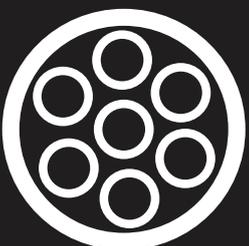


Implementing the Surgical Safety Checklist:



the journey so far...



Introduction

This document summarises the experience and reflections of NHS Trusts about their progress in implementing the World Health Organisation (WHO) Surgical Safety Checklist.

This report builds on a previously commissioned report published in September 2009.

Of the 167 acute Trusts in England, 161 responded to the survey and were in varying stages of using and evaluating the checklist. Of the six trusts that did not participate in the survey, two indicated that the checklist was not of relevance to them and four declined to provide feedback. The response rate is 98%. While the anonymity of Trusts has been respected, some of the data is presented regionally.

Background

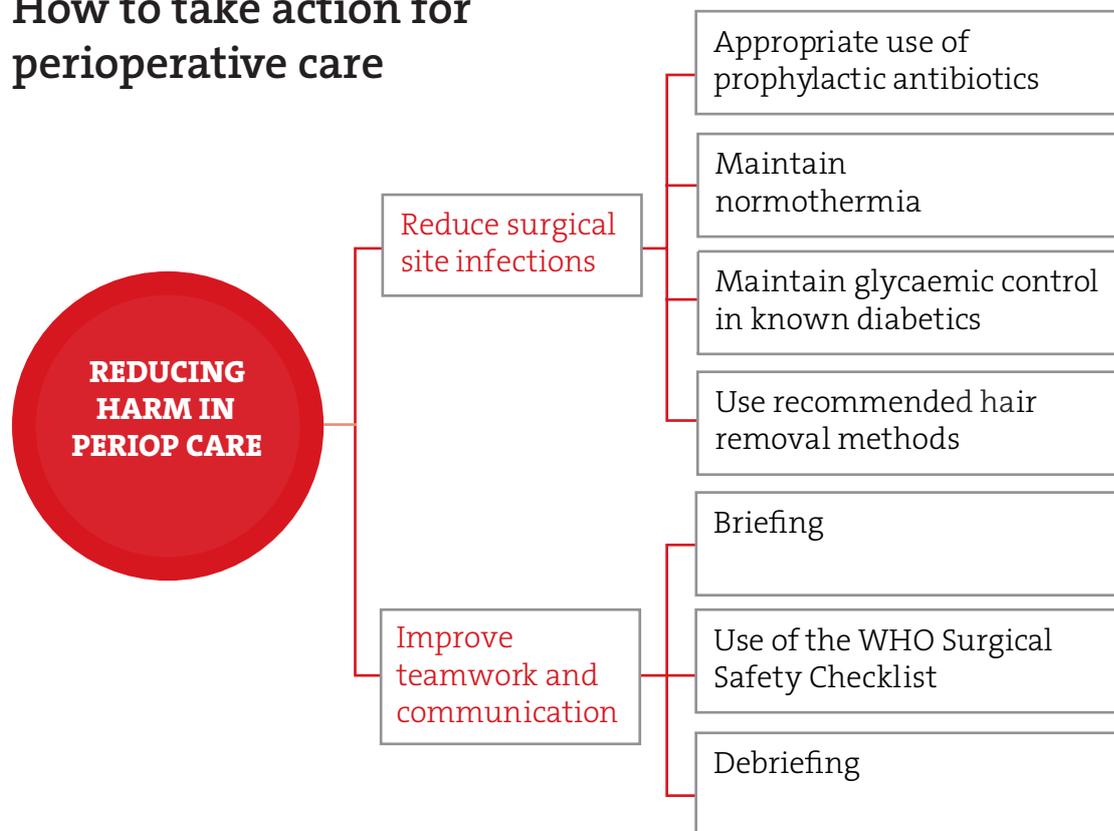
In England, more than 128,000 surgical safety incidents were reported to the National Reporting and Learning Service in 2007. These incidents range from never events such as wrong site surgery, to misplaced patient notes resulting in delays or cancellation of patient procedures. Incidents vary in the scale and severity of harm (see summary data below), but all demonstrate capacity to improve the processes and the reliability of surgical care provided to patients.

Degree of harm	Number of reported incidents in England and Wales 2007
No harm	90,368
Low harm	29,929
Moderate harm	7,746
Severe harm	1,105
Death	271

Given the scale of surgical harm in England and the WHO's Second Global Challenge '*Safe Surgery Saves Lives*', Patient Safety First (sponsored by the National Patient Safety Agency, the NHS Institute and The Health Foundation) made safer surgery a priority of its work.

With the aim of reducing harm in perioperative care, Patient Safety First focused on reducing surgical site infection and improving teamwork and communication. This is outlined in the next diagram.

How to take action for perioperative care



The results of a global pilot of the WHO checklist, published in the *New England Journal of Medicine*, (January 2009)¹ demonstrated that the reliable performance of a series of safety checks, could reduce surgical mortality and morbidity. To highlight the levels of harm in England and Wales and to mandate for improvement, the National Patient Safety Agency (NPSA) issued an Alert to the NHS. The Alert required that Trusts implement the WHO Surgical Safety Checklist for every patient undergoing a surgical procedure, with an expectation that all Trusts would appoint an executive lead to support the change, and that Trusts would be implementing the Checklist by February 2010.

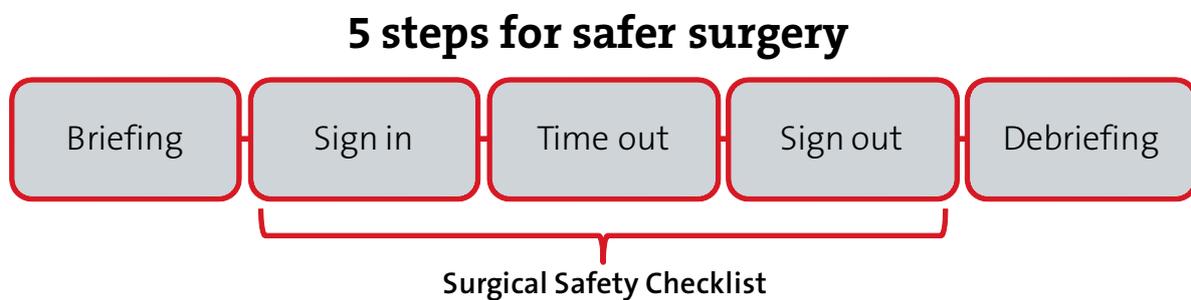
Patient Safety First, tasked with implementation support of the NHS, promoted the model of improvement², encouraging small tests of change (plan, do, study, act)³ to adapt the Checklist to compliment local contexts and pathways of care. Through this process, early adopter sites identified that the Surgical Safety Checklist needed to take account of list-based surgery and proactive planning.

1. The New England Journal of Medicine, 360, p491, January 2009, 'A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population'

2. Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance.

3. The Plan-Do-Study-Act (PDSA) cycle was originally developed by Walter A. Shewhart as the Plan-Do-Check-Act (PDCA) cycle. W. Edwards Deming modified Shewhart's cycle to PDSA, replacing "Check" with "Study." [See Deming WE. The New Economics for Industry, Government, and Education. Cambridge, MA: The MIT Press; 2000.]

They showed that some individual elements of the Surgical Safety Checklist were even more effective as part of a pre-list briefing, prior to the first patient being anaesthetised. For example, staff introductions, equipment considerations, special requirements and safety concerns of the entire list. Furthermore, through continuous improvement, a fifth step of post-list debriefing was identified as helpful, enabling teams to close the loop on their learning and address glitches that need to be corrected before the next list. As a result of working with Trusts, Patient Safety First developed and promoted the '5 steps for safer surgery':



This survey reports on how Trusts approached implementation of the Checklist and the early impacts they are experiencing. Specifically, the survey identifies whether Trusts used the improvement methodologies promoted by Patient Safety First, or alternate change management approaches, to implement the requirements of the Alert.

Key themes

Key findings include:

- All Trusts that responded to this survey are **implementing** the Surgical Safety Checklist (we are informed that the four Trusts that did not participate in the survey are implementing the Checklist)
- One third (33%) are taking a five step approach including **briefings and debriefings** as well as the Checklist. One third (32%) are performing briefings alongside the Checklist. One third (33%) are implementing the Checklist only
- About half of trusts (45%) **started implementation slowly**, by introducing the **Checklist to one list or theatre before rolling out** more widely. Nearly a third (30%) of Trusts, started with a few theatres at a time and one quarter (25%) reported that they required staff to implement the Checklist in all theatres across the trust at once
- More than six out of ten trusts (64%) said that they are evaluating or auditing that the Checklist is making a difference
- The five most commonly reported benefits of implementing the Checklist (from a given list of possible benefits) were, **improved teamwork**, improved safety, more near misses captured, smoother / quicker procedures and improved staff morale
- The two most commonly reported challenges to implementation progress were a **lack of clinical engagement**, and a tendency to see the Checklist as a 'tick box exercise', rather than as a tool to enhance communication and teamwork.

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Methodology

In February 2010, all acute trusts were asked to provide feedback via the Central Alert System (CAS) to the National Patient Safety Agency about the extent to which they had fulfilled the requirements of the Surgical Safety Checklist Alert 2009 (reference number 0861).

The Evidence Centre, an independent organisation, was also commissioned to undertake an evaluation to understand how NHS trusts have responded to the Alert and to evaluate the efficacy of the Patient Safety First approach in supporting NHS trusts with large scale change. The survey focused on NHS Trusts' implementation journey and their perceptions of the impact of the Checklist.

Key contacts at each Trust provided feedback verbally and / or in writing.

The survey invited brief comment regarding the extent to which Trusts are implementing the Surgical Safety Checklist, the process they used to test and roll out the Checklist and their observations about factors which may have helped or hindered the implementation process.

The information collection activity was approved by the Review of Central Returns Steering Committee (ROCR).

Of the 167 acute trusts in England, 161 provided feedback, two said they did not undertake surgery, and four did not take part. The response rate was 98%. All figures are based on feedback from 161 trusts.

All trusts were given an opportunity to validate their data and quotes, and to comment on a draft report.

It should be noted that verification questions were asked throughout the survey and have, in some cases, led to contradictory data.

Implementation status

All Trusts that responded to this survey (161) are implementing the Checklist.

Most trusts complied with the required Alert actions, identifying executive and clinical leads, setting up an implementation team and developing an action plan for implementation. Far fewer Trusts have identified a method to measure how reliably the Checklist is being performed, or are recording whether the Checklist is having an impact (see Table 1 and 2 and Figure 1).

Some Trusts reported that the requirements of the Alert would be a feature of ongoing work, versus tasks that could ever be regarded as ‘finished.’ In particular, measuring reliability of roll out, team involvement and recording use and impact were thought to be activities that would always be ‘works in progress,’ rather than tasks that would ever be ‘complete.’

Table 1: Extent to which trusts are implementing the Checklist

Activity	% not intending	% not started	% started	% finished
Identifying an executive and clinical lead to make sure the Checklist is implemented	1	0	11	88
Setting up an implementation team	3	1	7	89
Developing an action plan to introduce the Checklist	0	0	11	89
Putting the action plan into place	0	0	24	76
Using small tests of change to adapt the Checklist to local requirements	6	3	24	67
Using a spread plan to support roll out across all theatres	16	2	18	64
Measuring how reliably the Checklist is used for every person having surgery	1	13	61	25
Making sure that every member of the team is involved in each step of the Checklist	0	1	59	40
Identifying a way to record that the Checklist is used and is having an impact	0	11	60	29

Note: all proportions throughout the report are based on responses from 161 Trusts

40% of trusts responded that every member of the team is involved in each step of the checklist. This compares to 11% in the September 2009 report.

29% of trusts responded that they are identifying a way to record that the checklist is used and is having an impact. This compares to 13% in the September 2009 report.

Figure 1: % of Trusts at different implementation stages

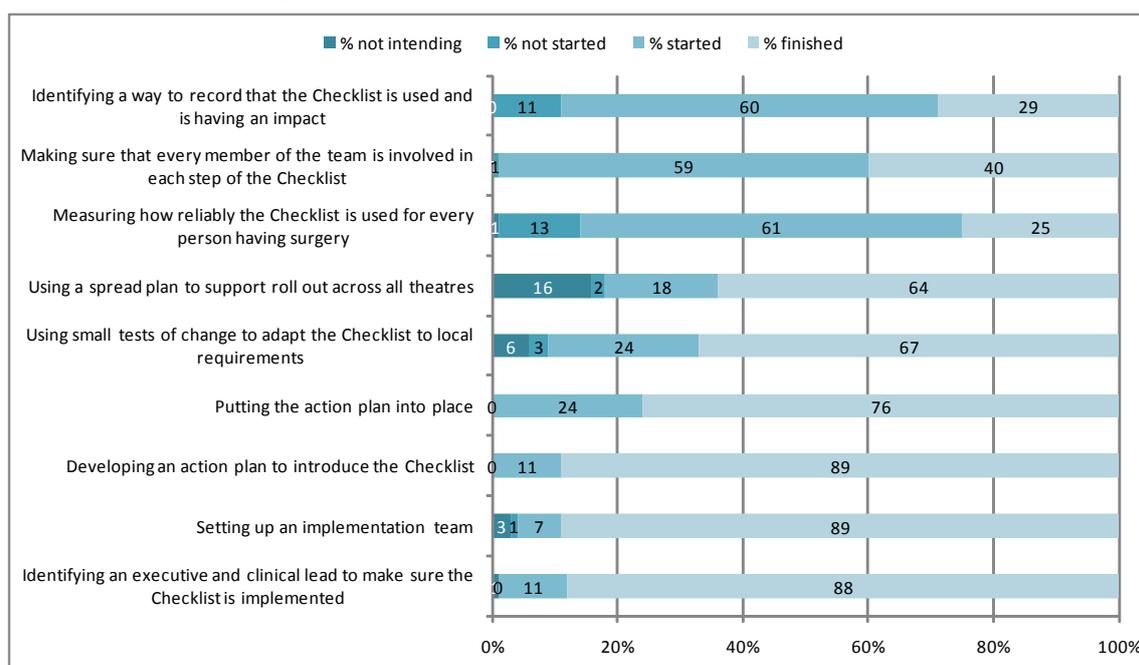


Table 2: % of Trusts per SHA region that have completed aspects of implementation

Activity	EM	EoE	Lon	NE	NW	SC	SEC	SW	WM	YH	England
Executive and clinical leads	88	94	97	88	96	91	80	65	84	86	88
Identify team	88	94	97	88	93	100	80	59	95	93	89
Developing plan	86	94	93	88	89	100	100	59	90	93	89
Put plan into action	75	82	90	63	71	91	90	47	68	86	76
Small tests of change	75	65	72	100	75	91	50	53	42	71	67
Spread plan	57	65	75	75	46	73	80	65	42	79	64
Measuring reliability of roll out	0	35	38	25	18	36	30	18	16	21	25
Every member of the team involved	14	47	59	63	36	46	40	29	11	50	40
Recording use and impact	0	35	41	25	32	36	20	24	26	14	29

Implementation approach

This survey also explored with Trusts how they approached implementation of the Checklist. For example, whether they used the model of improvement incorporating small tests of change to adapt the Checklist and thereafter measuring how reliably used, for all patients in one theatre, before wider roll-out.

45% of Trusts said they started small, with one list or theatre and rolled out slowly; 30% said they were starting with a few theatres at a time and 25% said they were requiring all theatres to begin implementation at once (see Table 4).

When asked, 53% (see Table 3) said they used small tests of change including PDSA (plan, do, study, act) cycles to adapt the Checklist to their Trust.

Patient Safety First recommends a five step approach which includes a briefing to discuss plans for surgery and any anticipated safety concerns, the three steps of the Checklist (sign in, time out, sign out) and a debriefing. 33% of trusts said they are using the Checklist on its own; 32% said they are using the Checklist and briefings only, a small proportion are using the Checklist and debriefings only (2%) and 33% said they are using the Checklist plus briefings and debriefings (see Table 5).

Table 3: % of Trusts using improvement methodology as part of their implementation approach

Use small tests of change like PDSA cycles to adapt the checklist to your Trust	53%
Assure reliability in one theatre before progressing from 1 to 3 to 5 and then spread	46%
Select process or outcome measures to look at the reliability and consistency of use	29%

Table 4: % of Trusts per SHA region using different implementation approaches

Approach	EM	EoE	Lon	NE	NW	SC	SEC	SW	WM	YH	England
Started with on theatre or list	50	47	38	38	46	36	60	53	37	50	45
Started small with a few theatres	25	18	31	50	36	27	10	23	47	28	30
Required all theatres at once	25	35	31	13	18	36	30	24	16	21	25

Table 5: % of Trusts per SHA region using briefing and debriefing

Approach	EM	EoE	Lon	NE	NW	SC	SEC	SW	WM	YH	England
Using Checklist alone	38	53	45	0	26	36	20	35	21	29	33
Using Checklist plus briefing	37	41	28	63	26	27	40	12	47	28	32
Using Checklist plus debriefing	0	0	3	0	0	0	10	0	5	0	2
Using Checklist plus briefing and debriefing	25	6	24	37	48	37	30	53	26	43	33

Making a difference

When asked about evaluation methods generally, 64% of Trusts said that they are evaluating or auditing in a range of formats the extent to which the Checklist may be making a difference. Common methods employed by Trusts include, checking compliance, auditing surgery start times and delays, monitoring adverse events and near misses, examining critical incident reporting, collecting anecdotal evidence about outcomes, direct observation of clinical practice, staff attitude surveys, surgery scorecards, spot audit, as well as use of the Global Trigger Tool^{(TM)1} to review randomly selected case notes.

“I have done spot checks by going into theatres to see how staff are using the Checklist and I have asked the question ‘is it making a difference?’ Most staff say it is a good learning tool and it gives staff more autonomy.”

“Prior to the introduction of the checklist we did some observational work and staff interviews to try to understand the possible barriers to implementation. We have also started some informal discussion sessions with different staff groups to gain their feedback. This has allowed us to iron out problems as we have gone on. This can also give us some comparative data especially with regard to attitudes. We have been developing a more formal approach to data collection which will measure some of the identified parameters and see some of the impacts from the use of the checklist. Informal feedback from the teams indicates that the checklist is useful in identifying issues to resolve early in the day which has a positive impact on the flow of work in theatre, it has also had a positive effect on the communication within the teams.”

1. The name “Global Trigger Tool” is a common law trademark of the Institute for Healthcare Improvement. Cambridge, MA, USA

Trusts were asked whether they have noticed changes in attitudes or behaviours as a result of using the Checklist.

Trusts reported perceived benefits as relating to improved safety, efficiency and team-work

- improved **teamwork** (77%)
- improved **safety** (68%)
- more near misses captured (41%)
- **smoother** / quicker procedures (35%)
- improved staff **morale** (24%).

Some Trusts also commented on observing:

- improved list start and finish **times**
- reduced **turnaround** times
- reduced reported **stress**
- improved **rostering** lists
- additional **cases** per list.

Three quarters of Trusts shared that using the Checklist had resulted in reports of improved teamwork (77%).

“The Checklist enabled routine theatre processes to be reviewed, re-emphasised and improved. Less involved staff groups such as HCSWs [health care support workers] have been involved in safety improvement and made to feel part of the team.”

Improved staff morale and reduced stress were also mentioned by about one quarter of trusts.

“Team dynamics have improved – it is less stressful.”

About seven out of ten trusts believed that using the Checklist process has helped to improve patient safety (68%).

“All theatre staff and many clinical staff have reported improvement in patient safety and better and smooth running of lists, less wastage of time and avoidance of last minute rush and nasty surprises.”

“Our survey suggested that the Checklist has improved perception of safety and giving of antibiotics and VTE prophylaxis.”

There are also perceived improvements in the efficiency of surgical processes.

“Using the Checklist has reduced patient cancellation and ensures specialist equipment is available.”

In contrast to observed improvements in service delivery, about 12% of Trusts reported that using the Checklist had made things more difficult, with 8% of Trusts unable to identify any resulting benefits. A number of Trusts said that they are expecting to see improvements but that they lacked data to demonstrate an explicit link to Checklist introduction, suggesting it was too early to draw conclusions about impacts.

Enablers

The survey sought to identify factors that Trusts found enabled their implementation journey, for example, what prompted them to start using the Checklist.

55% of Trusts reported that the publicity and focus of the WHO Global launch in June 2008 stimulated them to action; 55% cited Patient Safety First as a key enabler. 71% Trusts qualified that the Patient Safety Alert, issued by the National Patient Safety Agency (NPSA) was their key prompt for action.

9% of organisations identified that a safety incident or a ‘never’ event locally was their impetus for activity, with 10% qualifying that local initiatives or other safety programmes including the NHS Institute’s Leading Improvement in Patient Safety (LIPS) and the ‘productive’ series, or The Health Foundation’s Safer Patient Initiative (SPI) were the prompts.

9% of Trusts reported that information from professional organisations such as Royal Colleges, or chief executive groups had been their trigger (see Table 6).

Table 6: % of Trusts per SHA region that mentioned key drivers for adopting the Checklist

Key drivers	EM	EoE	Lon	NE	NW	SC	SEC	SW	WM	YH	England
Patient Safety First	75	71	41	63	71	9	60	29	63	64	55
WHO launch	63	59	69	75	43	46	50	53	37	71	55
NPSA alert	63	77	62	88	71	82	60	59	84	71	71
Local safety incident	0	0	17	13	4	27	10	6	5	14	9
Other initiatives	0	0	7	38	11	9	10	35	0	0	10
Professional groups	13	6	7	25	7	0	0	18	16	7	9

When asked, which of the following factors had proved most helpful in implementing the checklist, Trusts responded:

- clinical champions / early adopters (76%)
- enthusiasm of nurses in theatres (75%)
- engagement of clinicians (62%)
- applying the Checklist in one area first (57%)
- Patient Safety First (55%)
- executive leadership (37%)
- using rapid improvement cycles eg: PDSA (24%)
- safety incident or 'never' event (22%)
- leadership WalkRounds (14%).

Lack of clinical engagement was a reported problem for many Trusts however, where they secured clinicians to champion the cause, the resulting success was significant with more than seven out of ten trusts saying clinical champions were a key success factor to their roll out of the Checklist (76%).

"[Key success factors include] identifying clinical champions and ensuring surgeon and anaesthetist cooperation early."

"Having dedicated leads to drive forward the checklist has been essential."

Some trusts described innovative teaching and learning methods, to raise awareness of the Checklist and encourage early adopters. Some examples of this include staff attending workshops or away days and using video recording to inform work-based learning and peer-to-peer critique. One Trust quoted the following:

"The biggest single feature has been using a theatre simulator and taking whole theatre teams out to learn and practice using the Checklist. We have trained over 80 teams and ultimately all teams will have gone through this. The training has been done 'in lieu' of a planned theatre list to ensure take up. Facilitators have been selected from amongst theatre practitioners and anaesthetists who then become local champions."

Around seven out of ten trusts mentioned the importance of the enthusiasm of nurses in theatres or engagement from clinicians (75%).

"The majority of staff are very positive and they enjoy the daily huddle. The briefing sheet has made a huge difference."

Some trusts described how support from particular clinical groups or joint clinical and managerial committees had helped build impetus for implementation.

“Support from the Surgical Audit and Operational Governance Group has been important. Progress has been monitored through the group and problem areas discussed. Clinicians on the group have then fed back to other team members.”

“A lot of teams that were quite anti at the beginning have come around because of the enthusiasm of the core group.”

About four out of ten trusts emphasised the importance of executive level engagement for implementing the Checklist (37%).

“Strong leadership [is important] - always being vigilant and never taking your eye off the ball.”

55% of Trusts suggested that the Patient Safety First campaign had helped them move forward. Trusts were particularly likely to mention the awareness generated by Patient Safety First week.

“Changing to a big bang approach during Patient Safety First week resulted in a massive improvement in using the Checklist.”

The survey highlighted some criticism of the different approaches, particularly in relation to the mandatory requirements of the Alert, versus the implementation support for the NHS via a voluntary campaign.

“There is a lack of clarity between NPSA ‘stick’ and [Patient Safety First] ‘carrot’ approach to implementation. Are we ‘implementing a national standard’ or ‘encouraging the development of good practice locally’? These different messages have caused confusion and delay in implementation.”

Challenges

When asked, whether they had experienced any challenges when implementing the Checklist, Trusts responded (more than eight out of ten trusts mentioned one or more challenges):

- tendency to view the Checklist as a **tick box exercise** rather than a tool to improve communication and teamwork (78%)
- lack of clinical engagement (77%)
- not seeing the Checklist as a **priority** (37%)
- not having enough **time** (37%)
- lack of **understanding** of improvement methods (28%)
- lack of **leadership** support / managerial attitudes (9%)
- lack of **partnership** between clinical and non clinical managers (9%)
- requiring implementation across all theatres at once did not work (6%)
- focus on **reporting** back to NPSA rather than engaging teams for local action (3%).

Eight out of ten trusts said that the Checklist was sometimes seen as a ‘tick box’ exercise and teams ‘went through the motions’ rather than reflecting the true spirit of the Checklist as a communication tool (78%).

“At the beginning there was a negative attitude by clinicians and a tendency to use the Checklist as a tick box exercise.”

“Some clinicians have viewed this as a tick box exercise but the commitment of the theatre staff has not allowed this to deter implementation.”

A similar proportion believed it was difficult to gain clinical engagement or that negative attitudes of some clinicians towards the Checklist acted as a barrier (77%).

Some Trusts reported that clinicians in some clinical specialities, appeared to believe that aspects of the Checklist process were redundant for them. For instance, reported resistance to introducing all team members by name where teams are established.

“We have a very stable workforce and the need to check that all the team knew each other was not always appreciated.”

Some respondents commented on the importance of the model of improvement as the Checklist didn't always reflect everyday practice or fit in with existing pathways and protocols, so adaptations needed to be made.

“It is noted that the WHO checklist does not necessarily reflect the order of the patient pathway / operational management and minor adjustments are required. This will be contained with PDSA cycles and adjusted where appropriate.”

“There is too much repetition on the Checklist between current practice and Checklist questions, so much poorer clinical buy in. Problem is also lack of evidence of improved safety in UK practice, so poorer clinical buy in. As a result, there has been no significant improvement in team working, which is the main strength of the Checklist.”

Trusts noted that where clinical engagement was high, implementation was likely to be better and vice versa.

“Some teams have embraced it, and so quite a few of the positives have been achieved. However, some teams are pretty unenthusiastic – mainly led by indifferent / hostile surgeons but aided and abetted by anaesthetists and nursing staff to a greater and lesser extent. These teams have, not surprisingly, experienced a less positive outcome.”

A small proportion suggested that aiming to roll out the Checklist widely all at once had acted as a barrier (6%).

“The chosen approach which was to introduce this slowly was working but there was a perception in the clinical areas that this was not fast enough and so the final stages of implementation were rather rushed. It is my professional opinion that this approach has had a detrimental effect on the attitudes of staff and has resulted in the Checklist being viewed as a tick box exercise.”

Summary

All 161 trusts giving feedback, through these telephone interviews and in writing over a seven week period in February-March 2010, responded that they are implementing the Surgical Safety Checklist.

Implementation is at varying stages, with some trusts rolling out the Checklist to all lists and theatres and others in the early stages of adoption.

Key drivers for beginning to use the Checklist include the NPSA Alert, the WHO global launch and Patient Safety First.

About six out of ten trusts are reporting positive changes as a result of the Checklist (64%), but most said that they did not yet have any quantifiable evidence of benefits.

Perceived advantages of implementing the Checklist include improved teamwork, enhanced safety, capturing more near misses, smoother and quicker procedures and better staff morale.

According to Trusts, key success factors include clinical champions and early adopters, clinician engagement and enthusiasm from nurses in theatres.

Challenges include a lack of clinical engagement and a tendency to see the Checklist as a 'tick box exercise' rather than as a tool to enhance communication and teamwork.

In spite of the challenges of implementation, the NHS is making steady progress. It is clear that there are many enthusiastic and committed staff leading improvement work across Trusts resulting in safer care for patients.

Securing improvements for patients and enhancing patient safety requires greater understanding of the success factors to achieve large-scale change in a system as complex as the NHS.

The National Patient Safety Agency will therefore use this survey to structure support for sustained implementation of the five steps for safer surgery and further improvements in 2010.

To assess the usability and contribution of the WHO Surgical Safety Checklist to the delivery of safer care in England, Imperial College London and Imperial College Healthcare NHS Trust have secured a National Institute for Health Research (NIHR) grant to undertake an in-depth, longitudinal evaluation. Data collection is due to be completed by February 2011.