‘Safety Express’
Guide to Programme Delivery

This guide contains materials to support delivery of Safety Express including examples of key documents, forms, worksheets & learning session programmes.

January 2011
Disclaimer

This document is an organic, living document. It will be used and refined throughout the Pilot Phase of the Safety Express programme (January to June 2011). We welcome participants’ ongoing feedback to enable full collaboration and input from all stakeholders. Should you wish to provide feedback or updates to information contained within this document please forward this to:

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Welcome to Safety Express

Safety Express is the name of the QIPP safe care work stream. The design and concept emerged through a deep consultation with frontline teams. The programme is named ‘Safety Express’ because we aim to move together at a pace and scale which is previously unprecedented in English healthcare. Safety Express is a ‘call to action’ for NHS staff who want to see a safer more reliable NHS with improved outcomes at significantly lower cost.

Safety Express is a partnership with existing programmes (in particular Energising for Excellence, High Impact Actions, Patient Safety First, the Productive Series and the National VTE Implementation group) and each SHA region. In January 2011, 1000 frontline staff (100 from each Strategic Health Authority) will come together with a shared aim of reducing harm from pressure ulcers, falls, catheter acquired urinary tract infections and blood clots (venous thromboembolism or VTE) and engage a further 3000 frontline staff by September 2011. They will set ambitious improvement goals and hold one another to account for increasing the proportion of patients who complete their episodes of care without experiencing any of the four harms. NHS staff will celebrate the patients who travel through their systems ‘harm free’.

Safety Express participants will work towards achieving this collaboratively, breaking down traditional organisational and geographical boundaries to share and learn together. Ten organisations from each Strategic Health Authority have been asked to lead a team which includes representatives from their local health economy. Each team will have up to 10 participants. Executive leads from the host organisation will work with the teams to review progress and remove barriers. Patients will be partners in the design and delivery of the change.

All organisations will measure progress in three or more localities (or organisations) and these measures will be shared regularly. A team will be successful if they reduce harm across their whole health economy, their results will reflect their interdependence. No longer will we see harm as someone’s ‘fault’ but we will see all harm as the responsibility of the system and amenable to changes in the systems and processes across organisations and between health professionals.

Each Strategic Health Authority has agreed to provide coordination and support to their 10 local teams and in turn they will be supported by a small national team (the Department of Health QIPP safe care programme management office). This programme is built on the principles of ‘all teach all learn’, everyone’s opinions will be valued, no ideas are bad ideas and each team will learn through testing and sharing. We will archive the great ideas and spread them quickly within our organisations, health economy, regions and country.
What will we focus on?

In Safety Express we will work on a single programme (outlined below) which will focus on system re-design of fundamental care processes and behaviours. We will use the Breakthrough Series Collaborative methodology to support this. Breakthrough Series Collaborative is a short-term (6 to 15-month) learning system that brings together a large number of teams from hospitals or clinics to seek improvement in a focused topic area.

Our first task will be to understand the expertise and resources which exist in our health economy. Through sharing and learning together we will get a more detailed understanding of how to develop changes to improve the key areas on the driver diagram below. This approach contrasts with the development of specialist bundles of care for each outcome which, whilst helpful for isolated improvement on a small scale, are not appropriate for rapid large scale improvement. We believe this approach aligns shared goals of ward teams and specialists in all four harms and allows us to enjoy productive (rather than duplicative) improvement.

What will teams do?

Teams will test changes in each of the primary drivers. For example one team will work on leadership, focusing on introducing active risk management or ‘intentional rounding’ (reviewing all patients periodically for key safety issues e.g. turning, toileting, food, fluid and pain management) whilst another will look to develop high levels of compliance to measuring fluid outputs. At learning sessions they will share their learning and exchange ideas. By the end of the first pilot we will have tested key changes which are known to influence outcomes, sharing solutions widely in the scale up phase for further refinement. This collaborative style of testing, sharing and learning is the essence of collaborative working.
Timelines and Programme Structure

**Phase 1 pilot (January to June 2011):** This pilot will be conducted over 6-months, comprising three face to face meetings (learning sessions) 60-90 days apart in January, March and June 2011. During this programme we will provide training in improvement, measurement and mobilising to 100 teams (1000 frontline clinicians and other key stakeholders) who will work together to innovate in pilot areas across the health economy. New knowledge will be archived into simple bundles and change packages.

**Learning Sessions:** SHA Regions will be grouped together into four groups or clusters: Group 1 (North West, North East, Yorks and Humber), Group 2 (East Midlands, East of England and West Midlands), Group 3 (South West and South Central) and Group 4 (South East Coast and London). The teams from these groupings (10 per region) will attend the learning sessions together. **Action Periods:** in the 60-90 day action periods (between learning sessions) a structured programme of WebExs (on line classrooms) will provide a weekly forum for discussion and learning.

**Phase 1 spread (June to December 2011):** In phase 1 the pilot teams will spread the learning within their organisations and across the health economy using the archive of changes in the change package. During phase 1 we will identify three organisations in each SHA region that are prepared to run the programme again with 10 more partners (these organisations will be known as Safety Nodes). We will work with them to skill up a clinical improvement and project team.

**Phase 2 pilot (September 2011 to February 2012):** In phase 2 the nodes will replicate the Safety Express programme supporting the new teams testing in pilot areas. This act of delivering improvement is known to be beneficial to the recipients and the host, driving further improvements in both.

**Phase 2 spread (February to August 2012):** In phase two the pilot sites will begin to scale up their activity to the whole system. There will also be regional learning and sharing sessions. Exemplar CQUINS will be developed and shared.

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20/01/2011
Section 1: Faculty

The Faculty for your improvement programme are a key part of the delivery of a collaborative programme. They are the driving force behind the organisation and delivery. In the National Programme we have a faculty (listed on page 44 ‘QIPP Safe Care National Advisors (faculty)’) and we are recommending that this model is replicated for each SHA and each host organisation i.e. each SHA will recruit a faculty as will each host organisation.

Sponsor: The sponsoring organisation is the HOST organisation for the collaborative.
Director: The collaborative director is responsible for the day to day management of the collaborative and is responsible for achieving results.
Improvement Leader: The improvement leader is the technical expert for the collaborative and provides the content for the Model of Improvement. The improvement leader is also responsible for achieving results.
Co-ordinator: The collaborative co-ordinator works with the director and manages administrative aspects of the collaborative. They are frequently the primary contact for participating teams and the faculty regarding learning sessions, registration for learning sessions and presentations.
Chair: A collaborative may have a single chair or co-chairs. One chair must be recognised as an expert in the condition of interest in the collaborative. The chair needs to have practical experience of improving services in his/her clinical area of expertise and be prepared to familiarise themselves with the Breakthrough Series Collaborative model.
Faculty: Careful attention needs to be paid to selecting members of the faculty. They must be well-versed in the evidence-base for the chosen topic, but primarily they must have practical experience in development of a successful program. The planning group should mirror the professional roles and types of organisations of the participating teams. Members need excellent communication, coaching and problem solving skills in order to work with a wide variety of teams. The faculty should also be chosen for the ability to work outside the traditional ‘education and training’ model. There is little didactic presentation in a collaborative, and faculty members frequently find that they need to be very flexible about sessions they facilitate.

Leadership Team: Some collaboratives have found it helpful to have a core team of sponsor, director, improvement leader and co-ordinator that meet weekly. Some decisions may require consultation with the chair.

The faculty group has two main functions:
- Present content or facilitate content presentation at the learning sessions
- Coach host teams throughout the collaborative

The time commitment for the faculty is variable but can be up to 8 days from planning through to the final event. This includes a planning meeting, 3 days at learning sessions and the final event, and approximately 3 days spread throughout the collaborative for material review, content preparation and participation in conference calls and other coaching activities.
Why a collaborative?

The NHS has applied forensic attention to producing guidelines and materials to support ‘best practice’. All over England educators are training clinicians on these optimum standards and this work is essential grounding for improved care. Increasingly however, we are finding that clinicians, familiar with the ‘what,’ are challenged by the ‘how’. How do I make the right thing happen in my organisation? This is where collaboratives have greatest benefit. Participation in a collaborative is not for the faint hearted. A collaborative is much more demanding than attending a study day because participants commit to work between learning sessions (or study days) to test changes which they bring back to the group.

A collaborative model is a proven intervention in which teams can learn from each other and from recognised experts around a focused set of objectives. The key to success is engagement, alignment and collaboration. Subject matter experts work with improvement experts who help organisations select, test and implement changes on the front line of care. Systems are re-designed from the bottom up using small tests of change. A collaborative provides a framework to optimise the likelihood of success for improvement teams. It works best when there is a deficit in quality which can be identified by teams as ‘unacceptable’ and where there are pockets of excellence which can be used for learning. Critical success factors include leadership support, patients at the helm, a clear aim, focus on measurement, an agreed time frame and clinical engagement. Teams commit to working together over a fixed period and attend three learning sessions. In-between learning sessions there are ‘action periods’ where teams test changes. Learning sessions provide instruction in the theory and practice of improvement and feedback to senior leaders, focusing the organisation’s learning. Each team reports on their methods, results and lessons learned and provide social support and encouragement for making further changes. During the intervening action periods, participating teams have direct access to the faculty and one another via an extranet home page, regular conference calls, online dialogue, frequent written updates and on-site mentoring visits.
Getting started – First Steps
Step 1: Select the day-to-day Team Leader

The day-to-day Team Leader should be selected based on the following description:

'A day-to-day Team Leader is the critical driving component of the project, ensuring that changes are tested and implemented and facilitates data collection. It is important that this person understands not only the details of the clinical care to be delivered, but also the various effects of making change(s) in the system'.

This person needs to be able to work effectively with clinical staff, other technical experts and leaders.

A day-to-day Team Leader should:

- Have a working knowledge of the area selected and can be clinical or managerial
- Be able to organise and co-ordinate a functioning team that works at an accelerated pace
- Agree an understanding with Senior Leaders that dedicated time will be required for any improvement work to be successful.
- Be motivated and excited about change and creating new designs

It is the role of the day-to-day Team Leader to assure smooth communication with the improvement team. They are also responsible for co-ordinating communications between the team and the Faculty, including a list of contact details for faculty and team participants.

Step 2: Create your team

A highly functioning improvement team is important to the success of your organisation in this project. The team should be made up of a core team of people who form the nucleus of improvement work, as well as other team members who are integrally involved in current processes within services provided by your organisation. Aim to have 10 members in your improvement team drawn from across the health economy.

The team should include:

- Day-to-Day Team Leader
- Medical team member(s)
- Nursing team member(s)
• AHP representatives e.g. Physiotherapy/ Occupational therapy / Dietitians/ Speech and Language Therapy team member(s)
• Front-line professionals
• Patients and/or family members

ALL team members should:
• Have a working knowledge of the area selected
• Be able to work together as a team that functions at an accelerated pace
• Have time to work on this project
• Be motivated and excited about change and creating new system wide improvements
• Be able to make the work of the team visible to the departments/services that will be involved by sharing results and inviting other members to attend team meetings and Learning Sessions.

What makes a good team?
Your core team should have representation and skills in three different dimensions, day-to-day team leadership, system/clinical leadership, and data collection expertise.

There may be one or more individuals on the team that represent each dimension, and one individual may fulfill more than one role. All three components should be represented in order to drive change. However, we realise that your team may not have all the key components and we will help you get where you need to be.

✓ Day-to-day team leadership
The day-to-day Team Leader should have been identified within Step 1, and is the critical driving component of the project, ensuring that changes are tested and implemented and facilitating data collection.

✓ Clinical leadership
This person should have the authority to help with barriers that may affect the aims of the team. Expect to participate in spreading the changes into the whole health economy. Be a member of the team and participate in meetings and activities. Be able to cross traditional intra-departmental lines to improve infrastructure, communication and co-operation.

✓ Data collection contact
This person should have an interest in the process of data being measured and the outcome. Have a basic knowledge of your organisation's data collection systems and methods for completing an audit.

Organisations that consistently send their core improvement team to the learning sessions have a better chance of achieving significant improvement. Every effort should be made to keep the same people on the team, but there can occasionally be benefits to sending different staff members to attend the learning sessions.

The core team should attend all Learning Sessions and participate actively in the programme throughout its duration.

Step 3: Integrate the programme governance with existing structures

You are already making improvements in safety. This collaborative will help you to deliver the changes you need to make in an efficient way for you and your team, across the health economy. You may also already have a Quality Improvement Strategy or Governance group, if so this Collaborative may be included in their portfolio of activities.

Step 4: Meet with your Executive sponsor

Your Chief Executive has agreed to your organisation's participation in the programme and fully supports your improvement team. The Clinical Lead and Team Leaders should schedule regular meetings (i.e. monthly) with the Chief Executive to update him/her on successes to date as well as barriers the improvement team has faced. The Chief Executive should also be aware of when the improvement team meets and encouraged to participate as available. We will be asking that Chief Executives and executive leaders come to your clinical areas during the Action Periods as a key support for the collaborative.

Step 5: Recruit a patient to join the team

Patients and families bring a new kind of expertise to the team. They have experienced the system and can identify the needs and wishes of patients from their own perspective. We recommend that each team bring one or two patients onto their team or find a way to receive feedback from patients at their site.
Step 6: Complete pre-work before Learning Session 1

✓ **Action 1: Register for Learning Session 1**
Each team member who represents the team at Learning Session 1 must be included in the registration form for the learning session. Registration for learning session 1 is now open and must be submitted via the patient safety first website on [www.patientsafetyfirst.nhs.uk](http://www.patientsafetyfirst.nhs.uk).

✓ **Action 2: Review team expectations**
Each team is expected to identify a pilot population i.e. which wards / areas will be included in the initial testing for the collaborative. For example a community hospital with 11 wards might choose to work only on two of their eleven wards during the pilot phase of their work. A district nursing service might focus on the caseload of one or two clinicians. The pilot area will test and spread within the organisation as the work matures. The pilot area will also measure progress at least monthly. They are also expected to test changes and evaluate results, review and report progress monthly, openly share information with other Collaborative participants and faculty via:
1. Monthly conference calls
2. Monthly senior leader reports
3. Limited access email list service participation

✓ **Action 3: Meet at least once before Learning Session 1**
At this meeting the team should
- Review the purpose of the Collaborative and team expectations
- Review the pre-work activities in this pack
- Confirm who will represent the team at Learning Session 1
- Review the draft agenda for Learning Session 1 contained in this guide

Team representatives plan how to report back to the team on information covered at Learning Session 1 if any members cannot attend.

Step 7: Develop a measurement plan

In order to get to a point where data are part of the improvement journey we are asking teams to:

✓ **Action 1: Agree how you are going to measure Pressure Ulcers, Falls, Catheters, UTI and VTE across the whole health economy**
  - We recommend that you choose a simple approach which allows you to aggregate data from multiple sites, uses agreed definitions (wherever possible) and allows you to compare data over time (from each locality and as a composite). The Safety Thermometer will do this for you.

✓ **Action 2: Agree what processes of care you are interested in measuring from the outset of the programme**
We recommend that you look at the driver diagram for the Safety Express programme and choose at least one process measure from each primary driver which you track at least monthly in one of your sites.

**Action 3:** Agree what balancing measures you are going to introduce to ensure that your improvement is not having a negative impact
- We recommend that you track the composite indicator to ensure that your improvements in one outcome are not having a deleterious effect on other outcomes.

**Action 4:** Agree the locations from which you are going to measure during the pilot
- We recommend measuring from one or two wards / departments or a segment of the population. This population should remain consistent throughout the programme.

**Action 5:** Agree the frequency of your measurement
- The more often you measure the more often you can make improvement
- We recommend taking small samples of data frequently and aggregating them to get a monthly figure e.g. 5 patients per week will give you 20 per month.

**Action 6:** Agree how many patients you are going to measure at each session
- The Safety Thermometer tool automatically randomises 50% of the overall caseload on the day
- We recommend that each site collects data on a *minimum* of 20 patients - this will mean that teams are looking at data from at least 60 patients per month (20 from each site), however, the closer to 50% you can get the more robust the sample of data.

**Action 7:** Agree how and when you will review the data
- We recommend that you share and review data at least monthly as a whole team but that local team should review data on a weekly basis.

**Action 8:** Agree who will submit the data for your locality to the SHA team each month.

**Step 8: Plan for spread from Day 1**

**Action 1:** Set up regular faculty and team meetings

**Action 2:** Plan to share the programme design with key stakeholders

**Action 3:** Put up posters and learning materials around the site

**Action 4:** Commit a wide group to participation and action

**Action 5:** Identify cross pollinators – change agents who will travel between locations and share ideas / innovations
Step 9: Organise and engage in the action periods

The action periods between learning sessions are usually between 60 and 90 days but in. The regional and national teams will be communicating with you via the following mediums:

1. **Email** – we will ensure that email traffic is value added by heading all emails with the following headers: For action (response required to the programme office but no one else), for information (no response required but please distribute to your local team), for discussion (for your view and reply all).

2. **WebEx** – WebEx sessions are an opportunity to share and learn with other teams, you may also want to use the WebEx classroom to bring together your team locally. This can be arranged. The regional and national programme of WebEx’s will be distributed locally.

3. **Conference calls** – we would expect most teams using conference calls to increase the frequency and shorten the length of meetings, remember a team that meets 3 times a week for 15 minutes has over 150 opportunities a year to make change, compared with one that meets weekly whose opportunities reduce to 52!

4. **Site visits** – in action period one we would expect each organisation (within your team) to host at least one visit for ALL team members, at this meeting you should spend some time planning, meeting with extended team members, talking to the Executive sponsor on that site and walking the floor.

**Tips for Action periods:**

- Keep an up to date list of your team members and their contact details
- Establish where, when and how the team can meet, at least weekly without travelling long distances
- Agree and document how the team will focus on specific areas of content within the driver diagram in the action period
- Make a list of resources which you have collectively e.g. people, expertise, past programmes of work, materials, equipment.
- Arrange to meet with your Executive sponsor as a team
- Appoint a named clinical leader for each site
- Agree who will be on WebExs and plan this out to share the work.
- Establish a directory of shared experiences with regard to walk rounds, and intentional rounding
- Complete an organisational strength profile, demonstrating 3 big achievements, and who the lead person was and their contact details
- Decide how you will record the teams activity and how this can be shared with local leaders, executives and the regional / national team. This could be as simple as a Friday email update.
- Plan for measurement submissions and reviewing local data
- Use the self-assessment scale monthly (appendix 1) to rate your progress as a whole.
**Why measure?**

The Safety Express measurement strategy will focus on **measurement for improvement**. This approach differs from **measurement for performance** which many clinicians and commissioners are most familiar with. It therefore requires some explanation to your team members.

- **Improvement Measures** are fundamentally about **PROGRESS OVER TIME**. Improvement measures are usually a sample of data (for example, 50% patients on specified units on a single day), the definitions are pragmatic working definitions (in the absence of clear agreed definitions). Data collection systems are designed to minimise the data collection burden and maximise on the benefit of the ‘act of measurement’. The focus is on collection of ‘just enough’ data and to review the data regularly with a view to rapidly testing changes and making improvement.

- **Performance measures** are fundamentally about **COMPARISON**, the data collected are usually complete (100% of all opportunities) and the definitions are formally agreed. Data collection systems tend to be automated or require significant investment for staff to be released to collate the data manually. They are used by commissioners and payers to make judgments about whole services.

- **The interaction between performance measures and improvement measures.** It is clear that performance measures can be used to drive improvement; however, improvement measures should **NOT** be used for comparison or payment.
What will we measure?

- **Outcome Measures (mandatory)**
  - Pressure Ulcers
  - Harm from falls
  - VTE
  - Catheters & Infection
- **Process Measures (optional)**
  - For all patients
  - For at risk patients
  - For high reliability delivery
- **Balancing Measures (mandatory)**
  - Harm Free care
  - Mortality (optional local measure)

- All data will be presented as data over time with each data point representing aggregate data for one month. The chart we will use is a run chart which is a type of statistical process control chart (SPC).

- A central tenant of SPC is that improvement is determined not by using statistical tests of significance (i.e., p-values) but rather by using run and control charts to determine if a true change in the performance of a process has actually occurred over time. In this case, significance of performance is determined by using statistical rules to determine common and special causes of variation.

- SPC is a branch of applied statistics that grew out of the work of Shewhart and his colleagues at Western Electric in the 1920’s. Today, SPC methods and tools provide the foundation for all manufacturing and industrial quality control procedures. The basic principles of SPC include:
  - Identifying both process and outcome variables
  - Collecting small amounts of data but at frequent points in time (preferably at least 20 data points for process measures and a 50% sample for outcomes)
  - Plotting data over time in graphic formats (i.e., using dynamic displays of data rather than static descriptive summaries or aggregated statistics)
  - Determining if the performance of a process indicates the presence of common or special causes of variation
  - Evaluating performance of a process or outcome variable in light of its stability over time and its capability of meeting the expectations of the customers
  - Using Planned Experiments to determine the impact of multiple factors and their interactions on the outcome variable(s).
Where will we measure from?

It is vitally important that the HOST organisation coordinates the collection of measures in at least three locations in their health economy from the outset of the programme (February 2011).

In the dream team example illustrated in the schematic the HOST (GP Network) will be coordinating the collection of measures from site A (a community hospital), site B (a district nursing caseload attached to one large GP practice), site C (the mental health trust) and site D (nursing home).

Starting small:
Each HOST will start its work on a small scale to collect ‘just enough’ data to measure a baseline and track improvement. In the dream team example, the community hospital will measure from two of their six wards, the district nursing caseload of 2 (of 10) nurses will be audited, the two wards (specialising in elderly) from the mental health trust and 12 beds from the nursing home will all be included in the survey. The data from each of these sites will be added together to give a small ‘sample’ of the health economy performance on the four outcomes.
When will we measure?

Each HOST will determine the frequency of data collection with their teams. The advice will be that the more frequently you measure the more opportunities you have to make change. For example a team that measures only once a month can only make twelve tests per year compared with a team that measure daily that are able to make 365 test cycles per year. As a measure of the team and organisational progress we have supplemented the run chart data review (which occurs daily or weekly) with a monthly data submission from each HOST to the SHA data lead. This data submission should be drawn from the data you have collected that month. The regional data will be aggregated with all other participants from your region. To determine if the whole region is improving over time we have identified time periods where comparisons will be made each year.

Measuring often:
Each measurement location will measure small numbers of patients often. For example the dream team chose to review 5 patients at the afternoon handover each Monday. They collected their data in the Safety Thermometer and submitted all four Monday’s data at the end of the month. This enabled them to integrate data collection into the working day. Review the data for learning opportunities and also satisfy the data submission requirements for Safety Express.
How much will we improve?

The aims of the programmes are that by the end of 2012 teams will have achieved:

- 80% reduction in category III and IV pressure ulcers developed in a care setting
- 30% reduction in category III and IV pressure ulcers developed outside a care setting
- 50% reduction in serious harm and death from falls in a care setting
- 50% reduction in UTI infections in patients with in dwelling catheters
- 50% reduction in VTE

We are asking that teams to discuss these aims with their local faculty and agree local improvement aims which encompass specific, measurable, time limited outcomes. The aims above are guidance from our observations of the 'best in class' improvement performance generated through case reports, personal contacts and word of mouth. We do not want teams to adopt them without discussion and consultation. Improvement aims MUST be debated and agreed locally. We do not recommend the use of these aims for commissioning or performance management. We anticipate that teams will set goals at the beginning of 2012 which reflect their aim for the first year, for example the dream team aim was agreed and was stated as 'we will reduce category III and IV pressure ulcers in all care settings in the health economy by 50% by February 2012'.

How will we assess the success of the whole programme?

The phase 1 pilot data will be compared in Jan, Feb and March each year (1a & b), the phase 1 spread in Jun, Jul and Aug (2a & b), the phase 2 pilot in Oct, Nov, Dec (3a & b) etc.
Outcome Measures (all teams will collect)

Outcome 1: Pressure Ulcers
- Proportion of hospital patients surveyed with new grade III & IV pressure ulcers
- Proportion of community patients surveyed with new grade III & IV pressure ulcers
- Proportion of patients surveyed with a grade III & IV pressure ulcer

Outcome 2: Falls
- Proportion of patients that have fallen in the last 72 hours
- Proportion of patients that fell suffering moderate or severe harm from falls

Outcome 3: Urinary infections & catheters
- Proportion of patients surveyed with in-dwelling urinary catheters
- Proportion of patients with indwelling urinary catheters with a urinary tract infection

Outcome 4: VTE
- Proportion of patients surveyed with VTE

Balancing Measure (all teams will collect)

In Safety Express we are proposing the development of an indicator which would signal the number of patients ‘free from harm’. The four harms we are proposing for this all or none measure are common and avoidable for the majority of patients. Clinically it is well known that patients who suffer from one of these problems have a high probability of developing one of the others and may indeed have two or more of these harms. It is these patients for whom the burden, dependency and cost of suffering is greatest. Moreover, it is also possible that a focussed programme of improvement to reduce harm in one of these areas has the potential to cause harm in another (e.g. falls may be reduced by restricting a patient’s mobility but they could then be at increased risk of pressure ulcers or VTE). This can be avoided by measuring all four harms at the same time.

Balancing 1: Harm Free Care composite
Proportion of patients free from pressure ulcers (any category, acquired in any location), falls or venous thromboembolism (any kind, acquired in any location), urine infection (in patients with catheters). This composite measure represents a stretch goal where credit can only be given for patients free from harm i.e. they have none of the four harms identified.

How could this measure be developed?
Safety is a boundary-less and complex phenomenon that requires clear definitions. It is not justified to say that patients have had ‘harm free care’ as defined by the measure proposed above if, for example, they have experienced other common harms such as healthcare associated infection, line infections or Never Events. We propose that the harm free measure could be expanded to include a maximum total of 6 common safety issues by Safety Express teams.
### Process Measures (teams will choose from options below or locally developed measures)

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<tr>
<th>Measure</th>
<th>Definition</th>
<th>Sample</th>
<th>Graph</th>
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<tbody>
<tr>
<td><strong>ALL PATIENTS</strong></td>
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<tr>
<td>Risk assessed within 2 hours of referral / admission</td>
<td>Presence (y) or absence (n) of documented risk assessment (for all four outcomes) within 2 hours of referral or admission, Numerator = number of yes Denominator = 10</td>
<td>Chart review of 10 consecutive patients on the caseload on a predetermined day</td>
<td>Proportion</td>
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<tr>
<td>Risk flagged on visual tracking system within 3 hours of referral / admission</td>
<td>Presence (y) or absence (n) of visual risk flag (for all four outcomes) on tracker system within 3 hours, Numerator = number of yes Denominator = 10</td>
<td>Chart review of 10 consecutive patients on the caseload on a predetermined day</td>
<td>Proportion</td>
</tr>
<tr>
<td>Medications reconciled on referral / admission</td>
<td>Presence (y) or absence (n) of documented medication reconciliation (for all medications) within 2 hours of referral or admission, Numerator = number of yes Denominator = 10</td>
<td>Chart review of 10 consecutive patients on the caseload on a predetermined day</td>
<td>Proportion</td>
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<tr>
<td>Basic Observations</td>
<td>Presence (y) or absence (n) of documented observations (per protocol), Numerator = number of yes Denominator = 10</td>
<td>Chart review of 10 consecutive patients on the caseload on a predetermined day</td>
<td>Proportion</td>
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<tr>
<td><strong>AT RISK PATIENTS</strong></td>
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<tr>
<td>At risk patients with management plan within 4 hours</td>
<td>Presence (y) or absence (n) of risk management plan (for all four outcomes) in medical records within 4 hours</td>
<td>Chart review of 10 consecutive patients on the caseload on a predetermined day</td>
<td>Proportion</td>
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20/01/2011
### QIPP Safe care

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<tr>
<th>At risk patients with documented daily review of management plan</th>
<th>Presence (y) or absence (n) of daily review of risk (for all four outcomes) in medical records for at risk patients</th>
<th>Active patient review of 10 consecutive ‘at risk’ patients on the caseload on a pre-determined day</th>
<th>Proportion Run chart or chart</th>
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<tr>
<td>Numerator = number of yes Denominator = 10</td>
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<thead>
<tr>
<th>Intentional rounding</th>
<th>Percentage of patients with documented evidence of intentional rounding per protocol in last 24 hours</th>
<th>10 consecutive patients (e.g. every Monday am)</th>
<th>Proportion Run chart or chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator = number of yes Denominator = 10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HIGH RELIABILITY MEASURES

<table>
<thead>
<tr>
<th>Nutritional Intake</th>
<th>Percentage of at risk patients with documented evidence of nutritional intake per protocol in last 24 hours</th>
<th>Active patient review of 10 consecutive ‘at risk’ patients on the caseload on a pre-determined day</th>
<th>Proportion Run chart or chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator = number of yes Denominator = 10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fluid Intake</th>
<th>Percentage of at risk patients with documented evidence of fluid intake per protocol in last 24 hours</th>
<th>Active patient review of 10 consecutive ‘at risk’ patients on the caseload on a pre-determined day</th>
<th>Proportion Run chart or chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator = number of yes Denominator = 10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fluid Output</th>
<th>Percentage of at risk patients with documented evidence of fluid output per protocol in last 24 hours</th>
<th>Active patient review of 10 consecutive ‘at risk’ patients on the caseload on a pre-determined day</th>
<th>Proportion Run chart or chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator = number of yes Denominator = 10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| VTE risk assessment* | Percentage of at risk patients with documented VTE risk assessment per protocol in last 24 hours  
Numerator = number of yes  
Denominator = 10 | Active patient review of 10 consecutive ‘at risk’ patients on the caseload on a predetermined day | Proportion  
Run chart or chart |
|---------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------|
| VTE management* | Percentage of at risk patients with documented VTE management per protocol in last 24 hours  
Numerator = number of yes  
Denominator = 10 | Active patient review of 10 consecutive ‘at risk’ patients on the caseload on a predetermined day | Proportion  
Run chart or chart |
| Catheter days* | Percentage of catheterized patients with documented evidence of the number of catheter days since insertion or review | Active patient review of all catheterized patients on the caseload on a predetermined day | Proportion  
Run chart or chart |

**Other Measures**

<table>
<thead>
<tr>
<th>Leadership meetings</th>
<th>Number of meetings between team and senior leaders</th>
<th>Count of all meetings</th>
<th>Run chart</th>
</tr>
</thead>
</table>
How will we measure?

Since April 2010 we have been refining the goals of the Safety Express programme with partners to determine how we could move at pace with improving these areas. In listening to the system it has become clear that:

- A significant proportion of acute trusts have started to make headway with one or two of the aims as part of their work with High Impact Actions
- A small number have data to support their improvement activity
- The energy for change is high
- Few organisations are measuring all four harms simultaneously

We have also observed that there are very few examples where acute trusts, community providers, specialist trusts and the private sector (in particular nursing homes) have come together to measure improvement together. Moreover, we have observed incompatible measurement systems, skills and expertise between organisations with significant technical challenges outside acute care with measurement.

NHS Safety Thermometer

All teams are free to use and / or adapt existing measurement systems to measure progress in Safety Express. We recommend that all four harms are measured as mandatory. This approach does not lend itself to measurement using adverse incident reporting as the burden of reporting (with respect to time) is too great.

In order to address these challenges the ‘measurement subgroup’ of Safety Express came together during the summer of 2010 to discuss how we could develop a measurement tool which would be simple, applicable across all healthcare settings, methodologically robust, doable in less than 10 minutes per patient and provide a snapshot of information about an individual patient.

The Safety Thermometer is a minimum data set. We will encourage all teams to measure using the safety crosses (or prospective data capture of incidence) however, we are aware that there are some unknown complexities of using these tools outside the acute setting which we will be testing and resolving during phase one (Pilot Phase) of the Safety Express programme.

The NHS Safety Thermometer was co-produced by frontline teams, the NHS Information Centre, CNO’s office (Energising for Excellence and High Impact Actions) and the Safety Express steering group as a tool for measuring baseline information about risk assessment, risk management and outcomes for each of the four harms. Additional information about the occurrence of the harm in the care setting (incident cases) was also included.

We have tried hard to accommodate the requirement to produce a survey instrument which will be useful to all frontline teams (irrespective of their IT platforms) and which
can be easily merged to give health economy wide data. The additional advantages of this tool include:

- The ability to survey harm at the level of the individual patient whilst the patient is still in the care setting (unlike global trigger tool and other surveys where the patients have already been discharged)
- The ability to see improvement over time within a care setting
- The ability to raise awareness about the individual harms but also see what proportion of patients have none of the harms
- The ability to raise the awareness of frontline teams about key risk assessments, management plans and outcomes at the same time
- The ability to sample 50% of patients and clearly determine how long the survey will take.
- The ability to readily analyse and graph data at the press of a button

The NHS Safety Thermometer is available for download from the Patient Safety First website [www.patientsafetyfirst.nhs.uk](http://www.patientsafetyfirst.nhs.uk) or directly from Dane Wilig by email dane.wilig@npsa.nhs.uk

### Monthly Submissions of data (NHS Safety Thermometer)

Data for the Safety Express programme will be collected and submitted monthly. The timetable for data collection (by teams), data submission to the QIPP safe care programme office, and submission to and return by the NHS IC are illustrated on page 27.

### What will we do with the data?

Data is owned at the organisational level. We strongly recommend that teams discuss how the data will be reviewed and shared and publish a strategy for how they will share information within the NHS. We also recommend that teams come to an agreement about the use of data beyond the NHS, for example with patients and the public or in the event of a Freedom of Information request.

The Department of Health QIPP safe care programme management office will also have access to the data for the purposes of reviewing key milestones and performance indicators. This data will be presented at the NHS management board at least quarterly. Safeguards will be put in place to ensure that the limitations of the data are fully understood.
Measurement Timetable

### 2011 Safety Express Schedule

| Year | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F |
| Jan  |   |   |   |   |   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31|
| Feb  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| Mar  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| April| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| May  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| June | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| July | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| Aug  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| Sept | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| Oct  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| Nov  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|
| Dec  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11| 12| 13| 14| 15| 16| 17| 18| 19| 20| 21| 22| 23| 24| 25| 26| 27| 28| 29| 30| 31| 32| 33| 34| 35| 36|

**Green** (data returned to teams from the NHS IC)
**Red** (Safety Thermometer survey carried out)
**Blue** (Safety Thermometers submitted to QIPP safe care programme office)
**Yellow** (QIPP safe care send thermometers to NHS IC)

20/01/2011

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Appendix 1: Assessment Scale for Success

1. **Forming a Team** – A team has been formed and a target population identified. An aim to reduce avoidable harms identified within the programme by focusing on improvement in the areas identified in the driver diagram, leadership and safety culture, clinical care and supporting infrastructures and work on baseline measures has begun.

2. **Activity but no changes** – The team is actively engaged in the collaborative (undertaking pre-work, participating in learning sessions, measurement, etc) and the Breakthrough Series Collaborative model is well understood, but work on changes to improve systems and practices has not begun.

3. **Modest Improvement** – Implementation of the Breakthrough Series Collaborative model has begun for the target population. Initial cycles to test changes have been completed and implementation begun for some components. There is some evidence of improvement in process measures related to the team’s aim. For example, the percentage of patients who have been screened for malnutrition has increased to 60% but there is still much improvement required to develop reliable systems.

4. **Significant Progress**: Most components of the Breakthrough Series Collaborative model have been implemented for the target population. There is evidence of improvement in outcome measures related to the team’s aim. For example, the number of pressure ulcers has decreased by 70% in acute settings and 20% in community settings. The team is at least halfway towards accomplishing all the goals stated in their aim. Plans for spread of the Breakthrough Series Collaborative model to additional wards and/or other sites has begun.

5. **Outstanding Sustainable Results**: The team has successfully implemented all components of the Breakthrough Series Collaborative model. All goals in the team’s aim have been accomplished. Outcome measures indicate breakthrough improvement and are at national benchmark levels. Work to spread the model to additional wards and/or other sites is well underway.
Improvement Supplement
The Model for Improvement

The Model for Improvement, developed by Associates in Process Improvement, is a simple yet powerful tool for accelerating improvement. The model is not meant to replace change models that organizations may already be using, but rather to accelerate improvement. This model has been used very successfully by hundreds of health care organizations in many countries to improve many different health care processes and outcomes. It is the fundamental change model of Safety Express and its theoretical basis has been used to develop all the changes so far.

The model has two parts:

- Three fundamental questions
- The Plan-Do-Study-Act (PDSA) cycle

Figure 2. The Model for Improvement. 
Associates in Process Improvement
The Model for Improvement: Setting an Aim

Question 1: What are you trying to accomplish?
If you have ever attended a meeting and wondered why you were there then the likelihood is that the group you are working with have a poorly defined aim. This is very common. We know that teams that are successful often spend a significant amount of time discussing their aim and agreeing their contribution. The only way to answer the first question in the Model for Improvement is to have a clearly defined aim.

What Makes a Good Aim?
Aims should be SMART:

Specific, Measurable, Achievable, Relevant and Time Bound

In order to agree your aim, you need to understand the current state. Find out, for example, the number of patients who received a nutrition assessment within 4 hours of admission to your caseload last month, work out the percentage and look at how this compares with the best performer in the Safety Express community. Aim to be as good or better than the best! Setting a target helps break mindsets and raise ambition. In the example below, four teams are all working on improving nutrition assessment. Which of them has a SMART aim?

<table>
<thead>
<tr>
<th>We will help teams who look after patients to understand when they should refer patients for a nutritional assessment</th>
<th>We will improve nutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>We will aim to increase the number of patients who get a nutrition screen within 4h from 60% to 90%</td>
<td>We will increase the number of patients admitted to G4 who get a nutritional management plan within 6h from 60% to 90% by April 2011</td>
</tr>
</tbody>
</table>
How will we know that the change is an Improvement?

To make effective change we have to be observant and collect data to demonstrate whether the changes we are testing are actually resulting in improvement. Data for improvement vary markedly from the traditional data sources we may be familiar with in healthcare such as research or audit. When collecting data for improvement we will often use small samples of data collected on 5 patients per week and repeat this process overtime. This is a valid approach which liberates teams from the burden of reviewing 10’s or 100’s of patient records.

A key learning from Improvement Programmes is that teams who are able to collect their own data are able to learn more and improve faster.

“To measure is to know, if you can not measure it, you can not improve it.” Lord Kelvin

Step 1: Individual processes?
Initially you will be working to deliver improvements in one or two of the key (processes) which you have identified as being areas of work for your team. We will support you to achieve unprecedented levels of performance with these indicators using data and PDCA cycles to redesign care. Your aim will be to achieve 95% reliability within a short time frame for each process measure.

Step 2: Reliable care?
Once you have demonstrated improvement in two or three processes we will begin to look at achieving high levels of reliability for all processes.

<table>
<thead>
<tr>
<th>PROCESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk assessment</td>
</tr>
<tr>
<td>Medication reconciliation</td>
</tr>
<tr>
<td>Observations</td>
</tr>
<tr>
<td>Risk management plan</td>
</tr>
<tr>
<td>Intentional rounding</td>
</tr>
<tr>
<td>Nutritional, fluid intake</td>
</tr>
<tr>
<td>Fluid output</td>
</tr>
<tr>
<td>Catheter days</td>
</tr>
<tr>
<td>VTE management</td>
</tr>
<tr>
<td>BUNDLES</td>
</tr>
<tr>
<td>Proportion of patients ’harm free’</td>
</tr>
<tr>
<td>OUTCOMES</td>
</tr>
<tr>
<td>Pressure Ulcers</td>
</tr>
<tr>
<td>Catheters &amp; urinary infections</td>
</tr>
<tr>
<td>Harms from falls</td>
</tr>
<tr>
<td>VTE</td>
</tr>
</tbody>
</table>
The Model for Improvement: What changes can we make?

A decade of research, audit and health policy have clearly outlined the required standards of care for the optimal treatment of patients to prevent common harms.

The driver diagram on page 3 and references in this document highlight the areas for immediate focus.

Teams in Phase 1 of Safety Express will be working together to determine 'HOW' to implement guidance by rapidly adopting and sharing innovative practices.

The Model for Improvement: PDSA cycles

Once a team has set an aim, established its membership, and developed measures to determine whether a change leads to an improvement, the next step is to test a change in the real work setting. The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change — by planning it, trying it, observing the results, and acting on what is learned.

Step 1: Plan
- Plan the test or observation, including a plan for collecting data.
- State the objective of the test.
- Make predictions about what will happen and why.
- Develop a plan to test the change. (Who? What? When? Where? What data need to be collected?)

Step 2: Do
- Try out the test on a small scale.
- Carry out the test.
- Document problems and unexpected observations.
- Begin analysis of the data.

Step 3: Study
- Set aside time to analyze the data and study the results.
- Complete the analysis of the data.
- Compare the data to your predictions.
- Summarize and reflect on what was learned.

Step 4: Act
- Refine the change, based on what was learned from the test.
- Determine what modifications should be made.
- Prepare a plan for the next test.
A Test of Change from Stroke 90:10

The team at Royal Liverpool were working in the Stroke 09:10 improvement collaborative on increasing their sentinel audit scores to 90 or more by April 2010. The text below illustrates a cycle of testing to improve their weight indicator and can be used to illustrate how testing works in practice.

Step 1: Plan
The team were working on an aim to try to get 95% of patients on their stroke unit weighed within one week. They agreed that they would like to do this within 90 days. Their aim was that 95% of patients on the stroke unit would be weighed by May 2009. Their plan was that they would collect information about the number of patients weighed within one week by reviewing the first 10 sets of notes in the trolley on the Monday after the first learning session. They discovered that 4/10 patients had weights recorded in their notes. At handover that day they asked staff to describe the reasons they believed the weights were not in peoples notes. It turned out that the scales were inaccessible in a locked store cupboard. They decided to test moving the scales; the objective of the test was that within 72 hours all staff would feel they had easy access to the scales. They predicted that moving the scales would result in improved compliance with the primary goal of getting patients weighed.

Step 2: Do
On Monday morning Mark came into work opened the store cupboard and placed the scales in the agreed location on the ward. He told the team at morning handover and left a note pinned to the wall on the nurses station. He left the scales in situ for one week.

Step 3: Study
During the week Mark noticed that on one occasion the scales were put back in their original home, on another the scales were hidden in the sluice and on a third occasion they were taken off the ward for use in the neighbouring ward. He documented these events on the worksheet for testing change. He re-ran the audit on the following Monday and noted that 7/10 patients were weighed. He recorded these data on a graph and placed the graph with a congratulatory note to all staff on the wall in the staff office. He arranged a 5 minute huddle with the improvement team after handover that afternoon.

Step 4: Act
The team reviewed whether their predictions had been accurate and agreed that whilst they had been they had not been impactful enough to effect the desired change. They agreed to test a sign on the scales and on the wall at the side of the scales asking staff to return scales to the agreed location after use. They learned that the breakdowns appeared to occur when agency staff or students were on the shift. They agreed to discuss the tests being carried out at every handover.
Testing Tips

Keep testing small
Tests should be scaled down and include the smallest number of patients, doctors, or others involved in the test (“sample the next 10’ instead of "get a sample of 200"), and the location or duration of the test (“test it in Ward #1 for one week”).

Pick willing volunteers
Work with those who want to work with you. (“I know Dr. Jones will help us” instead of "How can we convince Dr. Smith to buy in?")

Ask for forgiveness not permission
When possible, choose changes that do not require a long process of approval, especially during the early testing phase.

Steal shamelessly
Instead, replicate changes made elsewhere. For example, instead of creating your own nutrition-screening protocol, try modifying another hospital’s protocol.

Pick easy changes to try
Look for the concepts that seem most feasible and will have the greatest impact.

Avoid technical slowdowns
Don’t wait for the new computer to arrive; try recording test measurements and charting trends with paper and pencil instead.

Reflect on the results of every change
After making a change, a team should ask: What did we expect to happen? What did happen? Were there unintended consequences? What was the best thing about this change? The worst? What might we do next? Too often, people avoid reflecting on failure. Remember that teams often learn very important lessons from failed tests of change.

Be prepared to end the test of change
If the test shows that a change is not leading to improvement, the test should be stopped. Note: “Failed” tests of change are a natural part of the improvement process. If a team experiences very few failed tests of change, it is probably not pushing the boundaries of innovation very far.
Multiple Tests of Change

Testing changes is an iterative process: the completion of each Plan-Do-Study-Act (PDSA) cycle leads directly into the start of the next cycle. A team learns from the test — What worked and what didn’t work? What should be kept, changed, or abandoned? — and uses the new knowledge to plan the next test. The team continues linking tests in this way, refining the change until it is ready for broader implementation.

Repeated Use of the Cycle

Examples of Linked Tests of Change

| Cycle 1a | Pilot access to scales in stroke unit. Monitor % patients weighed (weekly) and error rate. Review results with MDT. |
| Cycle 1b | Revise documentation process and try quick-look for two days. |
| Cycle 1c | Redesign admission process continue quick-look for two weeks. |
| Cycle 1d | Make admission documentation & practice standard and monitor. |

Schematic taken from www.ihi.org
Multiple Tests of Change

It may well happen that you have up to run multiple test sequences to get a process to become highly reliable i.e. 95% or more patients reliably access the desired treatment. In the illustration here, the team were testing placement of the scales, documentation of weight, they were re-designing their admission pathways and implementing weekly checks of all patients weights as a redundancy measure.

Keeping track of Testing
It is useful to have a grid of testing activity in a prominent place on the unit so that everyone knows who is testing what. The example below is an illustration of how this might look.

<table>
<thead>
<tr>
<th>Intentional rounding</th>
<th>Process Owner: Jane (Consultant nurse)</th>
<th>Testing (PDSA’s): District nurse caseload (3) Checklist development (2) Bi – hourly (acute) (0)</th>
<th>Team Meetings: Weds 4pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>Kath (Ward manager)</td>
<td>Test design (1) Equipment review (5) Documentation (3)</td>
<td>Tues/ Thurs (after handover)</td>
</tr>
<tr>
<td>Hydration</td>
<td>Oliver (Junior doctor)</td>
<td>Forms (6) Documentation (3) End of life pathway (1)</td>
<td>Daily (7am)</td>
</tr>
<tr>
<td>Medication reconciliation</td>
<td>Tom (Pharmacist)</td>
<td>Entry (7) Missed doses (2) Documentation (1)</td>
<td>Monday (after MDT)</td>
</tr>
</tbody>
</table>
Important dos and don’ts

DO post updates of results regularly and prominently
Enthusiasm for the project will wane over time if clinical staff perceive that the leadership’s enthusiasm has diminished. It is essential to regularly update all involved staff in the work on the monthly level of compliance and the monthly change in the stroke outcomes. Not only will this show dedication to the project but when the momentum becomes apparent, clinical staff will be aware of the progress.

DO go fast
Breaking the pace of change in hospitals is one of the biggest challenges we face. Having a time limited on your work will help you move fast, but also remember that testing should be daily, an acceptable number of tests per week should be agreed and you should try and stick to that. Breaking your work into 30 or 90 day cycles can help to keep the team on track.

DO access on line support and the support from other Safety Express teams
We recommend that you start from the premise that someone in the collaborative has already solved your problem. Please ask questions and use the Safety Express community forum on patient safety first to ask questions.

DON’T struggle alone or feel that your question is ‘stupid’
If there is something you don’t understand then there are probably other members of your team who feel the same. Implementation of change is NOT taught in the training schools—this is a new skill which people study for years to perfect.

DON’T pick and choose the easiest bits
Avoid the tendency to select and try out items that seem easy at the expense of more difficult components also included in the intervention. It is the composite of the processes which produces the improved outcomes. However, do choose an easier intervention to learn how to use the Model for Improvement.

DO build actions into processes that already work
Making this initiative fit into the patterns and habits already established in your hospital is essential. Where possible try to fit new actions alongside ones that are already in routine use. This increases the likelihood that they will be remembered and carried out.

DON’T benchmark
The practice of comparing rates of disease entities or patterns of therapy across institutions is commonly known as ‘benchmarking’. Benchmarking may not be a valid method to compare performance between facilities because of differences in patient population, data collection, or severity of illness. As long as you establish clear methods and definitions for your regular data collection in your organisation, your results will consistently reflect your own improvement, which is the most important thing. Although we don’t recommend directly comparing yourself with other hospitals, we do recommend learning from them! If you learn of a hospital that has significantly improved using the same measure over time, then get in touch with them — there will be value in finding out how they achieved their results.
DO Apply Systems Thinking

"The definition of insanity is continuing to do the same thing over and over again and expecting a different result." Albert Einstein

"We must accept human error as inevitable — and design around that fact." Donald Berwick

Systems thinking is not easy. It's an unnatural act. We see the parts, not the whole; the trees, not the forest. Yet, mastering the art of improvement requires a deep and fundamental understanding that parts are connected — inexorably — in a system.

A system is a set of interdependent elements interacting to achieve a common aim — a set of things that work together to get to a goal. A system takes inputs and transforms them into outputs through a process or series of processes.

The fundamental theoretical foundation for improvement lies in the notion that performance is a foreseeable property of a system. If the system is stable, the performance is predictable. In other words, the performance is embedded into the design of the system, and...

All systems are perfectly designed to achieve the results they get—Paul Batalden

An automobile that is designed to achieve a maximum speed of 100 miles per hour will not fare well in a NASCAR race. This system — the car — is designed for a performance level that is inadequate for this purpose. Its top speed is a predictable property of the system, and no matter how hard we push this system, it cannot possibly achieve the desired performance given its current design. Going faster requires a different system.

Similarly, if a hospital's pneumococcal immunisation rate is 50 percent, it is because the system is designed to achieve a 50 percent immunisation rate. If the wait for a new patient appointment in an outpatient clinic is two months, it is because that is what the system is designed to provide. If 5% of a hospital's patients experience an adverse drug event, this is a predictable outcome given the design of the hospital's medication system. If we are unhappy with these results, the remedy lies in changing work processes.

When we come to see that performance features are system properties, we come to realise that most problems in organisations do not come from individual workers. They come from the structure of the systems themselves, and people are only parts of those systems. Changing the people, or pushing them to "try harder" or "do better" will not result in improved performance.

Except taken directly from D. Berwick (www.ihi.org)
Monthly Reporting

This is an opportunity to discuss your improvement efforts, what has worked and what hasn’t, and to ask questions to the Faculty. Monthly reports are also an excellent opportunity to learn more about what other teams are doing and how they have overcome problems that you might be experiencing. The report proforma is accessed via the Extranet and the following is a guide for completion:

Barriers and Breakthroughs:
• We want to know the following:
• What was your aim for the 90 day cycle?
• What was your aim for the 30 days covered in this report?
• Are you on track to accomplish your 90 day aim?
  - If yes – how do you know?
  - If no – what are your issues and how are you planning to overcome them?

Learning From Tests of Change (Complete one of these for each Test undertaken):
Describe each test using the following framework:
• The bundle it related to
• The process
• The test - where, what, when, who, how
• Did your achievements match your predictions – what did you learn?

Next Steps:
• What do you want to accomplish in the next 30 days?
• What changes will you make?
• How will you know that the change is an improvement?
• Who will you need to enlist to help?

Other:
• What training have you carried out?
• How have you celebrated the successes you have had?
• How have you raised awareness of stroke care in your hospital?
• Have you been on any site visits?

Notes:
• What help would you like from the Safety Express Team? (tests of change, measurement, training, discussion with leaders, phone call, site visit, education at your site)
• When would you like the above?
• Have you met with your Senior leader? If yes, what did you learn?
• What innovation are you most proud of and currently developing at your site?
Monthly Reporting  
A Great example from Royal Liverpool stroke team

Barriers and Breakthroughs

Our aim for the 90 day cycle has been to establish Bundle 1 and maintain steady improvement whilst bringing alongside all areas of Bundle 2. Our aims for the 30 days covered in this report were: to agree the mechanism of data collection and reporting for Bundle 2; to establish a process of two weekly data collection for patients spending 90% of their time on a Stroke Unit; to develop a Patient Group Directive for aspirin with the intention of the Stroke Specialist nurse to give the first dose of aspirin. Are we on track with our 90 day aim? Yes, in that improvements for Bundle 1 remain steady and in the right direction. The entire process of data collection for Bundle 2 has been agreed including the first two weekly data out of the patients spending 90% of their time on a Stroke Unit that came out at 75% which was a very encouraging start. The Patient Group Directive is being developed by Trust Pharmacy Department for implementation by SSN's.

Learning from Tests of Change

In-patients on ASU have been audited every 2 weeks to assess compliance to aspirin delivery within 24 hours of admission. As compliance is now very good and consistent, those falling outside of the target are investigated to learn and not repeat. Our CT Scanning within 24 hours compliance has improved faster than the team expected due to the high degree of engagement from the Radiology Department. All patients in the ASU are assessed every 72 days and those not complying with targets are investigated. Issues that have arisen include: CT not known to be emergency request for stroke (this message is now reinforced by Emergency Medical Colleagues); weekend periods (ASU staff being more proactive in checking CT times). We have made significant improvement with RCISER assessment which we predicted would be difficult to sustain, and we need to address the same issues in AMAU which is on the next Project Team agenda. Swallow screen compliance has reached 100% over the past three two weekly cycles which is very encouraging, but we continue to monitor to reinforce the improvements and to sustain the change that has been made. Weight compliance has been more problematic than anticipated although ASU staff are now engaged. The test of change highlighted that whilst the Project Team had shot off with audits, PDSA cycles etc, we had not stopped to explain the importance to our staff. This has been addressed and is ongoing. The outcome from a recent ASU Away Day with key senior staff identified the need to follow this up with all ASU staff. A date is being identified and the entire ASU staff will be released for a full day. Although we have only just started the PDSA cycles on Bundle 2 the initial results are encouraging. The Consultants and Ward Manager are developing a revised Mood Assessment Pathway and clearer outcomes are required for when low mood is detected. OT Therapy colleagues are very engaged and have already improved compliance which we would anticipate being sustained likewise PT’s. We have assessed MDT goal setting across ASU, ESD and SRU to ensure good practice applies although reporting solely on SRU. The SRU are renowned for their MDT approach and will work hard to maintain 100%.

Next Steps

In the next 30 days we plan to commence hyperacute delivery 12/7 (1st August 2009). We plan to agree ring fencing ASU beds; to sustain steady improvement; to agree a date for ASU Staff Away Day, to action agreement for Senior ASU Away Day. The two weekly project team will continue to assess change and monitor. Any change made is reviewed to ensure it leads to a service improvement.

Other

We have held an ASU Away Day with a follow up planned for all ASU staff. We have presented 90:10 to ASU and SRU staff. An article was written for the local paper explaining new resources and anticipated service improvements, and 90:10 was a significant part of the article. An article was also written for the Trust Bulletin and monthly updates in the Directorate newsletter which has a broad circulation list. We have raised awareness in the Trust through the Stroke Foyer Event held for Stroke Awareness day 12th May - 90:10 merchandise was sent to all execs and non execs, posters placed in significant positions. We have made contact with Mid Cheshire and will be arranging a visit there soon.
Falls

1. Preventing Falls: What Works
A CDC Compendium of Effective Community-based Interventions from Around the World
http://www.cdc.gov/ncipc/preventingfalls/CDCCompendium_030508.pdf

2. Preventing Falls: How to Develop Community-based Fall Prevention Programs for Older Adults
www.cdc.gov/ncipc/preventingfalls/CDC_Guide.pdf

3. Incidence and costs of unintentional falls in older people in the United Kingdom
www.ncbi.nlm.nih.gov/pmc/articles/PMC1732578/pdf/v057p00740.pdf

4. Interventions for the prevention of falls in older adults: systematic review and meta-analysis of randomised clinical trials
http://www.bmj.com/content/328/7441/680.full

5. Effectiveness of targeted falls prevention programme in subacute hospital setting: randomised controlled trial
http://www.bmj.com/content/328/7441/676.abridgement.pdf

6. Risk factors and risk assessment tools for falls in hospital in-patients: a systematic review
http://ageing.oxfordjournals.org/content/33/2/122.short
VTE

7. PREVENTION AND TREATMENT OF VENOUS THROMBOEMBOLISM

International Consensus Statement
(Guidelines according to scientific evidence)

8. INSTITUTE FOR CLINICAL SYSTEMS IMPROVEMENT - Health Care Guideline: Venous Thromboembolism Prophylaxis

9. Improving the use of venous thromboembolism prophylaxis in an Australian teaching hospital
http://qshc.bmj.com/content/18/5/408.full.html

10. Venous Thromboembolism (VTE) Prevention: Case Study – Northern Health

11. Venous Thromboembolism (VTE) Prevention: Case Study – Barwon Health

12. Venous Thromboembolism (VTE) Prevention: Case Study – Wimmera Health Care Group

13. A Guide for Delivering the CQUIN Goal

14. BMJ Evidence – Best Practice – VTE Prevention
http://bestpractice.bmj.com/best-practice/monograph/1087.html
Pressure Ulcers

15. NICE The prevention and treatment of pressure ulcers
www.nice.org.uk/page.aspx?o=cg029publicinfo

16. Pressure Ulcer Prevention and Management
http://jama.ama-assn.org/cgi/content/full/289/2/223

17. Preventing Pressure Ulcers: A Systematic Review
http://jama.ama-assn.org/cgi/content/full/296/8/974

18. The management of pressure ulcers in primary and secondary care
A Clinical Practice Guideline - Royal College of Nursing

19. The use of pressure-relieving devices (beds, mattresses and overlays) for the prevention of pressure ulcers in primary and secondary care

20. BMJ Best Practice – Pressure Ulcers
http://bestpractice.bmj.com/best-practice/monograph/378.html

Urinary catheter related sepsis


20/01/2011

24. Strategies to Prevent Catheter-Associated Urinary Tract Infections in Acute Care Hospitals
http://www.safelyleaders.org/pdf/Webinar_8_19_10/StrategiesToPreventCatheterAssUTIsInAcuteCareHospitals_CAUTI_InfCtrlHospEpid_1008.pdf
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- **Nutrition**: Mike Stroud
- **Junior Doctors**: Ashley McKimm
- **Patient Engagement**: Joan Sadler
- **Measurement**: John Madsen / Martin Orton
- **Improvement**: Bernard Crump
- **Medical Directors**: Mike Durkin
- **SHA Quality leads & Host SHA**: Jane Cummings