dimension into the centre of the framework as it links directly with each of the other four dimensions.

The central nature of ‘prediction’ and ‘proactive’ action brought about by mechanisms such as real-time data review, safety assessments and safety briefs shifts the focus from the lagging to the leading and enables consideration of not only the day-to-day activity elements but a broader range of key factors such as workforce, flow and patient and staff experience.

These messages reflect the safety issues identified so far and approaches that could be taken within the system enabler theme, and SPSP is keen to draw on the learning and experience of the work already under way within Scotland to test the framework to understand its application.
Hospital Standardised Mortality Ratio

The current phase of SPSP Acute Adult includes the aim to reduce HSMR by 20% from a baseline of October-December 2007 to October-December 2015.

HSMR, as currently used in Scotland, was created in response to a request in 2007 to develop a measure of hospital mortality for SPSP.

A Framework for Measuring and Monitoring Safety, published by The Health Foundation in 2014, highlights the measurement of past harm as the cornerstone of understanding safety. The changing and broader context in which SPSP is now operating, including acute, primary and social care, in Scotland means a hospital mortality measure needs to be complemented by a number of measures to support improvement across the system.

This reflects further findings within The Health Foundation report, which states:

“The multiple types of harm require more than just a single measure. A range of measures might include: mortality statistics, systematic record review, selective case note review, reporting systems and existing data sources – taken together, they give units and organisations the best chance of understanding harm, but the strengths and limitations of each must be understood.”

It is recognised HSMR data will continue to be produced on a quarterly basis for NHS boards across Scotland and remains a useful measure to signal changes in the wider system.

Through the maturing nature of SPSP, underpinned by a greater knowledge and understanding of the multiple factors contributing to ‘how safe a system is’, SPSP will now shift focus to mortality reductions in subjects, such as Sepsis and longer term areas such as Emergency Laparotomy and Acute Kidney Injury.

Through 2016-2017 and beyond, work will be undertaken to develop the national and supporting aims for each of these themes and how improvements can support an overall reduction of HSMR across Scotland.
Conclusion
The findings of the 90-day process demonstrate that, while there are potential new areas of focus, the existing programme content of SPSP reflects the views of key informants and current evidence.

The range of clinical and system-related issues identified can be categorised under three overarching themes:

1. prevention, recognition and response to deterioration
2. medicines, and
3. system enablers for safety.

Existing areas of work within the SPSP Acute Adult and Primary Care programmes will be maintained and supported under these themes. Related aims will be developed to monitor progress of improvements, supporting the themes and achievement of Health and Wellbeing Outcome 7: *People using health and social care services are safe from harm.*
Programme delivery

Methods of delivery

The Health Foundation report on *Continuous Improvement of Patient Safety* acknowledged: “The success of safety interventions depends as much on the context in which they are applied as on how well they are carried out.”

The CMO Annual Report for 2014-2015 states: “Improvements in the quality of care are often dependent upon having the right conditions in place – positive relationships with colleagues, a learning culture and an understanding of tried and tested ways of implementing change in complex systems.”

A range of priorities for programme delivery was raised by key informants. Recurring themes are presented in Table 5.

Table 5

<table>
<thead>
<tr>
<th>Theme</th>
<th>Quote</th>
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</thead>
<tbody>
<tr>
<td>An approach which supports improvement across the care journey was recommended.</td>
<td>“Focus on the patient, not the care setting - complete patient journey.” SPSP Fellows (focus group)</td>
</tr>
<tr>
<td>The value of applying improvement methodology to new workstreams by prototyping to allow proof of concept before spread at a national level.</td>
<td>“The focus should be on 1) Innovation and then 2) spread.” SPSP Fellows/IAs (focus group)</td>
</tr>
<tr>
<td>A combination of local and national networking is valued.</td>
<td>“Big events are important and inspirational. Local events, such as East Learning Session (are) better for networking and accessing practical support.” Clinical Lead (interview)</td>
</tr>
</tbody>
</table>
The 90-day process identified three approaches which are not exclusive to one another and provide a flexible delivery framework for the next stage of SPSP.

1. **Collaborative:** Improvement collaboratives in health care (The Health Foundation 2014) describes a collaborative as where “teams from multiple healthcare units or organisations work together in a structured way to share learning and improve the delivery of services.”

2. **Campaigns:** Ozieranski et al (2013) state there is not an agreed definition of a quality improvement campaign. However, they describe how a quality improvement campaign usually focuses on a specific audience, within an agreed timeframe, using explicit communication tools/techniques to get a desired outcome. Campaigns should foster a continuous improvement culture, aiming for small incremental change.

3. **Community approach:** Using clinical communities to improve quality: ten lessons for getting the clinical community approach to work in practice (The Health Foundation 2013) describes a community approach as an organising structure for supporting and securing improvements in health systems across multiple sites. This approach comprises a core team to provide high-level leadership and co-ordination for site teams in participating organisations that then bring change about locally.

A full list of the themes extracted from analysing key informants’ views can be found in Appendix 6.

**Menu of options**
The 90-day process has highlighted the need for a better balance between local and national priorities. To address this issue, SPSP proposes to:

◊ align future work under the identified national priorities of deteriorating patients, medicines and system enablers, and

◊ offer a menu of options in support of these priorities from which NHS boards can choose their area or areas of focus based on local intelligence.

The menu of options approach would also allow the sequencing of the addition of new work and ensure reliability of improvements before spreading and/or moving to a new area of work.
Data and measurement

The use of data to identify opportunities for improvement, assess reliable implementation of changes and understand whether those changes have led to a reduction in harm and mortality is fundamental to the approach undertaken by SPSP. There are four key areas of focus.

1. Supporting the development and refinement of meaningful measures to help drive improvement.
2. Supporting the development of the local capacity to interpret and use data to drive improvement.
3. Supporting the implementation of systems for capturing and reporting key data at local and national level.
4. Developing the national level data reporting.

Key informants commented on the need to rationalise the number of measures to reduce the data burden on NHS boards.

“Good measurement is important – there is far too much data collection.” Academic (interview)

At the same time, it was acknowledged there is a requirement for national data reporting to support improvement and provide clear, demonstrable evidence of the impact of SPSP Acute Adult and Primary Care.

It must be recognised that sustained delivery of improved outcomes can be achieved only through reliable delivery of appropriate processes. Improving outcomes for patients depends on the ability of healthcare professionals who are delivering care to diagnose and understand existing processes and, in many cases, design and test new processes of care which will have an impact on the desired outcome. A key part of interpreting progress towards improved outcomes is an understanding of the spread of improved processes and the resulting impact on outcomes at unit and service level.
Supporting the development and interpretation of process measures will remain core to improvement work undertaken within SPSP.

To balance these different needs and ensure a proportionate approach to data collection and reporting, the next stage of SPSP will focus on outcome measures from a national perspective across the three themes of deteriorating patients, medicines and system enablers. Wherever possible, process measures will not be reported nationally, but will form a critical element of local improvement and be described as part of the routine assessment process.

None of the above can happen without a core eHealth infrastructure, which will be required during 2016-2017. The development of links within eHealth to support a number of activities include:

◊ data being extracted from existing systems, for example Primary Care data within the newly developing SPIRE system and use of Discovery within Acute Care
◊ access to key patient information in a number of different settings, for example community pharmacy, dental practice and social care staff having (read and write) access to Immediate Discharge Letters (IDLs) and other patient information, for example patient records via the Scottish Care Information (SCI) portal, and
◊ developing and implementing the National Information Sharing Agreement & Information Sharing Protocol to support improvement activity.

Conclusion
The findings of the 90-day process demonstrated that future models of delivery should support NHS boards to:

◊ network locally and nationally
◊ support improvement across the care journey
◊ prioritise and sequence their improvement work according to their context
◊ use a prototyping approach to develop interventions before scaling up, and
◊ reduce data burden by focusing on outcomes.
Key recommendations

The 90-day process identified three overarching core themes under which the existing and future content of SPSP will be delivered.

Key recommendations based on the findings are:

**Safety issues**

1. National priorities for the programme will include areas of continuing work from existing programmes.
2. SPSP will focus on three core themes:
   - prevention, recognition and response to deterioration
   - medicines, and
   - system enablers for safety.
3. HSCPs will be able to select from a menu of options to support working towards the three core themes identified.
4. The ambition of SPSP is to support National Health and Wellbeing Outcome 7: People using health and social care services are safe from harm. Overarching aims will be aligned to the three core themes, with supporting aims developed in relation to specific topic areas.
Delivery methods

5. A variety of methods will be used, including the development of local and national breakthrough series collaboratives where appropriate, and the use of campaigns to build will and engagement.

6. New workstreams will be designed to support improvement across pathways of care. This will involve collaborative working across primary and acute care and include transitions of care.

7. For new work, a prototyping approach will be used, with testing at a small scale to design interventions and develop meaningful measures.

8. The focus of national reporting will be on outcome measures. Where there is a clinical consensus that national process measure reporting is useful in a particular context then this will remain an option. SPSP will continue to promote the importance of relevant process measures being used locally to support the work of improvement and will continue to provide guidance on meaningful process measures.

9. As national data indicate that NHS boards are on target to achieve the aim of 95% of patients discharged without any SPSI harms, this metric is not included in future SPSP aims.

10. During the 90-day process, a range of key informants discussed the challenges of embedding existing work to achieve current aims in the context of service pressures. The importance of this before beginning new work was described as a critical step for sustainability.

11. To support the delivery of these recommendations, a transitional year (2016-2017) is proposed, which will enable existing work to continue, allow alignment of the broader safety programmes under the three core themes and any prototyping of new areas to begin.
References


de Vries EN, Ramrattan MA, Smorenburg SM, Gourma DJ, Boermeester MA. The incidence and nature of in-hospital adverse events: a systematic review. Qual Saf Health Care. 2008; 17(3):216-23.Database review on in hospital adverse events. Not an explicit statement of 1.38%, but a calculation from the abstract: The median overall incidence of in-hospital adverse events was 9.2%, with a median percentage of preventability of 43.5%. More than half (56.3%) of patients experienced no or minor disability, whereas 7.4% of events were lethal. Operation- (39.6%) and medication-related (15.1%) events constituted the majority.


Two years to make a difference in Welsh Healthcare 2008-2010 (1000 Plus) www.1000livesplus.wales.nhs.uk/sitesplus/documents/1011/TwoYearsToMakeADifference.pdf


National Emergency Laparotomy Audit (NELA) www.nela.org.uk/index.php?&cookieEnable=true


Appendices

Appendix 1: Identified literature – search process methodology
Appendix 2: Summary of other patient safety programmes
Appendix 3: 90-day process search results
Appendix 4: Key safety issues – themes identified
Appendix 5: Safety issues summary sheets
Appendix 6: Delivery methods – themes identified
Appendix 1: Identified literature - search process methodology

Cycle #1
- **Search focus**: Searched J Health serv Res Policy & Ann Fam Med for articles about patient safety
- **Suggestion from**: team members

Cycle #2
- **Search focus**: Patient Safety topic: AKI
- **Suggestion from**: team members

Cycle #3
- **Search focus**: Patient Safety topic: CAUTI & Emergency Laparotomy
- **Suggestion from**: team members and interview feedback

Cycle #4
- **Search focus**: Methodology & topics: other safety programmes
- **Suggestion from**: team members and interview feedback

Cycle #5
- **Search focus**: Methodology: Health Foundation & NHS England approach
- **Suggestion from**: team members and interview feedback

Cycle #6
- **Search focus**: Methodology: Ko Awatea & what makes successful campaigns
- **Suggestion from**: team members and interview feedback
A systematic literature review was not appropriate for this project, due to timeframes and the previous literature reviews identified in the project charter. Instead, several small-scale literature searches were conducted over the duration of the 90-day period. The diagram on the right illustrates the literature search process and the main focus and questions for each search cycle.

The literature search process was an iterative process where each search cycle fed into and informed the next search cycle. Each search cycle sought to identify review-level evidence and evaluations, where available, on some of the key safety issues and methodology from key organisations’ websites and/or publications. The literature search results were added to through snowballing from citation lists and from relevant evidence recommended by stakeholders during focus groups and interviews. Some of the key evaluation reports and papers from each search cycle were summarised for the working group and these were used to inform the focus of the next search cycle. All evidence was recorded using reference management software and is displayed in Appendix 3 along with the search cycle in which it was identified and the topics to which the evidence relates.

During search cycles 4 and 5, a number of relevant patient safety programme websites were searched to identify the methods used and the topic areas on which they focused. During this search process, the approach taken by NHS England was identified and explored further. Appendix 2 contains a summary of this work.
Appendix 2: Summary of other patient safety programmes

As part of the 90-day process literature search, we looked to identify some examples of patient safety programmes and provide an overview of the topics and priorities they cover and the methodology and approaches they use.

Table A shows a brief summary of some of the national programmes identified.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Country</th>
<th>Areas of focus</th>
<th>Methodology used</th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 Lives</td>
<td>Wales</td>
<td>The Two years to make a difference in Welsh Healthcare 2008-2010 (1000 Lives Plus) report gives some of the highlights/successes.</td>
<td>Campaign</td>
<td>2008</td>
<td>2010</td>
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<tr>
<td>1000 Lives Plus</td>
<td>Wales</td>
<td>Reducing HAI (CAUTI, peripheral venous cannulae), medicines management, improving acute care (acute coronary syndromes, rapid response to acute illness, improving critical care, improving mouth care), improving surgical care, improving stroke care, transforming care, preventing hospital acquired thrombosis, improving primary and community care (chronic heart failure, atrial fibrillation, primary care trigger tool, medicines management, learning disabilities, dental care, falls in the community).</td>
<td>Breakthrough Series Campaign</td>
<td>2010</td>
<td>-</td>
</tr>
<tr>
<td>Danish Society for Patient Safety - Safer hospital programme</td>
<td>Denmark</td>
<td>15% reduction in mortality and 30% reduction in harm (cardiac arrests, hospital infections, pressure ulcers, and medication errors).</td>
<td>Use the model for improvement</td>
<td>2010</td>
<td>2013</td>
</tr>
<tr>
<td>Programme</td>
<td>Country</td>
<td>Areas of focus</td>
<td>Methodology used</td>
<td>Start date</td>
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<tr>
<td>Danish Society for Patient Safety - In safe hands</td>
<td>Denmark</td>
<td>Improve patient safety in primary care and reduce pressure ulcers, medication errors, falls, and infections.</td>
<td>Use the model for improvement</td>
<td>2013</td>
<td>2016</td>
</tr>
<tr>
<td>Think Kidneys - AKI</td>
<td>England</td>
<td>Acute Kidney Injury.</td>
<td>Campaign</td>
<td>2014</td>
<td>-</td>
</tr>
<tr>
<td>Sign up to Safety</td>
<td>England</td>
<td>Patient safety is the priority - anyone can sign up (regardless of topic/specialism/setting/profession) but there is a commitment to five pledges: putting safety first, continually learn, being honest, collaborating, being supportive.</td>
<td>Campaign</td>
<td>2014</td>
<td>-</td>
</tr>
</tbody>
</table>

Information about the programmes was not always easily identified from the programme websites or in reports. Reports and websites regularly documented the methodology used (often it was the IHI Breakthrough Series Collaborative model) and the success of the programme. However, they rarely went into detail about how they applied the methodology or the specific steps taken to set up the programme and how the model used resulted in the successes they report. Table A therefore acts as an overview rather than a basis on which any future plans should be made.

One area of focus which came out of this evidence scan was the approach that NHS England is taking. This approach is difficult to summarise because it involves a number of different methodologies (collaborative, campaigns and networks) at several different levels (local, regional and national). Some of the main points of the NHS England approach are:

- It was launched in autumn 2014 following Berwick’s 2014 report *A promise to learn – a commitment to act*
- 15 regional Patient Safety Collaboratives (PSCs) sit within 15 regional Academic Health Science Networks (AHSNs) – each with its own website
- Within each regional collaborative there are local patient safety initiatives – in both acute and primary care (as well as other areas)
- Different regional collaboratives can work with other collaboratives to share learning (for example, Kent Surrey Sussex PSC leads the AKI work)
- The regional PSCs are set alongside national programmes such as Sign up to Safety (a campaign) and an improvement network called Q initiative
- NHS IQ and NHS England provide national support as well as training and sharing learning
- NHS England funds the PSCs – £12 million per year for 5 years, and
- NHS England suggests the following priority areas (see Table B).
All PSCs have the two central elements of leadership and measurement for improvement. Each PSC identifies and selects safety priorities from the list in Table B. Table C lists each PSC (with a link to their website), the patient safety priorities they chose, and the area they cover (location).
<table>
<thead>
<tr>
<th>Programme</th>
<th>Specific Safety Topic</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kent Surrey Sussex Patient Safety Collaborative</td>
<td>Pressure damage, sepsis, safe discharge and transfer, medication errors, acute kidney injury, leadership, culture and capability, measurements of patient safety</td>
<td>SE England</td>
</tr>
<tr>
<td>The UCLPartners Patient Safety Programme</td>
<td>AKI, Sepsis, and reducing cardiac arrests</td>
<td>London</td>
</tr>
<tr>
<td>Oxford Academic Health Science Network Patient Safety Collaborative</td>
<td>AKI, medication safety, pressure ulcers and mental health</td>
<td>SE England</td>
</tr>
<tr>
<td>Eastern Academic Health Science Network</td>
<td>2 aims: QI infrastructure and Frail older patients. Within frail older patients there are 3 focus areas: medication safety, safer transfers in care, and deteriorating patient.</td>
<td>SE England (Norfolk etc)</td>
</tr>
<tr>
<td>HIN - Health Innovation Network South London</td>
<td>Dementia Falls, medication safety (in diabetes), and CAUTI</td>
<td>South London</td>
</tr>
<tr>
<td>Wessex Academic Health Science Network</td>
<td>Sepsis and transfers of care</td>
<td>South England</td>
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<tr>
<td>South West Patient Safety Collaborative</td>
<td>Not stated</td>
<td>SW England</td>
</tr>
<tr>
<td>West of England Academic Health Science Network</td>
<td>Single Early Warning Score (deteriorating patient), human factors, primary care, emergency laparotomy, medicines management</td>
<td>West England</td>
</tr>
<tr>
<td>West Midlands Academic Health Science Network</td>
<td>Pressure ulcers and Sign up to Safety programme</td>
<td>West Midlands</td>
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<tr>
<td>East Midlands Academic Health Science Network</td>
<td>Older person, deteriorating patient, suicide, delirium and restraint, and transfers, discharges and transitions of care</td>
<td>East Midlands</td>
</tr>
<tr>
<td>NWC Academic Health Science Network</td>
<td>Medicines optimisation, Sepsis, hydration (including AKI), transition between paediatric and adult care</td>
<td>NW England</td>
</tr>
<tr>
<td>Greater Manchester Academic Health science Network</td>
<td>Breakthrough Series collaborative - medicine safety, Safety Collaborative Programme - create networks and build capacity, Chronic Kidney Disease (in primary care)</td>
<td>Manchester and surrounding area</td>
</tr>
<tr>
<td>North East and North Cumbria Academic Health Science Network</td>
<td>AKI, deteriorating child, falls prevention, hip and fragility fracture prevention, lithium safety, medicine optimisation, pressure ulcers, serious infection (Sepsis and Community-acquired pneumonia), and ThinkSAFE</td>
<td>NE England</td>
</tr>
<tr>
<td>Yorkshire and Humber Academic Health Science Network</td>
<td>Reduced patient harm: falls, pressure ulcers, AKI, physical health checks, medication errors</td>
<td>Yorkshire and Humber</td>
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</table>
Table D maps the patient safety topics chosen by each PSC. It shows that:

- some of the priorities are more popular than others
- the number of priorities chosen vary between PSCs
- some PSCs look at a patient safety priority in a specific patient group or setting, such as HIN, focusing on medication errors in diabetes and falls in patients with dementia
- some priorities have been selected based on local priorities that were not on the list, and
- some of the patient safety priorities have been carried forward/over from previous/existing work, such as the Kent Surrey Sussex improvement programme: acute kidney injury (2013), which shows that this work was already ongoing.
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<tr>
<th>Patient Safety Collaborative</th>
<th>VTE</th>
<th>HAI</th>
<th>Pressure Ulcers</th>
<th>Maternity</th>
<th>Errors</th>
<th>Deterioration in children</th>
<th>Falls</th>
<th>Handover &amp; Discharge</th>
<th>Nutrition &amp; hydration</th>
<th>AKI</th>
<th>delayed diagnosis</th>
<th>Deterioration of patients</th>
<th>Medical Device Errors</th>
<th>Sepsis</th>
<th>Mental Health needs</th>
<th>People with Learning Disabilities</th>
<th>Children</th>
<th>Acutely ill older people</th>
<th>Offenders</th>
<th>between paediatric &amp; adult care</th>
<th>Other</th>
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<td>KSS</td>
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1. Medication errors in diabetes
2. Falls and dementia

1. Emergency laparotomy, human factors, and primary care
2. Sign up to Safety

1. Primary care
Appendix 3: 90-day process search results

Table E lists all the publications identified during the 90-day process. Publications are listed by search cycle and then alphabetically using the Healthcare Improvement Scotland Vancouver reference style. The table shows the search cycle in which the publication was identified and the topic area to which the publication relates. The topic area relates to groups used in Endnote rather than the topic headings used in the final report.

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<td>de Wet C. An overview of patient safety in primary care. 2012.</td>
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<td>Morrison C, Wilson M. Medicine sick day rules cards: interim evaluation. NHS Highland; 2014.</td>
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<td></td>
<td>Royal College of Nursing. Lost in transition: moving young people between child and adult health services. 2013</td>
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Search cycle 5


Ko Awatea. Beyond 20,000 Days campaign. [cited 2015 Dec 07]


Total = 83
Appendix 4: Key safety issues - themes identified

- System Enablers
  - Interface of Care
  - Flow
  - Communication
  - Multidisciplinary team working
    - Culture
    - Decision making (SAS)
- Medicines
  - Medication reconciliation
  - Medication errors
  - Polypharmacy
  - High Risk Drugs
- Deteriorating patient
  - Sepsis
  - Acute Kidney Injury (AKI)
  - Emergency Laparotomy
  - National Early Warning Score (NEWS)
  - Anticipatory Care Planning/End of Life care
  - Delirium
- Nutrition and hydration
- Pressure ulcers
- Falls
- Infection control
  - Catheter-Associated Urinary Tract Infections (CAUTI)
  - Surgical Site Infection (SSI)
  - Vascular access infections
  - Central venous catheter (CVC) infections
- Venous thromboembolism (VTE)
- Frailty
- Mental health issues
- Oral hygiene
- Oxygen therapy
- Heart failure
- Ventilator Associated Pneumonias (VAPs)
- Dentistry
- Chronic diseases
- Violence and aggression within acute settings
- 10 essentials and 9 priorities
- Missed diagnosis
- Rapid access to diagnostics
- Demand
- Ergonomics of the hospital
- Human factors
- Infrastructure
- QI capacity and capability
- Staffing model
- Leadership (effectiveness, buy-in)
- Governance and accountability
- Levers to support safety in primary care
- Case management infrastructure
- Enabling patients, families and carers’ voices
- Wider concept of safety (for example Vincent’s measurement and monitoring of safety framework)
- Learning from adverse events
- Health and Social Care integration
- HSMR data
- Delayed discharges
- Preventing hospital admissions
Appendix 5: Safety issues summary sheets

Emergency Laparotomy

Evidence

◊ Emergency laparotomy is one of the common emergency surgical procedures carried out in hospital but is associated with much higher rates of postoperative complications and mortality, compared with high risk elective general surgery. The first report of the Emergency Laparotomy Network (ELN) (Saunders et al 2012), which included data from 35 NHS hospitals, found mortality risk varied widely for patient groups from 3.6% to 41.7%.

◊ The elderly are particularly at risk of adverse outcomes, with over half of patients undergoing emergency laparotomy being over 70 years of age and their mortality risk being six times greater than patients aged 50 and under. Standards of care recommended for the elderly in relation to emergency laparotomy have been found to be poor.

Scanning the landscape

◊ The National Emergency Laparotomy Audit (NELA) is carried out by the NIAA/HSRC on behalf of the Royal College of Anaesthetists. The most recent audit found that standards of care have increased in England and Wales and overall mortality rates have improved since 2011. Hospitals were found to be currently meeting standards of care for 60–70% patients. However, with some hospitals delivering standards for over 80% of their patients, a number of recommendations for improvement have been made.

◊ The ELN brings together clinicians from relevant specialties and helps achieve a consensus of opinion on best practice in order to improve outcome.

◊ Although emergency laparotomy is not one of the areas promoted by the Sign up to Safety campaign in England, emergency laparotomy has been chosen as a priority area by one of the 15 English regional Patient Safety Collaboratives.

Scottish context

◊ Some Scottish hospitals are participating in a UK-wide project on this (EPOCH).

Stakeholders

“EPOCH reference: ‘High-risk surgical population accounts for 12.5% of surgical procedures but for more than 80% of deaths’.” Clinical Lead (interview)
Acute Kidney Injury

Evidence

- Acute kidney injury (AKI) is associated with high mortality and adverse long-term outcomes. AKI prevalence in inpatients is believed to be rising, and in England has been suggested to be considerably higher than previously thought at 14.15%, due to four-fifths of cases not captured in routine hospital data (Kerr et al 2014). AKI is also associated with high healthcare costs, with the annual cost of inpatient care in England in relation to AKI estimated at £1.02 billion (Kerr et al 2014).
- Adding Insult to Injury the National Confidential Enquiry into Patient Outcome and Death (NCEPOD 2009) noted inadequacies in the timely detection and management of AKI in the UK, highlighting the need for changes in clinical practice. Fewer than 50% of cases studied were considered to have been managed well and there were delays in detection of post-admission AKI in 43% of cases.
- The NCEPOD report indicates that AKI risk factors are often not addressed and that a significant proportion of cases may be avoidable (NCEPOD 2009). The report concludes that there is a growing need to invest in the implementation and evaluation of strategies designed to improve the prevention and management of AKI in primary care.

Scanning the landscape

- AKI has become a focus area for patient safety in NHS England through the ‘Think Kidney’ programme, which has the aim of ensuring avoidable harm related to AKI is prevented in all care settings.
- AKI is one of the areas promoted by the Sign up to Safety campaign in England. Seven of the 15 regional Patient Safety Collaboratives (PSCs) have chosen to work on this safety area.

Scottish context

- Acute Kidney Injury (AKI) App, developed by NHS Kidney Care and the Royal College of Physicians of Edinburgh
- Scottish Care Intensive Care Society has an online module on AKI.

Stakeholders

“AKI should be a priority as it affects length of stay, medicines reconciliation. There are existing established guidelines. It links with sick day card.”

“It is a big problem across the medical and surgical spectrum (affecting 25% of their orthopedic patients.)” SPSP Fellows Improvement Advisors (focus group)

“Acute Kidney Injury (as specific unmet clinical need that Scotland is falling behind on).” Safety Measurement and Monitoring Programme Board member (survey)

“Conscious about naming harms, such as AKI, for ongoing work because I’m not convinced we successfully reduced some of the SPSI harms i.e. cardiac arrest, CAUTI, pressure ulcers.” Scottish Government (interview)
Sepsis

Evidence

◊ Sepsis kills around 37,000 people in the UK every year – more than lung, bowel or breast cancer. It is the most common cause of death from infection and the incidence of sepsis is rising each year. Evidence shows that each hour’s delay in administering antibiotics to people with severe sepsis increases the risk of dying by 7.6%.

◊ Although there are issues with reliability of databases of patient safety incident reports because of extensive under-reporting, a recent study of reports of death in hospitals due to unsafe care provides an insight into the areas where improvement could be targeted (Donaldson et al 2014). The most common patient safety incident identified was failure to act on or recognise deterioration (23%). Also, failure to give ordered treatment/support in a timely way (6%) and failure to observe (6%) were common patient incidents identified within the management of deterioration theme.

Scanning the landscape

◊ Sepsis is one of the areas promoted by the Sign up to Safety campaign in England. Five of the 15 regional Patient Safety Collaboratives (PSCs) have chosen to work on this safety area.

◊ Sepsis is one of the focus areas of the HSC Safety Forum in Ireland.

Scottish context

◊ Sepsis has been a priority of the Acute Adult programme since 2012. Pilot sites within NHS boards are reporting that 70% of patients who have sepsis now receive life-saving antibiotics within an hour of being admitted to hospital. This is an increase from January 2012 when NHS boards reported only 20% of patients were receiving antibiotics within the critical first hour.

◊ Sepsis 6 bundle tested with success.

◊ National Early Warning Score and Sepsis Screening App.

◊ Sepsis is spreading to other settings (for example maternity).

Stakeholders

Sepsis was considered a priority by stakeholders from territorial boards, Healthcare Improvement Scotland and Scottish Government.
Medicines (including medicines reconciliation, polypharmacy, medication errors and high risk drugs)

Evidence

◊ Levels of harm in primary care (The Health Foundation 2011) mentions the Quality of medication use in primary care - mapping the problem, working to a solution: a systematic review of the literature which mapped out the medication system in UK primary care, which stated that only between 4% and 21% of patients achieved the optimum benefit from their medication (Garfield et al 2009).
◊ Estimated that 15,000 patients admitted to hospital experience an adverse event due to medicines, each year in NHSScotland. (NHSScotland, National Services Scotland Information Services Division. Episodes of Care Report. March 2013/14).
◊ Around 4.1% of prescriptions written in primary care may contain an error (Avery et al 2013).
◊ 6.5% of hospital admission is due to medicines/adverse drug reactions (Pirmohamed et al 2004). Five groups of medicines are more commonly associated with hospital admissions: NSAIDs, antiplatelets, anticoagulants, diuretics, and antihypertensives.
◊ 10–61% of patients have at least one error in their medication history (Tam et al 2005) and up to 46% of medication errors occur when new prescriptions are written at patient admission or discharge (Bates et al 1997).
◊ Polypharmacy is increased adverse events due to medicines and preventable admissions to hospital. 59% of patients over 70 years old are dispensed 5 or more medicines (McTaggart 2015).

Scanning the landscape

◊ Medication errors is one of the areas promoted by the Sign up to Safety campaign in England. Nine of the 15 regional Patient Safety Collaboratives (PSCs) have chosen to work on this safety area.
◊ IHI is doing a research and development project on polypharmacy.

Scottish context

◊ SPSP Medicines workstream focuses on the prescribing and monitoring of high risk medications, such as warfarin and disease-modifying anti-rheumatic drugs (DMARDs), and developing reliable systems for medication reconciliation in the community.

Stakeholders

“Medication safety is a huge area – medication reconciliation. It is the drugs that cause harm, NSAIDs, diuretics, those prescribed commonly that cause harm. Whole area of polypharmacy, polypharmacy guidance and introduction of medication sick day rule cards and how these are used effectively.”
Clinical Lead (interview)

“Medicines in outpatients building on meds rec, not just reconciling but reducing the number. Polypharmacy over treatment, we add rather than subtract. Stopping to ask why, linking to the meds rec work. Asking why people have those symptoms, is it a med that is causing this? Is this symptom relief, primary disease treatment?” IHI (interview)
“Ongoing focus on medicines polypharmacy and the safe prescribing indicators to reduce high risk co-prescribing.” RCGP (interview)

Transitions of care

Evidence

◊ The ‘boundaries’ of general practice interface with a wide range of other healthcare services. The risk of healthcare error is increased by lack of continuity and inadequate communication between different organisations and this is likely to be through an interdependence with system issues, including communications between professionals and infrastructure inadequacies.

◊ Although there are issues with reliability of databases of patient safety incident reports, because of extensive under-reporting, a recent study of reports of death in hospitals due to unsafe care provides an insight into the areas where improvement could be targeted (Donaldson et al 2014). One common patient safety incident identified was inappropriate discharge, 4%.

Scanning the landscape

◊ Handover and discharge is one of the areas promoted by the Sign up to Safety campaign in England. Four of the 15 regional Patient Safety Collaboratives (PSCs) have chosen to work on this safety area. Transition between paediatric and adult care is also one of the areas promoted and one of the 15 regional Patient Safety Collaboratives (PSCs) has chosen to work on this safety area.

Stakeholders

“It all comes down to communication. Key communication issue leading to harm: Communication between primary and secondary care (no advance care planning done, lack of proper discussions about goals of care). Example. Patient commonly transferred from other hospitals without many notes, only with anticipatory active plan.” Clinical Lead (interview)

“Results handling – work in primary care which has flagged up a lot of issues at interface with secondary care, secondary care should address these, i.e. test results followed up – system and pathway.” Clinical Lead (interview)

“H&SC integration – still working in isolation. Need to communicate across H&SC and PC and AA care, unit to unit. More linked up working.” Clinical Lead (interview)

“Majority of harm happens in bridge between primary and acute care (dysfunctional flow).” Territorial Board (focus group)

“Main interest is on interface communication and provision of specialist decision support for GPs using telephone and email communication.” “…a focus on managing test results across the system might be worthwhile as a systems issue.” RCGP (interview)
Multidisciplinary Team working

Evidence

◊ A narrative review of four ethnographic studies of patient safety in UK hospitals conducted as part of the Patient Safety Research Programme (Dixon-Woods 2010), suggests there are multiple interacting influences on patient safety in acute care and solutions need to be designed based on a sound understanding of the nature of these interactions. A key finding was that teamwork and inter-professional communication was not always functioning efficiently enough to ensure that basic procedural information was shared or that the required sequence of events was planned. A further finding was that staff do not always do what would constitute the ‘right thing’ for many different reasons, including a lack of understanding of, or ambiguity about, evidence-based guidelines.

◊ A recent qualitative review (Daker-White et al 2012) of a large sample of studies that have examined perspectives of patient safety issues in primary care highlights the situated and relational nature of patient safety in primary care that reveals interdependencies between people and systems driving patient safety outcomes rather than linear processes amenable to simple interventions. Clearer opportunities for improvement were identified in terms of the need for greater understanding of the circumstances when protocols or operating procedures are safe and when they are not, as well as the need for greater capability and human resource for ensuring safety through training and team working.

Scanning the landscape

◊ Agency for Healthcare Research and quality è TeamSTEPPS® is an evidence-based teamwork system aimed at optimising patient care by improving communication and teamwork skills among healthcare professionals, including frontline staff. It includes a comprehensive set of ready-to-use materials and a training curriculum to successfully integrate teamwork principles into a variety of settings.

Stakeholders

“To work on teamwork, respectful behaviours and situational awareness at all levels and develop attributes of highly reliable organisations.”
Scottish Government (survey)

“Are teams working as teams? – Safety measurement and monitoring work. Commitment to bring multidisciplinary teams (MDT) together to reflect on their care.” Healthcare Improvement Scotland (interview)

“Effective multidisciplinary working is one of the safety issues the programmes should address” Territorial Board (focus group)
Communication

Evidence

◊ Evidence from qualitative reviews highlights the complex and dynamic nature of how social processes interact with clinical ones to produce patient safety outcomes, rather than causal pathways being only technical; and communication both between professionals and between professionals and patients are a key area of risk.

◊ Patients were found to have a distinct perspective of patient safety issues that centred on the value and outcomes of their relationships with clinicians. They were more likely to report violations of trusts or criticisms of medical practitioners’ attitudes.

◊ Although there are issues with reliability of databases of patient safety incident reports, because of extensive under-reporting, a recent study of reports of death in hospitals due to unsafe care provides an insight into the areas where improvement could be targeted (Donaldson et al 2014). Some common patient safety incidents identified were poor/inadequate handover (5%) and misinterpretation or mishandling of test results (2%).

◊ System or organisational issues are known to be major contributors to harm in primary care. System issues can range from communication between professionals and patients to inadequacies in infrastructure.

Scanning the landscape

◊ Handover and discharge is one of the areas promoted by the Sign up to Safety campaign in England. Four of the 15 regional Patient Safety Collaboratives (PSCs) have chosen to work on this safety area.

Scottish context

◊ A review of significant events in general practice has associated Significant Event Analyses (SEA) in general practice in Scotland - 19.2% of SEAs related to results handling systems.

Stakeholders

“This ward is staffed by volunteer staff as it’s just opened so there is different staff every day. It makes you feel as if ‘Who the hell knows what’s happening to me?’ when they are just passing on wee snippets of information.” Patient (interview)

“The nurse said I would get a dressing done at 11:00am but by time my visitors arrived at 8:00pm I was so stressed that no one had come to do the dressing. It would only take one sentence ‘I’m no doing your dressing today’, would have helped.” Patient (interview)

“Just having a conversation with you makes it easier to make it safer – you’ve got to have a better relationship.” Patient (interview)
Appendix 6: Delivery methods - themes identified

Prototype, Spread and Sustainability
- Prototype to allow proof of concept before spread at a national level.
- Focus on sustainability (for example, normalisation of primary care work, more championing of leadership roles).

Networking and Enabling Learning
- Build networks for learning (for example, combination of local and national networking, networks tailored to topics, specific improvers’ networks, create the conditions for the social aspects of change).
- Use a variety of methods to share and support learning (for example, local collaborative across settings, national collaboratives, board visits by national team, peer visits [between boards], WebExs, road shows, observation, coaching, masterclass, simulations, facilitating QI expertise in the country, champions on site, provision of evidence-based toolkits, ‘translating’ existing information, more use of social media, online learning and toolkits).
- Build a social movement.
- Use of campaigns.
- More marketing to disseminate successes.
- Select approach depending on the situation.
- Programme redesign.
- Use Breakthrough Series Collaboratives as designed when appropriate, but also move beyond this approach.

Whole Care Journey
- Focus on the whole care journey.

QI Capability and Capacity
- Build QI capability.
- Ensure existing QI capacity is well used and co-ordinated at all levels.
- Levers for QI (for example, CPD accreditation, protected time).
- Access to funding for projects to aid innovation.

Data
- Streamline data submissions.
- Focus on clear, appropriate and understandable outcome measures (for example, outcome measures common to all programmes (for example, mortality, length of stay and readmissions).)
- Protect from performance management focus.
- E-Health
- Mechanism for data use and access.
- Better IT infrastructure, needs-led designed technology.

Scale
- Scale down – refocus on a few critical areas at national level, but be careful with stopping things; the programme should have something for everybody.
- Use a sequential approach – a process/team at a time.
- Tie the programme and networking to milestones.
Local Vs National

◊ Menu of options approach.
◊ Local prioritisation based on diagnostics, data and conversations with other services (for example, HSCPs).
◊ National priorities to inform local QI plans.
◊ Local pull/on-demand resource to provide support to interested parties, rather than push approach.
◊ Allow growth from bottom up, as well as top down.
◊ Local ownership.

Stakeholders

◊ Better co-ordination across the approaches of the safety programmes.
◊ Integration of different QI programmes/breaking up improvement silos.
◊ Co-ordinate communication – ensure the same message is sent by different national bodies and different parts of Healthcare Improvement Scotland.
◊ Manage expectations upwards.
◊ Maximise relationships with other stakeholders (for example, NHS Education for Scotland, Chief Nursing Officer, Chief Medical Officer).

Impact Evaluation

◊ Evaluation built from the outset.
◊ Use of health economics (for example, link clinical outcomes to financial outcomes, promote efficiency savings).
◊ Patients, Families and Carers
◊ Patient should be at core.
◊ Active participation of patients, families and carers.

Concept of Safety

◊ Look at a broader definition of safety (for example, Vincent’s Framework).
◊ Use enhanced Significant Adverse Events.

Success Factors

◊ Understand markers for success (for example, number of frontline staff with QI skills, IHI Model for Improvement, lens of profound knowledge, measurement over time, understanding variation, psychology of change, leadership).
◊ Create clinical engagement and will to change.
◊ Create a culture that safety is everybody’s responsibility.

Social Care

◊ Social care integration (for example, conversations with community hospitals).
◊ Develop a common language for all (for example, health and social care).
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