

*Learning report:*

# Safer Patients Initiative

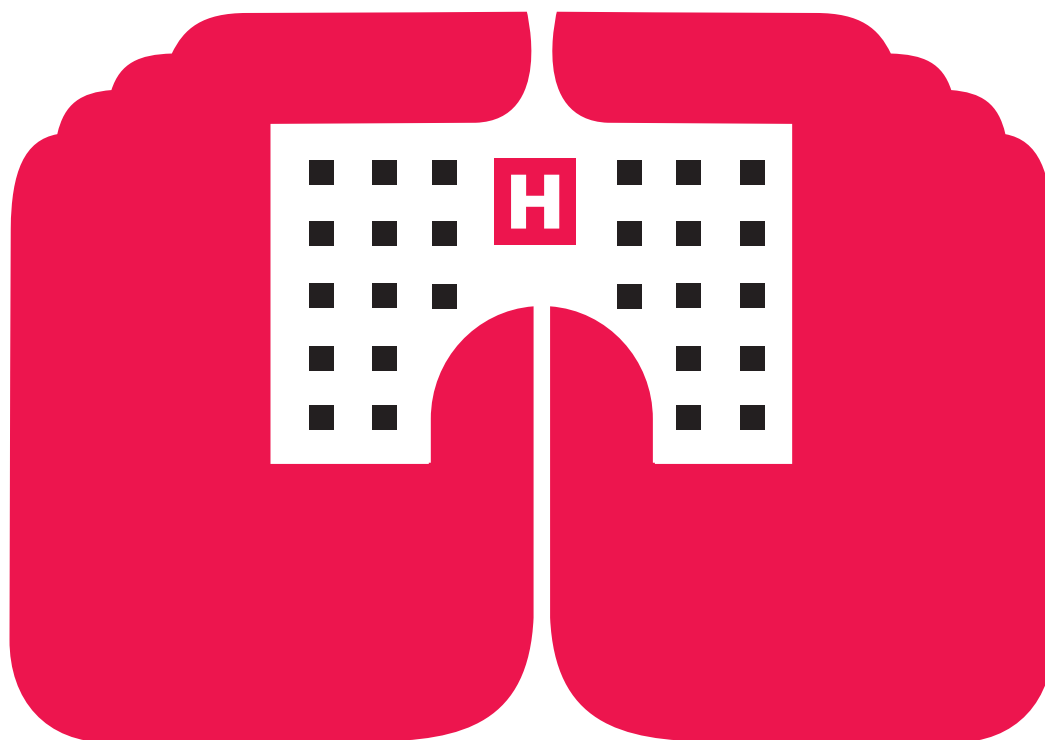


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*Lessons from the first major improvement programme addressing patient safety in the UK*

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*February 2011*



*Identify Innovate Demonstrate Encourage*



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The Safer Patients Initiative (SPI) was a large-scale intervention and the first major improvement programme addressing patient safety in the UK. The Health Foundation began the initiative to test ways of improving patient safety on an organisation-wide basis within hospitals across the UK.

The programme increased awareness of avoidable harm, raised the profile of patient safety and helped provide the foundations for a wider safety movement, aimed at building and implementing safety improvement knowledge and skills.

At the Health Foundation, we are committed to a rigorous assessment of the impact of all our work. Developing and sharing a deep understanding of the effect and learning generated by the Safer Patients Initiative is an important part of that commitment.

The degree of evaluation and study dedicated to the Safer Patients Initiative provides us with a unique opportunity to identify key lessons for both improving patient safety and the challenge of organisation-wide transformation. It has also given us new insights into the nature of evaluating complex, organisational interventions within healthcare.

In addition, the lessons surfaced by the evaluations and research on the Safer Patients Initiative highlight a number of important and complex issues to tackle. Each requires further

exploration and debate in order to progress the patient safety agenda.

This learning report provides an overview of the Safer Patients Initiative and its evaluation, and highlights the impact of the programme, key lessons and further issues for exploration. Throughout the report, we signpost the reader to more detailed material available on the Safer Patients Initiative and the wider Health Foundation work on improving patient safety.

We hope that the knowledge, insights and learning generated through the Safer Patients Initiative, and its evaluation, will inform and encourage leaders, frontline staff, managers and policy makers to continue to build on the foundations laid by the programme.

We are committed to remaining at the forefront of work to accelerate the patient safety agenda and take it to the next phase. We will work with stakeholders from within the NHS and beyond, to continue to shape debate and develop learning on the challenges of building a sustainable culture of patient safety.



# 2

## Breaking new ground

By 2004, seminal publications, including *An Organisation with a Memory*<sup>1</sup> and the report on the *Bristol Royal Infirmary inquiry*<sup>2</sup>, had begun to raise the profile of patient safety within the NHS. However, there was little concerted activity to address issues of harm and safety at an organisational level.

Hospital managers focused on risk management and assurance, while their boards received little information beyond formal complaints relating to the safety of care in their organisations. Safety was largely subsumed within the clinical governance agenda and deemed the responsibility of individual clinicians rather than seen as an organisational issue. At a national level, NHS agencies focused on the retrospective reporting of adverse incidents rather than proactive approaches to improving patient safety.

There were some exceptions to this. For example in 2003, a small group of English hospitals involved in the international Pursuing Perfection initiative<sup>3</sup> formed a community of practice and began pioneering work to explore ways of achieving their aim of 'no avoidable deaths'. Using mortality data<sup>4</sup> and trigger tool methods, they began to look at how to apply improvement approaches to increase the reliability and quality of care.

We sought to build on these innovative beginnings in patient safety improvement and recognised a major gap in the knowledge and skills required to achieve significant change. In November 2003, aiming to address this deficit and generate new learning, the Health Foundation board approved our first demonstration programme: the Safer Patients Initiative.



# 3

## What is the Safer Patients Initiative?

The Safer Patients Initiative was a complex, large-scale intervention and the first major improvement programme addressing patient safety in the UK. We set up the initiative in order to test ways of improving patient safety on an organisation-wide basis within NHS hospitals.



The Institute for Healthcare Improvement (IHI)<sup>5</sup> designed and provided technical input to the programme. This focused on improving the reliability of specific processes of care within four designated clinical areas where there were known strategies for improving safety. The areas included were general ward care, critical care, peri-operative care and medicines management.

The interventions had an established evidence base in the US and the UK and had been used in previous collaboratives. For example, the NHS Modernisation Agency's Critical Care Collaborative introduced some of the critical care strategies used in the Safer Patients Initiative. The Safer Patients Initiative was innovative both in combining these strategies into one programme and in providing a framework and tools to aid their implementation. The initiative also pioneered an ambitious, whole organisation approach to improving patient safety.

The combination of evidence-based interventions was designed to standardise care and reduce variation in practice, thus reducing the harm caused to patients from:

- clinical deterioration
- ventilator associated pneumonia
- central line bloodstream infections
- MRSA bloodstream infections
- anti-coagulation medication and
- surgical site infections.

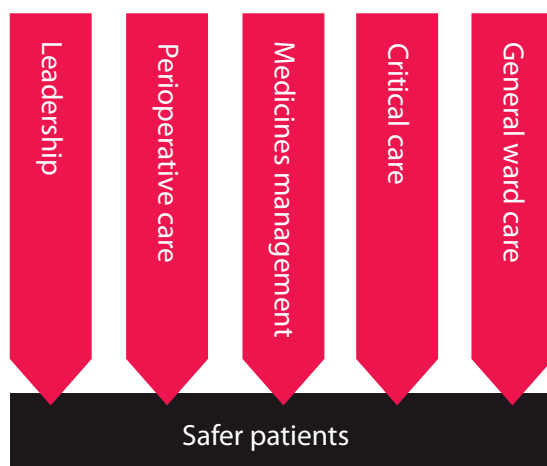
In addition, the programme included a leadership intervention, which sought to build and strengthen the role of executive leaders in improving the culture of patient safety. (See appendix for details of the interventions – driver diagrams.)

We launched the first phase of the Safer Patients Initiative (SPI 1) in 2004, selecting four hospitals, through competition, from



*Participating in the Safer Patients Initiative, as the first English pilot site, was an exciting experience and led to a real transformation of Luton and Dunstable's approach to improving patient safety*

### The five core interventions



across the UK. The participating trusts undertook improvement in leadership and the four clinical areas, using a measurement framework comprising 43 standard measures. They had an ambitious overall stretch goal of halving the number of adverse events across the organisation during the two year timescale of the learning programme.

The Institute for Healthcare Improvement used their internationally recognised 'collaborative' methodology to support participating hospitals. They regularly brought together teams of 15-20 clinicians and leaders from each site, encouraging collaborative learning through face-to-face learning sessions, site visits and conference calls. Clinical improvement experts provided technical input and coaching to support teams in developing their improvement skills and implementing the interventions. Common measures and tools facilitated the sharing of data, information and learning across hospitals.

The run chart<sup>6</sup> and statistical process control<sup>7</sup> methods used by the programme enabled staff to understand and measure the progress and impact of the clinical interventions in real time, thus helping them drive continuous

improvement. Teams recorded and shared their monthly measurement data via the Institute for Healthcare Improvement's extranet facility.

An organisation-wide focus on patient safety underpinned the improvement work of specific clinical areas. This highlighted better communication, staff training in quality improvement methods, new systems for measuring process and outcomes, and reporting and learning from adverse incidents. Chief Executives and senior executive teams were fully involved in the programme in order to ensure that patient safety was kept a top strategic priority.

After the first 10 months, the four trusts were making good progress, particularly in critical care, medicines management and leadership strategies. Following these encouraging early results, we began a second phase of the initiative (SPI 2) in 2006, bringing a further 20 hospitals into the programme: 10 from England and 10 from other countries in the UK. These trusts had two stretch aims: a 30% reduction in adverse events and a 15% reduction in mortality over a 20-month timescale. In addition, they had specific goals relating to a range of process and intermediate outcome measures.

We required hospitals participating in SPI 2 to work with a partner organisation, with each pair holding regular meetings between the lead implementation teams. This 'buddy' model aimed to encourage further collaboration to maximise achievements and the spread of learning. Concurrently, the initial four trusts from SPI 1 moved into a second phase, acting as 'exemplar' sites in order to help spread more widely their knowledge and learning on how to reduce adverse events.



# 4

## Evaluating impact and identifying learning

We are committed to a rigorous assessment of the impact of all our work. Developing and sharing a deep understanding of the effect and learning generated by the Safer Patients Initiative is an important part of that commitment.

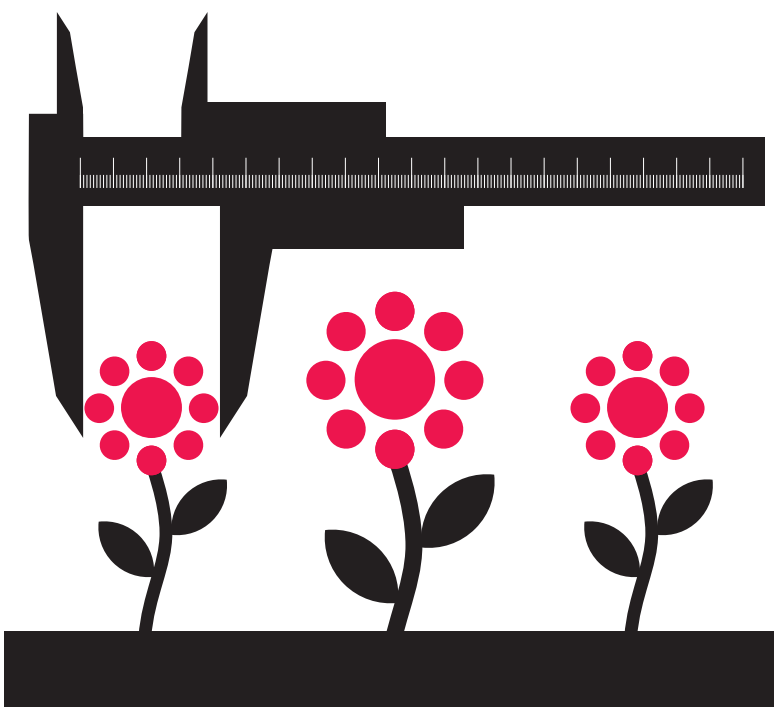
Recognising that complex interventions require multiple and varied perspectives, our learning is informed by three sources of evaluation and study of the initiative.

### The three sources of evaluation and study:

An internal programme technical report, using self-reported data from participating sites.<sup>8</sup>

Independent, outcome-focused evaluations of SPI 1<sup>9</sup> and SPI 2.<sup>10</sup>

An independent research programme addressing broader questions.<sup>11</sup>



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## Internal programme technical report: Institute for Healthcare Improvement (IHI)

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The generation of regular measurement data by participating trusts was embedded in the design of the Safer Patients Initiative. This enabled IHI to provide an internal report on the impact of SPI 1 and 2 in addition to providing teams with ongoing assessment and information for improvement.

The findings are based on data for improvement, generated by the sites themselves. Since measurement for improvement is primarily intended to provide indications at a local level, definitions, sampling approaches and analysis may differ between sites. Care must therefore be taken when interpreting and attributing results.

### Aim and approach

IHI's internal technical report aimed to determine whether the model for learning created for the Safer Patients Initiative resulted in the desired improvements. They sought to determine success through evaluation of specific measures included in the SPI work plan, recognising that the long-term results of building capacity to sustain and spread short-term improvements, would not be determined for several years.

IHI provided separate reports for the first and second phase of the initiative. These covered a variety of different components, including: qualitative and quantitative results in clinical areas, leadership and culture, and structural change to support quality improvement. They used a five point scale to assess the progress made by participating trusts on a continuum from project set-up (represented by a score of one) through measurement, testing, improving and finally, spread (represented by a score of five).

### Sources of data

IHI's report drew on quantitative and qualitative information from:

- the monthly reports provided by participating trusts, which included run charts or statistical process control charts on which teams recorded their real time measurement data
- structured interviews with leaders and staff from the sites at the programme end
- cultural climate<sup>12</sup> and team culture surveys completed by a range of staff within each trust, at baseline and at programme completion.

### Key findings for SPI 1

- All four sites reduced variation and demonstrated improvement over time in a range of process measures and the following outcome measures:
  - ventilator associated pneumonia rate
  - central line catheter bloodstream infection rate
  - anticoagulation adverse drug event (ADE) rate
  - crash call rate
  - surgical site infection (SSI) rate.
- All four sites reported reductions of more than 50% (range 51.9% – 74.5%) in the overall adverse event rate<sup>13</sup> (adverse events per 1,000 patient days) over the two year course of the programme. Since the programme targeted only a portion of the instances of harm detected by the global trigger tool, caution should be applied in attributing reductions in the overall rate of harm to only the specific interventions included in the programme.
- Surveys and interviews with leaders and staff indicated that clinical managers and frontline clinical staff regularly discussed (at least monthly) quality and safety topics at formal meetings and that all four sites had training plans for building capability on patient safety improvement.
- Interviews, the numbers of leadership



*The highest level of improvement in outcomes was within critical care, where 72% of the participating trusts met or exceeded their goals*

WalkRounds<sup>TM14</sup> undertaken, and a review of annual reports, board papers and other meeting material all supported the contention of senior leaders that patient safety improvement was a primary focus of their work.

### **Key findings for SPI 2**

The results show that:

- It took nine months from the start of the formal programme before all sites were measuring against the full set of outcome measures and relevant process measures (shown by a score of 1.5 on the assessment scale).
- By the end of the 20-month programme, there was a range of progress among sites, from a score of 2.0 (at the measurement stage) through to 4.5 (making and spreading improvements). The majority of trusts were only just beginning to scale up beyond the pilot populations while some had not yet spread the improvements at all.

All 20 sites showed improvement<sup>15</sup> on at least half of the 43 process and outcome measures. However, only three showed improvement on more than three quarters of the measures.

The three key outcome measures against which the greatest number of hospitals made improvements were:

- ventilator associated pneumonia
- central line catheter infections
- MRSA within critical care.

The highest level of improvement in outcomes was within critical care, where 72% of the participating trusts met or exceeded their goals.

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## External evaluations: University of Birmingham

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The Health Foundation commissioned Professor Lilford at the University of Birmingham to provide independent evaluations of both phase one and phase two of the Safer Patients Initiative. The first was commissioned at the start of SPI 1. Professor Lilford convened a multidisciplinary team of health service researchers to measure the impact of the initiative.<sup>16</sup>

### Aim and approach

The team designed the evaluations of SPI 1 and SPI 2 in order to answer the question ‘to what extent did patient safety increase and what factors were associated with success?’.

This study sought to assess wider organisational impact and so looked beyond the pilot populations of the clinical interventions. The evaluation team measured the average effect of the programme across a range of practices, based on the starting assumption that SPI would transform organisation-wide approaches to patient safety.

### Sources of data

The evaluations looked at the macro-system (organisational) level, using a mixture of outcome data routinely collected within hospitals and bespoke data collection.

For the evaluation of SPI 1, the University of Birmingham team studied the four participating hospitals and 18 control hospitals within England. The evaluation comprised five linked sub-studies applied to SPI and control sites, which provided both quantitative and qualitative data. These were:

- semi-structured telephone interviews to assess strategic stakeholders’ knowledge and views of the intervention in SPI hospitals

- before and after survey of attitudes of front-line staff in both control and SPI hospitals<sup>17</sup>
- ethnographic study of medical wards treating patients with acute respiratory disease in SPI hospitals. This involved direct observations on wards, staff interviews, and focus groups
- Case note review of the hospital records of high-risk patients treated before and after the intervention in both control and SPI hospitals
- Before and after measurement of outcomes:
  - adverse events<sup>18</sup> and mortality amongst patients included in the case note review
  - patient satisfaction.<sup>19</sup>

For SPI 2, the University of Birmingham team looked at nine English sites (participating in the programme) and nine matched English control hospitals. The evaluation comprised five linked sub-studies applied to SPI 2 sites and the control hospitals, focusing solely on quantitative data. These were:

- Before and after survey of front-line staff<sup>20</sup>
- Case note review of high-risk patients (respiratory) in medical wards
- Case note review of patients with high-risk peri-operative care
- Indirect evaluation of hand hygiene based on usage of hand washing consumables<sup>21</sup>
- measurement of outcomes at organisational level
  - adverse events and mortality among high-risk patients on medical wards
  - hospital mortality rates
  - ICU outcomes
  - hospital-acquired infection rates<sup>22</sup>
  - patient satisfaction scores.<sup>23</sup>



*This study sought to assess wider organisational impact and so looked beyond the pilot populations of the clinical interventions*

### Key findings for SPI 1

The main findings described in the evaluation of SPI 1 are described below:

- Senior stakeholders were generally enthusiastic about the initiative and shared an understanding of the programme and its underlying theory of change. Greater knowledge tended to produce greater enthusiasm.
- Staff survey results between control and SPI hospitals were similar at baseline. One dimension (organisational climate) improved significantly over time, in favour of the SPI hospitals.
- The ethnographic study showed modest penetration of the Safer Patients Initiative at ward level, with the most visible intervention being the identification of patients whose condition was deteriorating. Although SPI aimed for bottom-up change, ward staff did not generally feel engaged in the programme.
- Quality of monitoring of acute medical patients improved in SPI and control hospitals, but control hospitals did not improve as much as SPI. In the important SPI aim of improving observations of acutely ill patients, recording of respiratory rate improved significantly more in SPI than in controls.
- Prescribing quality did not change over time, in either control or SPI hospitals.
- Rates of adverse events were similar between control and SPI hospitals both at baseline and over time.
- Mortality rates (as identified through case note review) increased among control hospitals and decreased among SPI 1 hospitals over time. However, the differences were not statistically significant after adjusting for risk.
- There was improvement, in favour of the SPI hospitals, in one out of five criteria in patient satisfaction surveys.

### Key findings for SPI 2

For the evaluation of SPI 2, the key findings are described below.

- Only one dimension of the staff survey changed significantly over time. This showed an improvement in organisational climate among control hospitals. However, scores on this dimension were higher both at baseline and over time within the SPI hospitals.
- Measurements of vital signs and use of risk scoring improved markedly over time in both SPI and control hospitals.
- Many aspects of evidence-based medical and peri-operative care were good at baseline, leaving little room for improvement.
- There was a marked improvement in the use of hand washing consumables and a dramatic decrease in hospital-acquired infections across all hospitals.
- A significant additive effect of the Safer Patients Initiative on the measures included in the study was not detected.

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## Journey to Safety research programme: Imperial College London

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Journey to Safety is a five-year research programme commissioned from Imperial College London and established in 2006, which examines how to improve the safety of an entire healthcare organisation.

The programme addresses several specific issues covering five themes: the role of the patient in safety; safety skills and awareness; design for patient safety; high reliability units; and, lastly, how whole organisations become safe.

This last theme focused specifically on the sites involved in the Safer Patients Initiative.

### Aim and approach

The research programme was designed, in part, to complement the outcome-focused evaluation by asking a range of broader questions, including:

- What were the critical barriers and enabling factors for the programme?
- What were the effects of local context?
- How can developments be measured over time?

### Sources of data

- Run chart analysis of the 43 standard project metrics of SPI 1 and 37 additional 'custom' metrics generated by individual sites (2006-2009)
- Site visits and over 200 interviews with SPI sites (2007-2009)
- Surveys on perceptions of impact and safety climate<sup>24</sup> carried out among SPI 2 project teams in 2008 (631 responses), followed up in 2009 (284 responses).

### Key findings

- The experience of process measurement among sites was very positive overall: it helped understand cause and effect, engendered local ownership of data for

improvement and made the reliability of care more visible.

- Run chart analysis found that 12 out of the 43 standard project metrics showed a consistent trend towards improvement in three or more of the SPI 1 organisations.
- There were numerous data quality issues relating the effort needed to continuously collect data, the novelty of the process and technical problems with metric definition and implementation.
- Organisational readiness for change was determined by a combination of factors, including: a track record of improvement; communication and education prior to the programme onset; team selection and programme management structure; financial stability and ability to meet targets; and engaged clinicians.
- Seven main factors were reported to affect medical engagement in the initiative:
  - 1) the organisation's track record in improvement
  - 2) availability and allocation of resources
  - 3) perceptions of the purpose of SPI
  - 4) evidence of the programme's efficacy
  - 5) external expertise
  - 6) local champions
  - 7) the involvement of managers.
- Across a large number of dimensions, improvement teams perceived the greatest impact to be upon: multi-professional collaboration, culture, communication and team working, and measurement systems.
- There was a perceived improvement in safety climate and capability between initial and follow-up staff surveys.

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## Making sense of the findings

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Self-reported run chart data, assessed by both the IHI and Imperial College, indicate improvements in outcome and process measures within the specific clinical areas targeted by the Safer Patients Initiative. Since measurement for improvement is primarily intended to provide indications at a local level, with the data quality and analysis issues that this brings, care must be taken when interpreting and attributing results.

We cannot, therefore, confidently attribute the improvements that were achieved to the programme intervention alone.

The University of Birmingham team recognised that, for SPI 2, many aspects of care were already good or getting better across the NHS, leaving little headroom for improvement. These changes may be due to policy initiatives, including some with features similar to SPI, and the emergence of professional consensus on some clinical processes. In addition, some SPI sites were sharing their work locally, regionally and nationally, actively contributing to wider debate on patient safety improvement and thus also influencing other NHS organisations.

The University of Birmingham reports show that, at the time of evaluation, differences between SPI sites and control hospitals were not statistically significant enough for quantitative improvements to be attributed to the Safer Patients Initiative. Any effect of the programme on clinical outcomes at an organisational level, over and above other initiatives, was not large.

These findings led us to reflect on the focus of the evaluation compared to how the programme was set up and what it had achieved within the two years. While the SPI interventions were applied at test sites within

specific clinical areas, the outcomes measured by the University of Birmingham evaluation were at an organisational level.

In retrospect, therefore, the effects of the Safer Patients Initiative were likely to be localised, given the relatively small scale at which the initiative was applied within organisations and the limited timeframe for the spread of interventions. The evaluation findings do not negate the positive results and achievements reported by individual trusts. Instead, they challenge the wider aspiration and assertion that the Safer Patients Initiative would have an additive effect that could be observed, not just at a clinical micro-system level but also at an organisational level, within the timescales of the programme.

In addition, the external evaluators recognise that effects may have occurred in areas not specifically assessed by the study design and that these may surface in the longer term.



# 5

## The positive impact and influence of the Safer Patients Initiative

Although the Safer Patients Initiative did not achieve the level of organisational impact hoped for within the timeframe of the programme, it did have a significant effect and influence on participating hospitals and their staff, on patient care and on the wider NHS system.

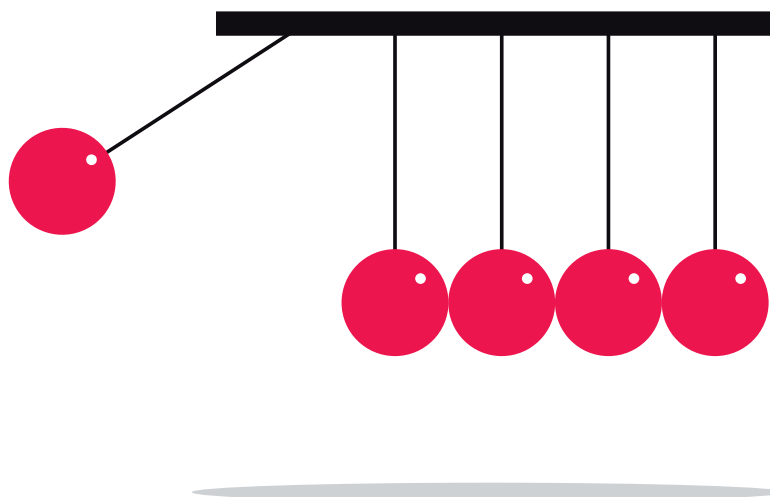
### What has been the impact of the Safer Patients Initiative on the staff and leaders involved?

The Safer Patients Initiative has been extremely effective in highlighting the need for improvements in the safety and reliability of standard care processes, and successfully engaged clinicians and leaders in this crucial agenda. The senior stakeholders involved demonstrated high levels of both knowledge and enthusiasm for the programme.

The Safer Patients Initiative raised awareness of the harm arising from routine aspects of care, with local data from case note reviews providing executive leaders with both insight and the impetus to act. The programme offered managers and clinicians a shared language and territory in which to engage together and encouraged multi-professional collaboration.

Specific techniques, such as executive leadership WalkRounds™, encouraged visible leadership and provided opportunities to listen to and address patient safety concerns with frontline clinical staff. The use of patient stories put a human face on the quality and safety data discussed in board meetings and helped engage and change the priorities of board members.

The Safer Patients Initiative provided both a set of defined clinical interventions and a methodology to address safety issues and continually improve. Real time continuous measurement data has helped clinical staff understand what is happening in their own teams and wards and the impact of this on clinical outcomes. It has enabled them to improve the reliability of routine processes of care, such as hand hygiene compliance, clinical observations and medicines reconciliation.





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### How has the Safer Patients Initiative influenced the structures, care processes and culture of the organisations involved?

The Safer Patients Initiative helped make harm more visible and tangible within hospitals. It provided methods to address problems of safety, develop solutions and put these into action.

Trusts participating in the programme have now established systems for real time data collection and recording that enabled them to understand reliability and variation, see the impact of the changes they make and identify new areas for improvement. The clinical teams involved have changed their processes of care and embedded evidence-based interventions.

The initiative has also had a positive influence on the organisational culture of participating hospitals. For example, it successfully challenged the clinical assumption that harm is inevitable and increased the strategic priority of patient safety by building the will and focusing the attention of senior leaders. Regular leadership WalkRounds™, a prioritisation of safety at board and team meetings, the development of safety dashboards and bespoke communication vehicles, such as safety newsletters, have all contributed to raising the profile and priority of patient safety within SPI hospitals.

The results achieved through the clinical interventions have strengthened the belief among leaders and staff that improvement is possible and enabled organisations to establish new standards of care.

Participation in the Safer Patients Initiative has encouraged and enhanced multi-professional collaboration and team working, with practical communication tools and methods to support this. It has also fostered learning and partnerships with

*Participating in the Safer Patients Initiative, as the first English pilot site, was an exciting experience and led to a real transformation of Luton and Dunstable's approach to improving patient safety. We succeeded in changing a mindset that regarded some forms of harm as a common complication of clinical treatment to one that sees that same harm as unacceptable failure in our care.*

*SPI brought home to me that, as chief executive and the accountable officer for my organisation, patient safety was my most important priority as well as the hospital's. It gave me knowledge of the various interventions and especially what I should be doing as a leader to support and challenge the clinical teams. It gave me courage to say and do challenging things and a real passion for patient safety.*

*Stephen Ramsden, former Chief Executive, Luton & Dunstable NHS Foundation Trust*



*Culture is one of the most difficult things to change but I think safety is definitely seen as a priority across the organisation now*

Liz Childs, Director of Nursing and Quality / Deputy Chief Executive,  
South Devon Healthcare NHS Foundation Trust

other hospitals. And, through its focus on measurement for improvement, the initiative has helped increase the transparency of data and reporting both within and between organisations.

**What difference have SPI hospitals made to the experience and outcomes for patients?**

All of the trusts involved in the Safer Patients Initiative have improved their processes for care delivery and have made care safer and more reliable for patients.

Self-reported data from the four hospitals involved in SPI 1 indicates that they reduced variation and demonstrated improvement over time in rates of:

- ventilator-associated pneumonia
- central line catheter bloodstream infections
- anticoagulation adverse drug events
- crash calls
- surgical site infections.

Over the timescale of the programme, the 20 trusts participating in SPI 2 reported a range of clinical improvements that significantly reduced harm to patients. These included:

- a 50% reduction in MRSA infections on ICU, achieved by 18 hospitals
- central line infection (CVC BSI) rates reduced to zero by 17 hospitals
- ventilator associated pneumonia rates reduced to zero by 10 hospitals
- more than 300 days without a central line infection, achieved by nine hospitals
- MRSA rates on general wards halved by seven hospitals.

These improvements in care represent thousands of patients prevented from suffering avoidable harm.

*The Safer Patients Initiative helped focus national attention on what is needed to achieve meaningful and sustained implementation of safer practices at the frontline of healthcare. New and important insights on leadership, teamwork and measurement gleaned from the SPI experience provided a strong foundation for the Patient Safety First campaign.*

*The work of SPI has also helped build a national group of committed clinicians and managers who seek to improve patient safety even when times get tough. And it has done it in way that has built collaborative relationships across individuals, teams and organisations, which, in themselves, will have lasting benefit for patient safety and the NHS.*

Martin Fletcher, CEO, Australian Health Practitioner Regulation Agency, former Chief Executive of the National Patient Safety Agency



*There's a natural resistance towards change and any model for change. But I think SPI's just been such a superb model of how to go about changing a process*

Chris Uridge, Consultant Physician in Elderly Care and General Medicine,  
South Devon Healthcare NHS Foundation Trust

#### **How has the Safer Patients Initiative shaped the wider NHS system and policy?**

The impact of the Safer Patients Initiative on wider policy in the NHS has not been systematically measured. However, there is much anecdotal evidence indicating that the initiative helped raise the profile and the priority of safety improvement and has been extremely influential on the development of the patient safety movement across the UK.

When we set up the programme in 2004, there was little focus on organisational efforts to reduce harm and improve safety. The Safer Patients Initiative filled a gap. It highlighted the need to reduce variation and increase reliability of clinical practice in order to reduce harm. It provided, for the first time in the UK, real time data on levels of harm, a practical approach to routine measurement and a set of evidence-based interventions to improve patient safety.

The Safer Patients Initiative helped create new standards of care and a belief that improvement was possible. Five years on, the improvement approach adopted by hospitals participating in the programme continues to shape their work and has influenced many others.

The Safer Patients Initiative not only helped build the will for safety improvement within participating hospitals but also did so at a national level. It strongly influenced and informed the design of national patient safety programmes and campaigns within each of the four UK countries. In many instances, the people leading these initiatives have been directly involved in the Safer Patients Initiative.

The NHS Institute's Leading Improvement in Patient Safety programme (LIPS), the Patient Safety First campaign, the Welsh 1000 Lives campaign, the Scottish Patient Safety

*The Scottish Patient Safety Programme run by NHS Quality Improvement Scotland on behalf of the Scottish Government was built on the good work carried out by NHS Tayside as part of the first wave of the Safer Patients Initiative. The learning of what works to execute improvement helped shape our programme which is also supported by the Institute for Healthcare Improvement. Our early results are a testament to the validity of engaging staff in reducing harm to patients.*

Dr Frances M. Elliot, Chief Executive, NHS  
Quality Improvement Scotland

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Programme and the Irish Health and Social Care Safety Forum all attribute the impetus for and shape of their work to the foundations built by the Safer Patients Initiative.

The 2009 House of Commons Health Select Committee's report into safety cites the initiative and recommends that NHS organisations actively use data sources and methods advocated by the programme. In its response to the Committee's findings, the Labour government stated:

*'Building the will and desire to lead change directly and at the right level, and providing these key staff with the skills to achieve positive change, are the hallmarks of projects like the Safer Patients Initiative and the Patient Safety First Campaign that are to be encouraged and promoted. Sustainable change in every healthcare organisation – not just some – is only possible if the principles and practices of initiatives such as these are embraced.'*

*Having been involved in some major NHS improvement collaboratives, including one looking at adverse drug events, I initiated an internal collaborative on medication error at Luton & Dunstable NHS Foundation Trust. Involvement in Pursuing Perfection got the chief executive engaged and we started looking at harm and mortality. The Safer Patients Initiative was the piece of the jigsaw that brought it all together.*

*Part of its power was in bringing multidisciplinary teams of engaged clinicians together to learn collaboratively and exposing them to a credible faculty, new knowledge and skills. It was empowering for senior doctors and nurses to see how they could make a difference and provide clinical leadership. SPI also recognised the importance of executive team buy-in.*

*The Leading Improvement in Patient Safety programme has been a manifestation of that learning and has subsequently provided one of the main vehicles for building safety improvement capability in the NHS.*

*Kate Jones, Head of Safer Care, NHS Institute for Innovation and Improvement*

# 6

## What have we learned? Key lessons from the evaluations

The Safer Patients Initiative has generated considerable learning and new insights. In particular, that a wider set of methods and approaches are needed to impact on patient safety at an organisational level. It has also highlighted the scale of the resources needed to make organisation-wide change, the need to make changes at every level of the system from policy to deep engagement with professionals and the time needed to deliver and embed improvements.

Key themes and lessons, surfaced by the three strands of evaluation and reflections from the participating hospitals, include issues of organisational readiness, improvement practice, and the embedding and evaluation of change.

### Organisational readiness

#### Assessment of organisational readiness

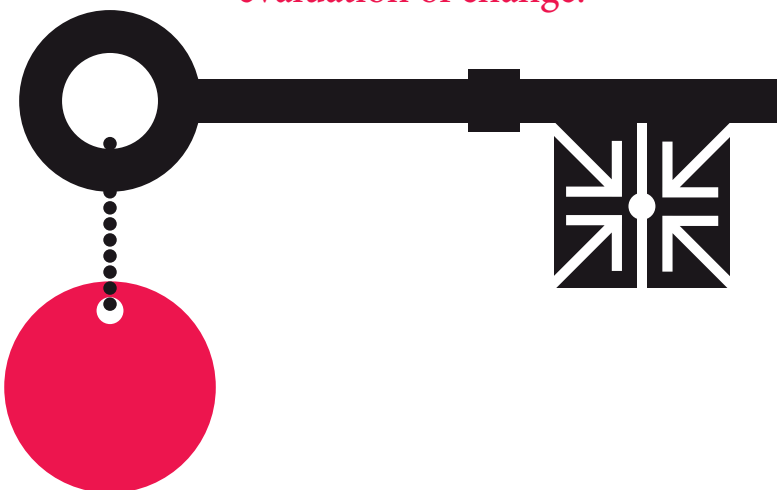
The experience and evaluations of the Safer Patients Initiative help to surface a number of factors that helped or hindered success. When participating teams themselves were asked to identify their main barriers to progress, the top three most commonly cited were:

- data management
- reorganisation and executive change
- staff engagement and buy-in.

The challenges faced and recognised by participating hospitals in implementing the programme reiterates those identified by external evaluators. For example, results from SPI 2 show that it took nine months from the start of the formal programme before all sites were measuring against the full set of project measures. This illustrates the difficulties faced by hospitals in getting the necessary systems and teams in place across the organisation.

The Journey to Safety research found that organisational readiness for change was determined by a combination of factors, including: a track record of improvement; communication and education prior to the programme onset; team selection and programme management structure; financial stability and ability to meet targets; and engaged clinicians.

The research team suggests that prior to starting an organisation-wide programme on quality and safety improvement, organisations would benefit from an 'assessment of readiness',<sup>25</sup> with time spent on the preparation of organisational infrastructure, processes and culture.





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### **Clinical engagement**

The experience of the Safer Patients Initiative showed that the drive to reduce avoidable harm strongly connects with the values and internal motivation of healthcare professionals. The programme proved a powerful vehicle for engaging key clinical staff in the patient safety agenda.

By bringing together evidence-based interventions with a set of tools and techniques for measurement and improvement, the initiative provided clinical leaders with a practical approach to change. The use of real time data gave staff insight into both the level of harm within their area of work and how the changes they made impacted on clinical outcomes.

However, despite the high levels of knowledge and enthusiasm among senior clinical stakeholders actively involved in the Safer Patients Initiative, ward staff generally did not feel as engaged in the work and medical engagement remained one of the programme's biggest barriers.

The experience of the Safer Patients Initiative reiterates the importance of the professional component in improving quality and the need for early and full engagement of clinical leaders. A greater focus on wider staff engagement and local ownership is vital to maximising improvement efforts and ensuring sustainable change. The Journey to Safety research points to seven key factors that organisations should address to achieve optimal clinical engagement.

### **Data and measurement**

Staff experience of process measurement was very positive. Real time information helped people understand cause and effect, engendered local ownership of data for improvement and made the current reliability

of care visible, thereby enabling improvement. However, there was a lack of appropriate measurement systems within the SPI sites and numerous data quality issues, including technical problems with definitions and implementation.

Since existing measurement systems were designed to respond to national targets, the majority of trusts did not routinely collect most of information required to provide baseline data for the programme. For example, fewer than five of the 43 measures used in SPI 2 were readily available and data collection systems had to be developed from scratch. In addition, the legacy of using data for performance management required a paradigm shift to using measurement for improvement and resulted in greater time and effort needed to develop transparency of data and reporting.

### **Quality improvement capability and capacity**

Continuous process measurement and feedback to support continuous improvement is ideal in theory but harder in practice. Few trusts involved in the initiative had systems in place to ensure staff had requisite skills in measurement and quality improvement methods. Therefore, they needed to provide training as interventions were rolled out more widely.

The learning from the Safer Patients Initiative highlights the need to create organisational capacity and capability for improvement. Clinical staff and leaders need to be skilled both in understanding issues of harm and in improving quality of care. While the long journey of building skills and capability has begun,<sup>26</sup> NHS organisations need more systematic approaches to training staff in reliability, measurement and quality improvement methods. This is vital to



*The Safer Patients Initiative was instrumental in the success we achieved in Wales with the 1000 Lives Campaign. It gave us capability, confidence, courage and a sense of 'can do' that we were able to build upon*

*Professor Jonathan Gray, Joint Director of the 1000 Lives Campaign*

ensure that enough staff are skilled in safety improvement to mitigate the effects of key individuals moving within and away from organisations.

### **Context and environment**

Through our work, we are increasingly aware that improvement is dependent on people, context and intervention. The Safer Patients Initiative provided well-described interventions and aimed to select sites with a predisposition to improvement in terms of people and context. However, in reality, these second two factors were highly variable across participating hospitals.

The greatest level of success was generally reported within more defined clinical areas, such as intensive care. These, arguably, have greater scope to address people and context issues, including a stronger team culture and the day-to-day leadership needed to drive measurement and improvement.

The external environment also plays a role. While much of the patient safety work undertaken by hospitals in SPI 1 was pioneering, the time span of SPI 2 overlapped with the development of new safety programmes and campaigns, which built on the initiative. These helped raise the profile of patient safety further and spread safety improvement knowledge and skills more widely within the NHS, closing the gap between SPI hospitals and other trusts.

Finally, the Safer Patients Initiative highlighted the need to recognise differences in context when 'importing' interventions from other health systems. For example, the measurement strategy introduced in the initiative assumed an availability of data comparable to that in the US. In reality, few of the measures were routinely collected in NHS hospitals, requiring new systems of data collection to

be developed before the clinical interventions could be fully implemented.

### **Improvement practice**

#### **Aims and goals**

The aims of the Safer Patients Initiative were purposefully set as ambitious, stretch goals to capture attention and galvanise action. These aims proved a powerful vehicle for engagement. However, these goals were too ambitious to be realisable within the programme's timeframe.

Although by the end of the initiative, some sites were reporting significant progress towards the goals, the programme had limited penetration into organisations within the first 18 months. There is a tension, and a balance to be struck therefore, between the need for bold aims to focus attention and effort, and the need to be realistic about what can be achieved.

Improvement initiatives and participating organisations need both to articulate an aspirational vision and provide clear, realistic goals against which progress can be measured.

#### **Interventions and methods**

The Safer Patients Initiative drew together safety knowledge with quality improvement approaches. There are key interventions we know reduce harm in clinical settings. The initiative provided a test bed for combining a set of four clinical interventions with leadership strategies<sup>27</sup> to raise awareness of harm and address safety concerns. It gave organisations a focus and helped them prioritise their improvement efforts.

The experience of SPI 1 highlighted the importance of clarity in both the interventions and improvement methods. We built on this learning for SPI 2, providing greater definition

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and attention to specific goals for process and intermediate outcome measures.

By applying a framework of improvement methods and tools to understand harm, implement solutions and continually improve, the Safer Patients Initiative has generated new learning on patient safety improvement. Other NHS organisations have continued to test and refine these clinical and leadership interventions within wider safety programmes and campaigns.

### **Leadership of change**

Leaders are needed at every level of an organisation in order to bring about sustainable improvements in patient safety. While frontline clinical engagement and leadership is crucial to the success of efforts to improve processes of care, executive leaders also play a key role.

Chief executives, medical and nursing directors and other members of the board need to clearly articulate and communicate patient safety as a strategic priority and demonstrate their commitment in the actions they take. The experience of the Safer Patients Initiative showed that where strong executive leadership joined with motivated clinical leaders, significant change could be achieved.

Specific techniques, such as executive WalkRounds™, encourage visible leadership and provide insight into the organisation, its staff and its culture. Used well, they provide opportunities for senior leaders to listen to and address patient safety concerns with frontline staff. However, organisational leaders need to develop robust processes, beyond WalkRounds™, that ensure that they work proactively with staff to tackle the safety and organisational problems highlighted and widely communicate these actions.

### **Team working and multi-professional collaboration**

Alongside measurement systems, the improvement teams involved in the Safer Patients Initiative perceived the greatest impact of the programme to be on multi-professional collaboration, culture, communication and team working.

The design of the Safer Patients Initiative purposefully facilitated multi-professional working, with a structure to support this. The programme required organisations to put together local improvement teams drawn from across professional and managerial groups, which came together for national learning sessions.

In addition, the improvement methodology used provided practical communication tools and methods to facilitate multi-professional collaboration and team working within clinical areas. These included safety briefings, the situation, background, assessment, recommendation (SBAR)<sup>28</sup> communication tool and early warning score systems.

### **Embedding and evaluating change**

#### **Scale up and sustainability**

The Safer Patients Initiative provides further learning on issues of scaling up and sustaining change. It is clear that the programme's theory for spread was underdeveloped and the number of staff exposed to SPI approaches within organisations was limited. At two years, most of the participating hospitals were only just beginning to scale up improvements beyond their pilot populations, some not at all.

Patient safety improvement needs to become truly embedded in mainstream systems, with staff accountable for delivering reliable care. Unless this happens, organisational change, such as mergers and changes of leadership,





*To sustain efforts and gain organisation-wide impact, there needs to be greater engagement of board members, middle managers and commissioners in the safety agenda*

can destabilise progress and reverse achievements. Initiatives at organisation level need both a theory and strategy for spread, made explicit within the programme, to ensure they become embedded and sustained rather than remaining as isolated projects.

### **Timescales for change and improvement**

The time taken to build reliable measurement systems within participating trusts had an impact on the speed at which teams could initiate tests of change and improvement strategies. The programme achieved limited penetration into hospital-wide systems within the two-year timescale, remaining mainly as a 'project' rather than being embedded into mainstream structures and processes. In addition, the high levels of knowledge and enthusiasm found among senior stakeholders had not yet extended further among frontline staff.

It was therefore not surprising, in retrospect, that the Safer Patients Initiative did not achieve an organisation-wide effect within the timescales of the programme and its evaluation. However, the external evaluators recognise that effects may have occurred in areas not specifically assessed by the study design and that these may surface in the longer term.

### **Whole system change**

The experience of the Safer Patients Initiative highlights the complexity of creating whole system change in healthcare, where the causal link between intervention and outcomes is rarely straightforward. Organisational patient safety interventions and efforts may need improved implementation, including more explicit theories of change and better recognition of the scale of resource, effort and support needed for participants.

A wide set of strategies are required, including: greater attention to the role of

boards; greater engagement of clinicians and understanding what shapes their decision making and actions; an emphasis on capability building; and influencing through professional networks.

Quality improvement is only sustainable if there is a focus at every level of the system. To sustain efforts and gain organisation-wide impact, there needs to be greater engagement of board members, middle managers and commissioners in the safety agenda.

Improving and sustaining patient safety in hospitals is an enormous challenge, requiring a long-term focus and commitment. The Safer Patients Initiative has enabled NHS organisations to understand what is needed and the challenges involved.

### **Evaluation and research**

The three strands of evaluation of the Safer Patients Initiative have surfaced some important reflections on research and evaluation of complex, organisational interventions.

Evaluation approaches need a mixture of qualitative and quantitative methods and a longitudinal design in order to capture dynamic change in socio-technical systems, such as healthcare. Measurement models need to take into account organisational capability for continuous quality improvement. In addition, the research or evaluation design should be sensitive to complex variation and be able to capture the interactions between programme interventions and the local context.

Evaluation of quality improvement programmes needs to combine both process and outcome measures but also recognise the difficulty of achieving and attributing outcomes in complex healthcare settings.



*Improving and embedding patient safety in NHS organisations and across healthcare systems is a massive challenge ... a marathon, not a sprint*

The design needs to take account of the level of the system at which the intervention is taking place and where the impact can be expected to occur.

There is a debate in the literature about whether using the dominant approach to assessing the effects of pharmaceutical and clinical interventions (for example, control group comparison) is appropriate for assessing the effects of complex, organisational change programmes or whether measurement for improvement offers a better approach. We value both and suggest the two could be combined to provide better insight into how powerfully, and the reasons why, an intervention works.

## 7

# Embedding the learning: the influence of the Safer Patients Initiative on Health Foundation programmes

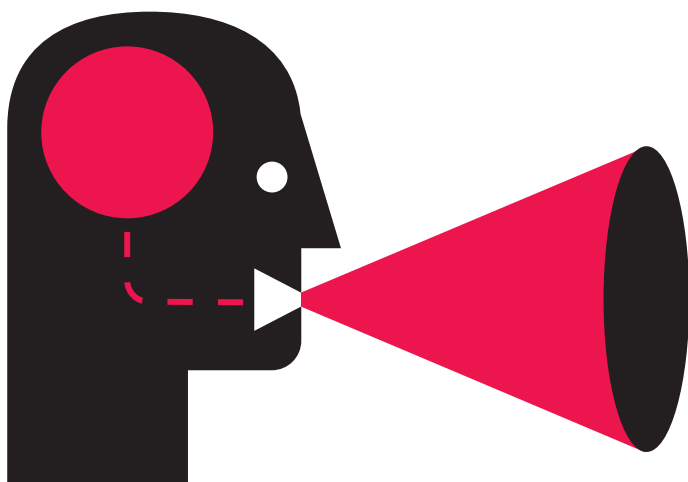
The Safer Patients Initiative, was our first demonstration programme. Through it we have identified significant learning for programme design, development and evaluation and for improving quality more broadly.

The lessons of the Safer Patients Initiative fit well with our organisation's theory of change, which emphasises the importance of: identifying current evidence and knowledge; creating and testing new ideas for change; demonstrating how these can be implemented at scale; and encouraging continuous improvement and spreading learning. We are confident that we have already learned from Safer Patients Initiative, applying these lessons to how we approach and develop our work.

Our demonstration programmes now undergo a design stage when our technical partners and evaluators work together to develop a clear programme theory and set of underpinning approaches and methods. This enables us to develop clear, viable interventions, and evaluations capable of producing the knowledge and learning we seek for the wider healthcare system.

In the past two years, we have expanded our safety work beyond the scope of the Safer Patients Initiative, recognising that we need to employ a wider range of methods and address a broader array of harm and potential harm to patients.

In October 2008, we established Safer Clinical Systems. This programme aims to increase reliability in systems of care, thus reducing the failures in clinical systems that result in harm to patients. Currently in the innovation phase, the Safer Clinical Systems teams, from four sites, are using a wide range of approaches, from human factors science and systems thinking to develop and test interventions to reduce variation, and develop pro-active approaches to anticipating and controlling risk and increasing reliability in a number of clinical support processes – such as clinical handover, information delivery, prescribing and medicine management. Another of our programmes, Flow Safety Cost, is supporting





*We have learned a great deal about building knowledge, techniques, skills and new practices in patient safety. Scale up and spread remain a challenge. We need to find more ways to support clinicians and managers to implement tried and tested, evidence-based changes to healthcare, so that we can build a broader, more robust evidence base for safety improvement at all levels of the healthcare system*

*Jane Jones, Assistant Director, Health Foundation*

two further trusts, over three years, to develop evidence on the relationship between improving patient flow, patient safety and cost.

Recognising that improving organisation-wide safety is a long-term challenge, we have supported the majority of sites involved in the Safer Patients Initiative to form an ongoing community of practice – the Safer Patients Network. Launched in June 2009 and supported by the Health Foundation and IHI, the network continues to develop and share learning on patient safety, with the aim of being a catalyst for improving safety within the NHS. It is building on the achievements and learning from the Safer Patients Initiative to test and develop new patient safety approaches (for example work in junior doctor induction, peripheral vascular catheters, pressure sores and dementia) to help build improvement capability within the wider NHS workforce. Many individual members of the Safer Patients Network are part of a growing faculty of clinical and executive leaders who have built on the safety and improvement expertise gained through their involvement in the Safer Patients Initiative and are working with other programmes and campaigns to improve patient safety in the NHS.

We aim to promote the uptake of patient safety interventions across the NHS in England, raising the ambition of NHS organisations beyond the five interventions promoted by the Patient Safety First campaign. To achieve this, we are now partnering with four Strategic Health Authorities to help develop their patient safety infrastructure, test the approaches used in the Safer Patients Initiative within new clinical services and settings, and understand how to spread improvement across whole regions.

In 2009, we established programmes that specifically aim to improve patient safety in

a number of clinical settings, beyond general acute care. We are now working with maternity services, mental health organisations and GP practices to develop and test approaches to reduce harm, increase reliability and improve teamwork and safety.

Making clinical quality and safety a priority requires board level leadership. We are currently exploring, through early pilot projects, a range of board development interventions and improvement approaches, to enable better governance of patient safety within organisations.

Beyond our safety programmes, we are also supporting groundbreaking work to address some of the common challenges to improving quality and safety. Improving quality is a rigorous, systematic, data-driven and evidence-based activity and we see real advantages to framing it as ‘Improvement Science’. We are working with a group of international experts to define the components and boundaries of this science and we have launched a new post-doctoral training programme in improvement science to build leadership capacity in this applied academic field for the future.

Although organisational context is only one of a range of factors affecting the success of interventions, it is highly important for the following areas of our work: spread and scale up (understanding what interventions are appropriate to be replicated in which situations); how we support organisations to take best advantage of the appropriate tailored interventions to improve quality; our programme design and implementation; and measuring and evaluating interventions (understanding context can enable appropriate measures of the success of interventions within the appropriate timeframe). We have commissioned primary research in this area.

# 8

## Looking to the future: building on the learning from the Safer Patients Initiative

The field of patient safety has changed significantly since the launch of the Safer Patients Initiative. Our awareness and understanding of the nature of harm in healthcare has greatly increased. We have acquired greater knowledge about evidence-based interventions that reduce variation and increase reliability in clinical processes, and thus reduce avoidable harm.

National and regional safety initiatives across the UK have built on the foundations of the Safer Patients Initiative and helped generate the conditions for local patient safety improvement to grow. In turn, local achievements and learning have shaped national initiatives. Together, these developments have created new standards and expectations of care and increased our collective knowledge and skills in improving patient safety.

A series of high profile cases of significant failure in patient safety have also driven the agenda for change and raised public awareness of harm, bringing increased focus and urgency to safety improvement. At a policy level, patient safety is now articulated as a clear priority and has become more closely linked with the national drive to improve quality of care while increasing productivity and efficiency.

Perhaps most significantly, our collective understanding of the complex challenges involved in large-scale safety improvement efforts has grown and we now have a clearer agenda for future innovation and action.

The new programme of reform within healthcare presents challenges for addressing the issues identified through the Safer Patients Initiative and for maintaining the momentum of safety improvement work.

The focus on service reconfiguration and achieving financial savings may reduce the attention and priority placed by boards on patient safety, while any indiscriminate cuts in staffing and other resources may disrupt the flow and effectiveness of care pathways and resource supply. We are already seeing reductions in staff training and education in many trusts, which could directly impact on the quality improvement capability that is vital for creating a culture of safety within organisations.



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More optimistically, reform also provides opportunity. Integrating primary and secondary service provision could help tackle key safety issues, such as variation in practice and communication across organisational boundaries. The current financial environment could provide the focus we need to redesign services in a way that eliminates avoidable harm and improves the safety of patients.

To achieve this, however, we must ensure that we retain, disseminate and apply our collective learning.

### **Future challenges for patient safety**

From the key lessons identified by the various strands of evaluation and research relating to the Safer Patients Initiative, a number of complex and important issues have emerged. Each requires further exploration and debate to build on the learning so far and progress the patient safety agenda.

These include:

#### *Continuing to build and strengthen the evidence base*

- Which new clinical interventions will have the biggest impact on reducing avoidable harm, in both acute care and other health sectors?
- How do we ensure the continued creation and testing of new methods drawn from a wider science base of solutions to improve patient safety?
- How can we bring together research and clinical practice to develop evidence-based, implementable solutions?

#### *Meeting the challenge of measuring patient safety*

- What systems are needed to accurately measure and intelligently report patient safety data?

- How do we translate that data into meaningful information for action that takes into account the inherent complexity of healthcare?

#### *Theories of change - exploring different approaches to improving patient safety on a large scale*

- What have we learned from different methods and approaches to improving quality and safety? How does this inform our theories on how to engender positive change?
- What are the models and theories for organisational change that can provide the framework for large-scale interventions?
- How can the best elements of social movements and structured programmatic approaches be harnessed to achieve the large-scale improvements we need in patient safety?

#### *Greater engagement of Boards, middle managers and commissioners in the safety agenda*

- How do we ensure that safety is top priority at every level of the NHS system and embedded in operational management?
- How can policy makers ensure alignment of the drivers within the system to enable safer, more reliable systems of care?

#### *Strengthening organisational capacity for continuous quality improvement*

- How do we support the workforce to learn from the wider evidence base to continually improve patient safety?
- How do we widen and deepen the capability for measurement and improvement among frontline staff, middle managers and senior leaders?
- How do we address the cultural challenges that impede patient safety efforts and improve teamworking and human factors?





*The work of SPI has also helped build a national group of committed clinicians and managers who seek to improve patient safety even when times get tough*

*The need to spread and embed safety improvements, and the methods used to achieve them, within mainstream systems*

- How can we ensure that the impact of patient safety interventions extends beyond projects and test sites?
- What is needed to embed improvements and learning into everyday structures and processes?

*Building the link between safety improvement and productivity*

- What do we need in order to build and strengthen the link between increasing productivity and improving patient safety?
- How can we frame this agenda in a way that engages both clinical and managerial leaders and meets the future needs of patients and the NHS?

*Exploration of the role patients and the public can play in creating safer healthcare*

- How can we use the growing emphasis on co-design and co-production of service with patients, carers and families to accelerate the safety agenda?
- What role can they play in building organisational cultures that support safer care and create more reliable systems?

*Wider research and evaluation of safety programmes*

- Can traditional control group evaluation and measurement for improvement approaches be combined to provide deeper understanding of how complex, organisational initiatives work?
- How do we measure the development and impact of safety initiatives over time?

*The balance between motivational and evaluative goals*

- How do we provide ambitious, stretching aims for improvement, while ensuring that initiatives and programmes are not 'set up to fail'?

- Should we separate the goals set for motivation from those against which safety projects and programmes are evaluated?

There is a need to maintain continuity of the patient safety movement at a time of potential fragmentation and loss of momentum, particularly in England. We are committed to remaining at the forefront of work to accelerate the patient safety agenda and take it to the next phase.

We will work with a range of stakeholders within the NHS and beyond to continue to shape debate and develop learning around the challenges of building a sustainable culture of patient safety.

# Endnotes

- 1 Department of Health (2000). *An Organisation with a Memory*. London: Department of Health.
- 2 Department of Health (2001). *Learning from Bristol: the report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984 -1995*. London: Bristol Royal Infirmary Inquiry.
- 3 Pursuing Perfection was founded by the IHI in 2001. In England, the NHS Modernisation Agency supported the participation of six health and social care communities and a wider community of practice.
- 4 Based on the Hospital Standardised Mortality Ratio (HSMR) work of Sir Brian Jarman and Doctor Foster.
- 5 The Institute for Healthcare Improvement is an independent, not-for-profit organisation, based in Boston, US, which promotes and supports quality and safety improvement in healthcare.
- 6 Run charts are graphs of data over time. They help improvement teams formulate aims by depicting how well (or poorly) a process is performing. They help in determining when changes are truly improvements by displaying a pattern of data that you can observe as you make changes.
- 7 Statistical process control examines the difference between natural variation (common cause) and special cause variation, and enables data to be collected over time to show whether a process is within safe control.
- 8 The Institute for Healthcare Improvement. *Technical Report of the Health Foundation's Safer Patients Initiative Phase 2*. (Available on request)
- 9 Health Foundation (2011). *Evidence: Safer Patients Initiative phase one*. London: Health Foundation.
- 10 Health Foundation (2011). *Evidence: Safer Patients Initiative phase two*. London: Health Foundation.
- 11 Imperial College; Journey to Safety Study see our web page for reports and articles:  
<http://www.health.org.uk/areas-of-work/research/journey-to-safety/>  
<http://www.health.org.uk/areas-of-work/research/journey-to-safety-publications/>
- 12 The survey was adapted for the UK from the original developed by Dr Bryan Sexton et al at the Center of Excellence for Patient Safety Research and Practice, University of Texas.
- 13 IHI calculated the overall percent changes by taking the average adverse event rate for the first 6 months of data and comparing it to the last six months of data, ending in September 2006.
- 14 The WalkRounds™ trademark is owned by the principal author [Allan Frankel, MD] and the Health Research and Educational Trust (HRET), a subsidiary of the American Hospital Association.
- 15 Improvement was assessed by IHI's runchart rules. These included: a) a shift in the data, determined by having six months consecutive datapoints above or below the baseline median; and b) a trend, ie five or more consecutive months of data consistently going up or down.
- 16 The two full evaluation reports (*Evidence: Safer Patients Initiative phase one*; *Evidence: Safer Patients Initiative phase two*) are available via the publications section of the Health Foundation website: [www.health.org.uk/publications](http://www.health.org.uk/publications).
- 17 The Care Quality Commission's National Staff Survey was used. For SPI 1, surveys were sent to all staff in the four SPI hospitals and to a random sample of 850 staff in the 18 control hospitals.
- 18 Adverse events were identified through a holistic case note review undertaken by a specialist in general medicine. They were classified using measures based on evidence-based guidelines.
- 19 The Care Quality Commission's National NHS Acute Inpatient Survey in England was used.
- 20 The Care Quality Commission's National Staff Survey was used. For SPI 2, a random sample of 850 staff was used for the nine SPI and nine control hospitals included.
- 21 Using NHS data collected routinely for the National Observational Study to Evaluate the "cleanyourhands" campaign (NOSEC).
- 22 Benn J, Burnett S, Parand A, Pinto A, Iskander S, & Vincent C. (2010) Perceptions of the impact of a large-scale collaborative improvement programme: Experience in the UK Safer Patients Initiative. *Journal of Evaluation in Clinical Practice*: 15(3): 524–540.
- 23 The Care Quality Commission's National NHS Acute Inpatient Survey in England was used.
- 24 Burnett S, Benn J, Pinto A, Parand A, Iskander, S, Vincent, C. (2010) Organisational readiness: Exploring the preconditions for success in organisation-wide patient safety improvement programmes. *Quality and Safety in Health Care*: 19(4):313-7.
- 25 Ibid.
- 26 1,000 staff from 107 acute trusts have now attended the NHS Institute's Leading Improvement in Patient Safety (LIPS) training programme. 17 primary care trusts and 9 mental health trusts have also participated.
- 27 Refer to pp32-36 of this document for appendix showing intervention driver diagrams.
- 28 SBAR (Situation Background Assessment Recommendation) is a structured communication tool developed by Kaiser Permanente in the United States.



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# Further reading and resources

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The following publications are available via the publications section of the Health Foundation website at:

[www.health.org.uk/publications](http://www.health.org.uk/publications)

Health Foundation (2011). *Evidence: Safer Patients Initiative phase one*. London: Health Foundation.

Health Foundation (2011). *Evidence: Safer Patients Initiative phase two*. London: Health Foundation.

Health Foundation (2010). *Snapshot: Patient safety*. London: The Health Foundation.

Health Foundation (2010). *Theory of Change*. London: The Health Foundation.

Read the case studies to find more detail about the work undertaken by the hospitals involved in the Safer Patients Initiative at:

[www.health.org.uk/spicasestudies](http://www.health.org.uk/spicasestudies)

Health Foundation (2011). *Case study: Critical care in practice*. London: The Health Foundation.

Health Foundation (2011). *Case study: General ward workstream in practice: Bradford and York teaching hospitals*. London: The Health Foundation.

Health Foundation (2011). *Case study: A closer look at Luton and Dunstable Hospital*. London: The Health Foundation.

Health Foundation (2011). *Case study: Medication management workstream in practice: Ninewells hospital*. London: The Health Foundation.

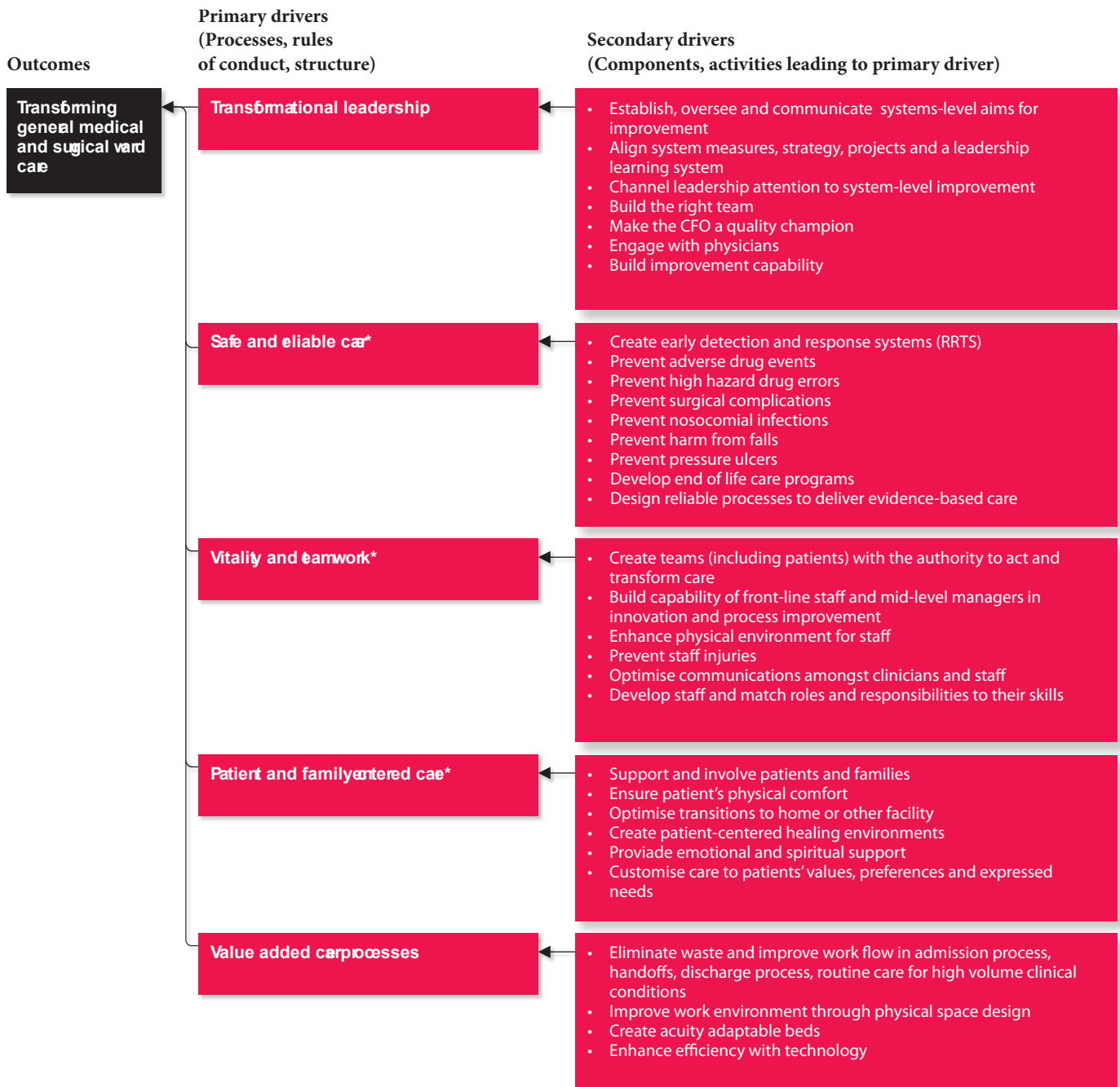
Health Foundation (2011). *Case study: A closer look at Musgrove Park Hospital*. London: The Health Foundation.

Health Foundation (2011). *Case study: Perioperative care in practice: Causeway hospital and Wrexham Maelor Hospital*. London: The Health Foundation.

# Appendix



## General ward care driver diagram and change package

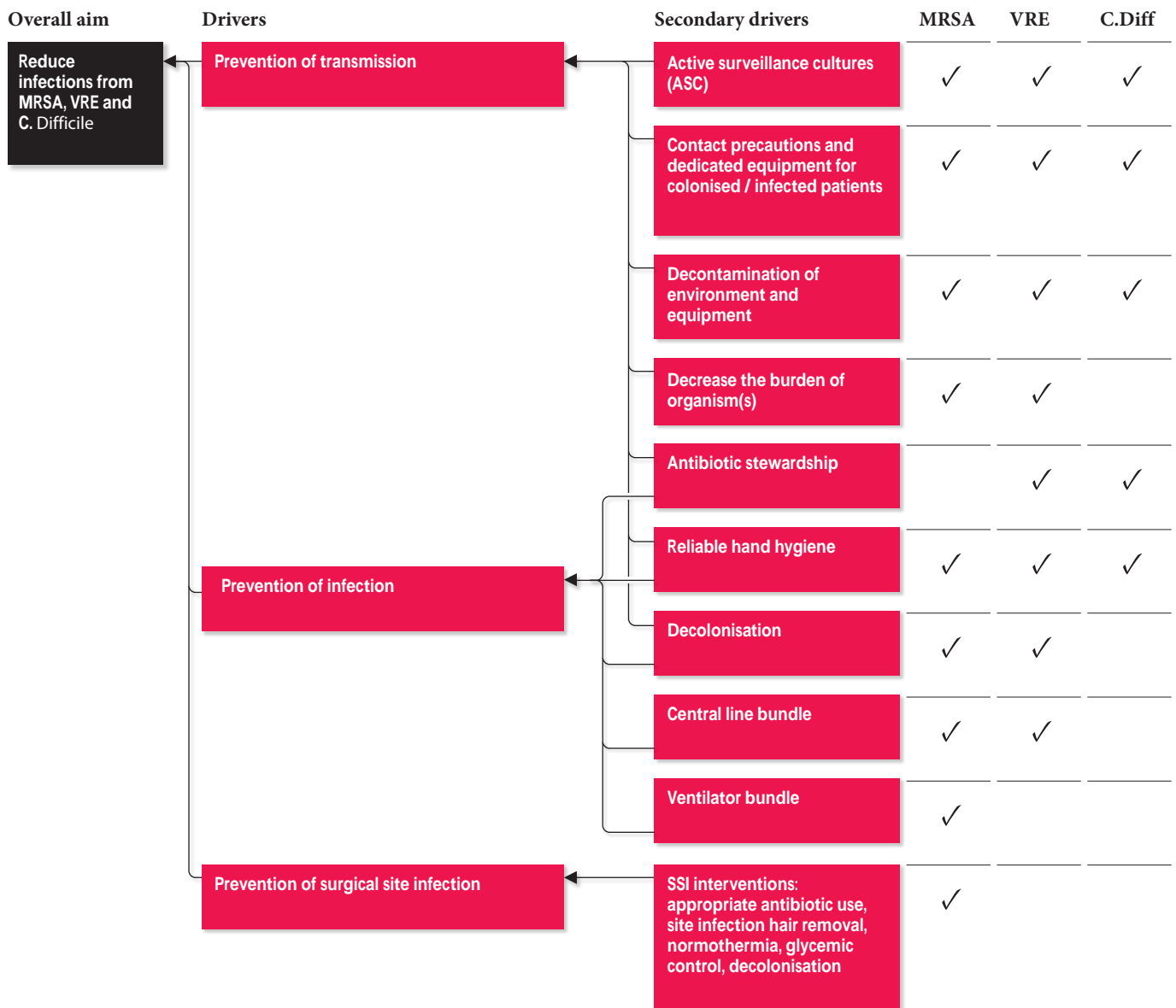


\*More details on following pages

Based on the work of The Robert Wood Johnson Foundation & The Institute for Healthcare Improvement 2007 The Safer Patients Initiative General Ward Care Driver Diagram and Change Package & The Institute for Healthcare Improvement 2007

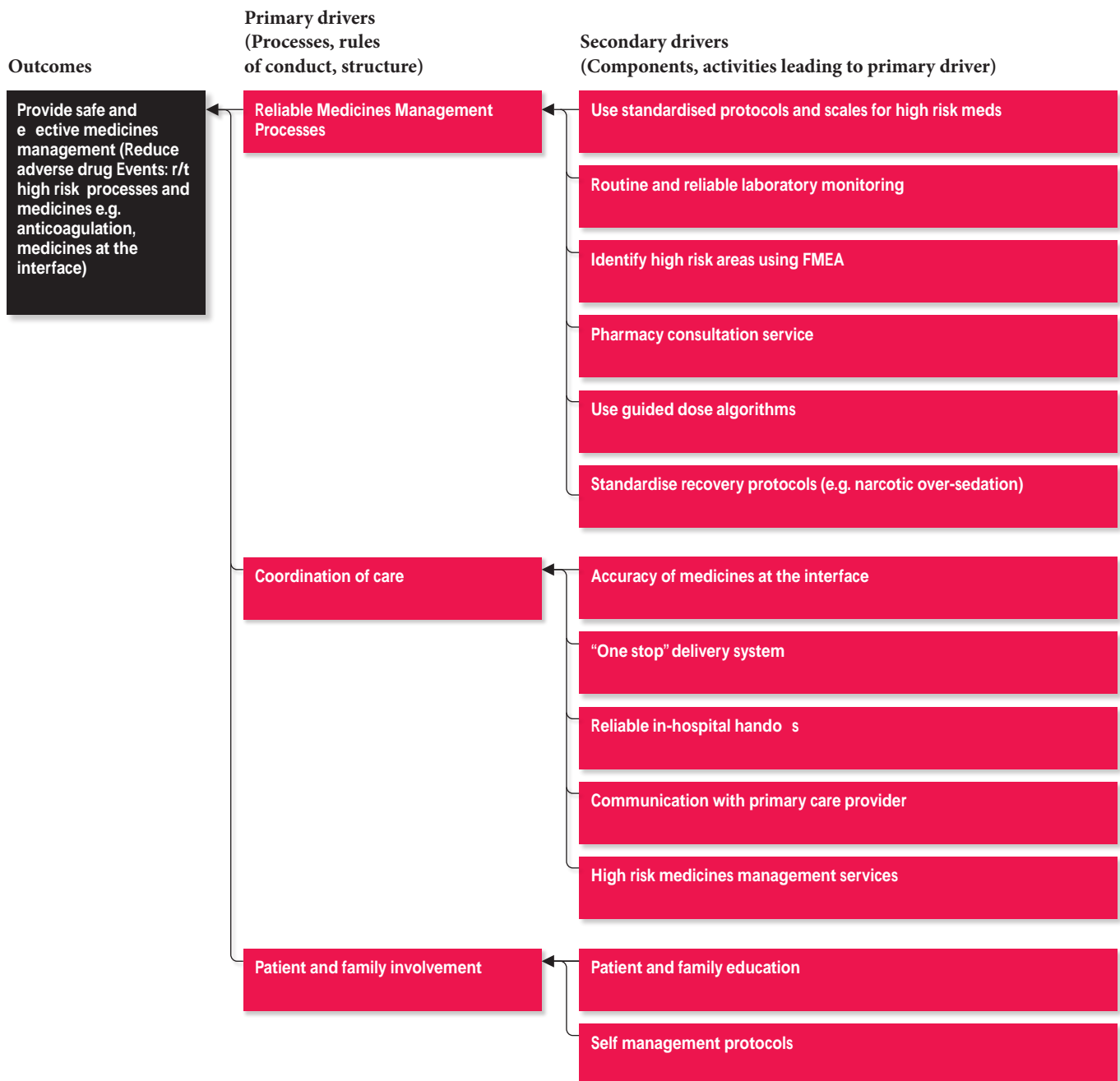


## Preventing hospital acquired infections driver diagram and change package





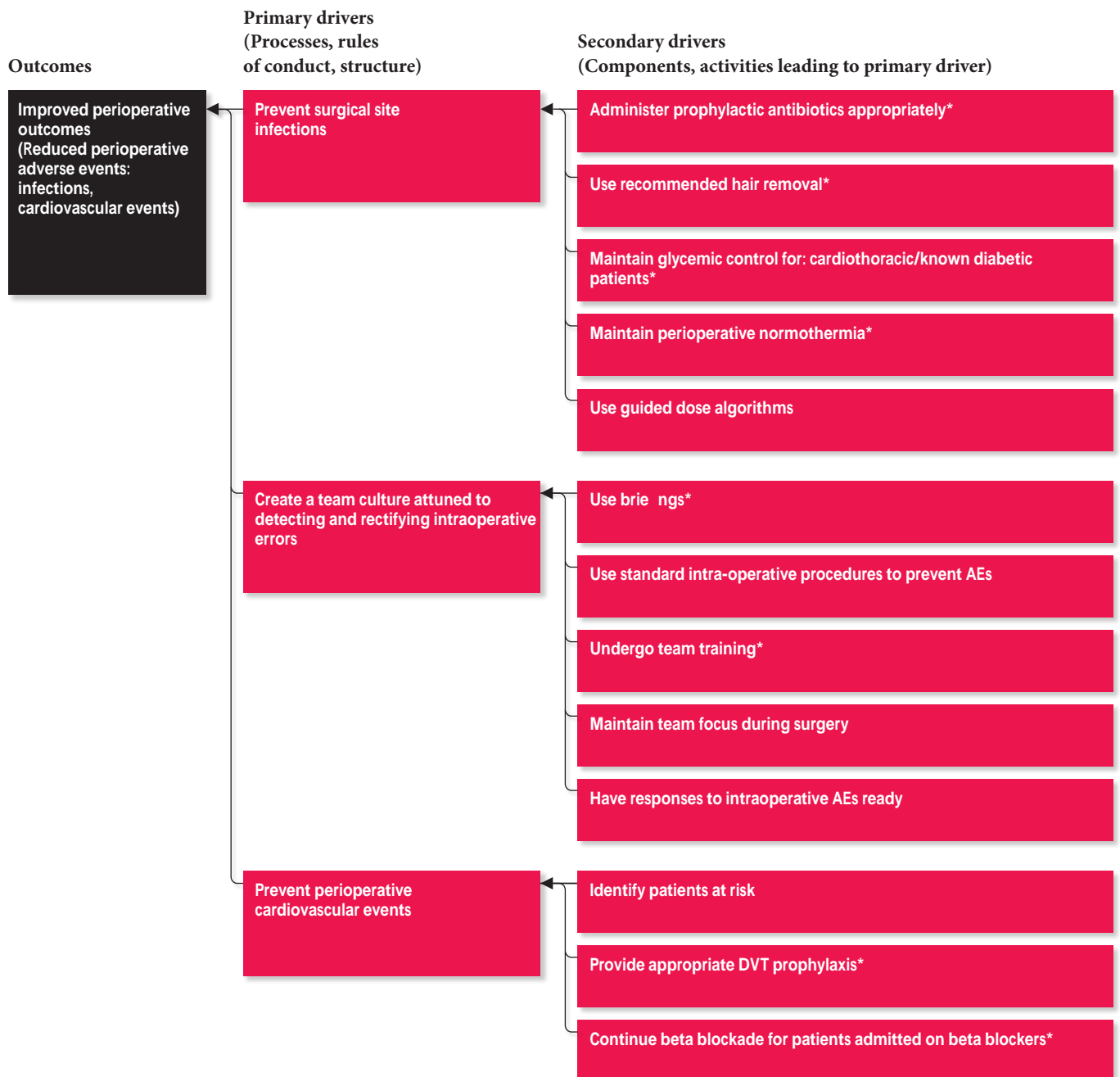
## Medicines management driver diagram and change package



\*More details on following pages  
The Institute for Healthcare Improvement 2007



## Perioperative driver diagram and change package



\*More details on following pages  
The Institute for Healthcare Improvement 2007



## Critical care driver diagram



\*More details on following pages  
The Institute for Healthcare Improvement 2007



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We want the UK to have a healthcare system of the highest possible quality – safe, effective, person-centred, timely, efficient and equitable.

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ISBN 978-1-906461-23-2

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