The Quick Guide to
Implementing Improvement
Acknowledgements

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‘The Model for Improvement’ – some parts have been adapted from a variety of information sources from the Institute for Healthcare Improvement (IHI).

‘Getting Started’ – largely adapted from the IHI’s 5 Million Lives Campaign How to Guides. www.ihi.org/IHI/Programs/Campaign/Campaign.htm?TabId=2.
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General Introduction

This document is aimed at all staff involved in implementing the Patient Safety First clinical interventions. It can also provide some useful background information for managers and clinical staff overseeing the areas where changes will be taking place.

The document is divided into two sections.

The Model for Improvement – which provides a suggested method for approaching improvement activity. The Campaign How to Guides are largely structured around this approach.

Getting Started – which suggests the actions for you to work on before embarking on implementation of the intervention.

There is a bewildering array of information available relating to improvement, change management and patient safety. If you would like to source further relevant information at any point in the Campaign a useful starting point would be to visit the websites for the Campaign or any of its strategic partners:

- Campaign – www.patientsafetyfirst.nhs.uk
- NHS Institute for Innovation and Improvement – www.institute.nhs.uk
- National Patient Safety Agency (NPSA) – www.npsa.nhs.uk

If you have a service improvement team or patient safety lead in your organisation ensure they are aware of the work you are doing so they can advise and/or support you. There may also be a number of other people within your organisation who have experience of improvement, and will be able to support the implementation of the Campaign interventions.

The Campaign is led by a team of NHS clinicians and managers; many of whom are experienced in safety improvement work and all are able to offer advice and support. If you are unable to find what you need please contact the Patient Safety First Campaign team via the site above and we will try to direct your query to an appropriate person.
The Model for Improvement

The Model for Improvement was developed by Associates for Process Improvement (USA, available at www.apiweb.org) and provides a framework around which to structure improvement activity to ensure the best chance of achieving your goals and wider adoption of ideas. Its structure is frequently applied to elements of the interventions covered in the How to Guides. The model is based on 3 key questions used in conjunction with small scale testing.

What are we trying to achieve?
A good aim statement has a clear description, specifies the focus and states the measurable goal (How much? By when?) for example:

In the pilot population we will reduce perioperative harm by 25% within 1 year by focusing on preventing surgical site infection.

“Some is not a number. Soon is not a time”
5 Million Lives Campaign, Institute for Healthcare Improvement.

It may also be helpful to identify in the statement those members of the team that will be responsible for leading and participating in the work.
Setting a ‘stretch goal’ sends a strong message that you are aware of how much room there is for improvement. Stretch goals are not used to drive short-term action, they are used inspire people towards a long-term goal that at the current time is unachievable (due to financial or other constraints). They can encourage teams to strive for a great achievement where they may otherwise have looked for a lower level of improvement. Teams can be intimidated by a stretch goal as they feel the current state is so far from where they are. If you choose to set a stretch goal you should still be realistic. Using ‘half lives’ and short-term goals in the timeframe can demonstrate recognition of the work involved in reaching the goal whilst at the same time keeping teams focused on the ‘How much? By when?’ for example, for an organisation a stretch goal might be:

‘We will eliminate avoidable harm and avoidable death in our organisation by 2013.’

The long-term plan will then incorporate a programme of work, each part having frequent achievable milestones along the way.

For a department, they may see a stretch goal as:

We will achieve compliance with completed physiological observations to 95% within 1 year.
We will improve our current compliance of 42% to 80% within 6 months and by a further 15% within 1 year.

Once the aim has been set, the team needs to be careful not to back away from it deliberately or ‘drift’ away from it unconsciously.

**How will we know that a change has been an improvement?**

Choosing the right measures is essential to knowing whether you are progressing towards your goal and whether the change you have made has actually resulted in and an improvement. Measures also help clarify the aim.

Using a selection of measures helps give the whole picture:

- **Outcome measures** tell you how the overall system is performing – the end result.
- **Process measures** tell you how individual parts of the system are performing.
- **Balancing measures** tell you what happened elsewhere in the system when you made the change – any consequences.

“All improvement will require change, but not all change will result in improvement”
Creating an operational definition

An operational definition tells the team exactly what to measure and how to measure it consistently. So, if using a pilot population to measure the incidence of surgical site infection, there needs to be clarity on who the pilot population includes and what is considered to be surgical site infection, for example:

The pilot population will include elective orthopaedic patients undergoing total knee or hip replacement under Consultant X. Surgical site infection will be positively identified where the patient meets the criteria specified by the Health Protection Agency's Surgical Site Infection Surveillance Protocol (July 2008).

Run charts

Improvement takes place over time. Run charts are one of the most powerful tools you can use to demonstrate whether a change has really resulted in improvement, how instrumental a particular change has been and whether it has been sustained.

Example of a run chart showing improvement that is sustained over time

Annotating graphs with comments about the particular changes is hugely beneficial in assisting staff to understand how their efforts are helping to achieve the outcome. It is also helpful when sharing learning across organisations and networks – results may look impressive but people will always want to know how you did it.
The most important point to remember is that the Patient Safety First Campaign advocates measurement for improvement, not measurement for judgement. Measurement for improvement does not seek to apportion blame; it has learning at its heart.

More detailed information on measurement, including run charts and sampling can be found in the accompanying Campaign document ‘The How to Guide for Measurement’ available at www.patientsafetyfirst.nhs.uk.

**What changes can we make that will result in an improvement?**

The Patient Safety First interventions suggest a number of changes that are known to reduce harm when implemented effectively but they are by no means an exhaustive list. Whatever changes you choose to make, Plan-Do-Study-Act (PDSA) cycles increase the likelihood of getting the process right for your hospital/department and therefore more widely adopted by your colleagues.

**Tips for using PDSA cycles**

- **A test rarely works first time.** Expect to test, observe results, refine and retest. Four or five cycles is not uncommon to get a process that works reliably.

- **These are small scale tests of change.** Start with one patient, one doctor or one occurrence. This ensures testing can be started with minimum delay, is easily observable and minimises the impact if it is not working. Remember, if you can’t make it work for one patient you will never make it work for a whole ward or hospital of patients!

- **Build slowly.** If it works for one, try three, then five, then spread. By the time you have done this you should have ironed out enough of the issues to approach wider rollout with confidence.

- **Go where the will is.** Start with someone who is keen for the change to work. They will have the patience to help you with refinements and retesting.

- **Simulation is okay.** If you are concerned about the impact, test out the process with a colleague or ‘walk it through’.

- **Consider the impact.** If you think the test may impact on people or processes elsewhere in the system undertake an initial assessment of the risk and include those that may be affected in your Plan and Study stages. As you implement more widely, remember to include relevant balancing measures to ensure you continue to monitor the effects.

An example of a PDSA form and suggested contents can be found in Appendix 1.
Getting Started

Prior to implementation and testing of the Campaign interventions, organisations may wish to consider the following:

- **Engage senior leadership support**
  - Link your work to a system level (organisational) goal

- **Form a team**
  - Appoint a multi-disciplinary implementation team
  - Appoint an individual as ‘process owner’
  - Appoint clinical champions

- **Establish quantitative and qualitative feedback mechanisms**

- **Provide education and training**

- **Reporting and learning**

The first two steps should be completed before you start attempting to implement the intervention. The next two steps can be given some thought but to be completed may need to be addressed in conjunction with the implementation section in the How to Guide. The final step is one that should be done on an ongoing basis.

**Engage senior leadership support**

Any improvement process should be driven by leadership, with a commitment to providing adequate resources and attention to the initiative. This is also important as changing practice requires a change in organisational culture and attitudes.

The culture within an individual organisation, or even at the local level of a department or patient care unit, develops based on overt and subtle messages employees receive. Leadership actions strongly influence employee beliefs as to what leaders consider important, even more so than what is actually said. This includes not only what leaders do, but also what they do not do. Visible support for your work at a senior level sends a powerful message to all staff that finding ways to implement this intervention is important to them.

**Link your work to a system level organisation goal**

The leadership must make patient safety and quality of care strategic priorities in order for any improvement team to be successful. Every organisation that is registered with the Campaign is expected to implement the Leadership for Safety intervention and it will be important to link with the executive team taking this forward. For example, if your organisation has set a system level goal of reducing the number of harm events by 50%, then ensure your work and associated measures are included in the programme of projects and reporting that demonstrate how the organisation is working to achieve this.
Once leadership has publicly given recognition and support (financial resource, person-time) to the programme each hospital will have its own methods for selecting a core team to lead implementation.

**Form a team**

No one person can create system-level improvements. When forming the team you should aim to keep the number to a minimum; the more people in the team, the more difficult it is to communicate quickly and effectively, achieve consensus and coordinate activity.

**Appoint a multi-disciplinary implementation team**

This team helps steer and co-ordinate the interventions as well as review the process and outcome data. The Campaign Team recommends a multidisciplinary team approach.

Teams should be heterogeneous in make-up, but homogeneous in mindset. The value of bringing diverse personnel together is that all members of the care team are given a stake in the outcome and work to achieve the same goal. All the stakeholders in the process must be included, in order to gain the buy-in and cooperation of all parties. For example, teams without nurses are bound to fail. Teams led by nurses and therapists may be successful, but often lack leverage; doctors must also be part of the team.

Some suggestions to attract and retain excellent team members include using data to define and solve the problem and working with those who want to work on the project rather than trying to convince those that do not go where the will is.

**Appoint an individual as ‘process owner’**

This ‘local content specialist’ will have well developed links with the areas relevant to the intervention and will be responsible for the functioning of the process, for example, how the change can be effectively implemented in a given area.

Eventually, the changes that are introduced become established. At some point, however, changes in the field or other changes in the department or hospital will require a review of the processes that have been developed. Appointing a figure responsible for the functioning of the process, now and in the future, helps to maintain the long-term integrity of the effort.

**Appoint clinical champions**

The team needs encouragement and commitment from an authority in the field. Champions within the hospital who are of sufficiently high profile and visibility lend the effort immediate credibility. They can increase wider motivation to succeed by maintaining enthusiasm. When measures are not improving fast enough they can also address problems with staff and help to keep everybody on track toward the aims.
Establish quantitative and qualitative feedback mechanisms
Decide how data and staff feedback on the process will be reported to:

- The team itself
- Staff in the area(s) implementing the interventions
- Senior leaders responsible for aggregating the data to assess progress towards the system level goal.

You will also need to establish who will be responsible for technically producing the run charts. If you do not have this capability in your team, seek the support of your senior leaders in securing this expertise from elsewhere such as an informatics department or service improvement team.

More information on the hierarchy of reporting can be found in the How to Guide for Measurement, available at www.patientsafetyfirst.nhs.uk.

Provide education and training
Fear of change is a common barrier as any change can be difficult. The antidote to fear is knowledge about the deficiencies of the present process and optimism about the potential benefits of a new process:

- Equip yourself with the knowledge and skills required to answer potential queries about the intervention and begin testing the changes
- Assess where you stand presently. Is there a process in place? If so, work with staff to begin preparing for changes
- Organise an educational program. Teaching the core principles to staff will open many people’s minds to the process of change
- Introduce the interventions to the staff. In similar campaigns, organisations have not been successful when they failed to communicate with staff about the importance of the interventions or failed to provide ongoing teaching as new staff become involved in the process.
Reporting and learning

It is important to continue to report all patient safety incidents to your organisation’s risk management department both for local learning and as an indicator of performance. These incidents are then reported through to the National Reporting and Learning System (NRLS) so they can learn about incident themes and trends. It is important to maximise your local learning from patient safety incidents and this can be assisted by investigation using Root Cause Analysis methodology (see www.npsa.nhs.uk/nrls/alerts-and-directives/patient-safety-toolkits-e-learning-packages/ for more information and resources).

Teams will not successfully implement any intervention overnight. If they do, it is likely that they are doing something sub-optimally. A successful programme involves careful planning and testing to determine if the process is successful, making modifications as needed, re-testing, and careful implementation over time.
## Appendices

### Appendix 1

Example of a PDSA Chart (Institute for Health Improvement)

<table>
<thead>
<tr>
<th>Cycle #1 Meeting # - date</th>
<th>Start Date:</th>
<th>End Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective of Cycle</strong></td>
<td><strong>Collect Data to Develop a Change</strong></td>
<td>Test a Change*</td>
</tr>
<tr>
<td><strong>Plan</strong></td>
<td>Questions:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. ?</td>
<td>a. Prediction:</td>
</tr>
<tr>
<td></td>
<td>2. ?</td>
<td>a. Prediction:</td>
</tr>
<tr>
<td></td>
<td>3. ?</td>
<td>a. Prediction:</td>
</tr>
<tr>
<td></td>
<td>4. ?</td>
<td>a. Prediction:</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>Test/Implementation Plan:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What change will be tested or implemented?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How will the change be tested or implementation be conducted (consider small scale early)?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Who will run the test or implementation?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Where:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>When will the test or implementation take place?</td>
<td></td>
</tr>
</tbody>
</table>

**Collect Data Plan (Usually required for all PDSA cycles):**

- What information is important to collect?
- Why is it important?
- Who will collect the data?
- Who will analyse the data prior to Study?
- Where will data be collected?
- When will the collection of data take place?
- How will the data (measures or observations) be collected?

**Do:**

- Observations:
  - Record observations not part of the plan:
  - Did you need to modify the original Plan?
  - If so, how?
  - Begin analysis of data (graph of the data, picture)

**Study**

- Questions: (copy and paste Questions and Predictions from Plan above and add Results. Complete analysis of the data. Insert graphic analysis whenever possible.
  1. ?
     - a. Prediction:
     - b. Learning (Comparison of questions, predictions, & analysis of data): |
  2. ?
     - a. Prediction:
     - b. Learning: |
- New Issue:
- Summary:

**Act**

- New Questions to Answer/Decisions made/Action to be taken/Cycles & Priorities
  1.

**Ad Hoc Contributors**

Recognize subject matter experts and others who have contributed to the learning.

To find out more visit [www.patientsafetyfirst.nhs.uk](http://www.patientsafetyfirst.nhs.uk)