

Prioritising patient safety

Implementing the Surgical Safety Checklist



THE
Evidence
Centre

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Key themes

Hundreds of thousands of people have operations in England every year. The NHS strives to make all surgery safe and effective, but sometimes incidents occur. Not all of these incidents are serious, but some may lead to patient harm. Evidence suggests that implementing a systematic process of checks, briefing and debriefing can reduce safety incidents by up to one third, so the World Health Organisation (WHO) developed a simple reminder for surgical teams known as the Surgical Safety Checklist. The tool brings together best practice about safety checks in theatres and can be adapted to accommodate local requirements.

NPSA issued a national alert in 2009, the aim being for all acute trusts in England to be implementing the Surgical Safety Checklist by 1 February 2010. In February and March 2010 an independent organisation, The Evidence Centre, contacted all trusts by telephone and email to invite them to describe their journey towards implementation. 161 out of 165 acute trusts undertaking surgery chose to participate, a response rate of 98%.

Key findings include:

- All trusts said they have **begun implementing** the Surgical Safety Checklist.
- On average, trusts estimate that the Checklist is now **used for about nine out of ten** people undergoing surgery (89%), but this ranges from 0 to 100% in different trusts.
- One third are using the Checklist alone (33%), one third are using the Checklist and briefings only (32%) and one third are using the Checklist plus briefings and debriefings (33%).
- About half of trusts started implementation with one list or theatre and **rolled out the Checklist slowly** (45%), more than one quarter began with a few theatres at a time (30%) and one quarter required that the Checklist be implemented in all theatres across the trust at once (25%).
- About six out of ten trusts have implemented a process to **measure any changes** resulting from the Checklist (64%).
- The most commonly reported benefits of implementing the Checklist include **improved teamwork**, improved safety, capturing more near misses, smoother and quicker procedures and improved staff morale.
- The most common challenges reported when implementing the Checklist 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.

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Overview

Every year thousands of people receive life changing surgery in NHS hospitals. Ensuring NHS services are safe and effective is a key priority but there are more than 120,000 surgical safety incidents reported each year in England. These range from misplaced notes to wrong site surgery. Many incidents do not result in any harm but others are serious and may lead to significant harm or even death.

A worldwide pilot by the World Health Organisation (WHO) found that implementing a systematic process of checks can reduce safety incidents by up to one third, so WHO formalised a simple reminder procedure known as the Surgical Safety Checklist.

Recognising the importance of using systematic checking processes, the National Patient Safety Agency (NPSA) issued an alert in early 2009 requiring all NHS healthcare organisations to implement the WHO Surgical Safety Checklist for every patient undergoing a surgical procedure by 1 February 2010.

NPSA asked *Patient Safety First*, the campaign for patient safety improvement in England, to support trusts to implement the Surgical Safety Checklist locally.

In February 2010, all acute trusts were asked to provide feedback via the Central Alert System (CAS) to NPSA about the extent to which they had fulfilled the components of the alert.

NPSA and *Patient Safety First* were also interested in gaining more detailed feedback about trusts' implementation journey. Therefore in February-March 2010 an independent organisation, The Evidence Centre, was commissioned to contact all acute trusts in England to gain feedback about their journey to implement the Checklist.

Medical directors, chief executives, key contacts at each site identified by the *Patient Safety First* campaign and personnel who provided feedback about the Checklist in 2009 were asked to respond on behalf of their trust.

All trusts were contacted until they responded or a minimum of 12 times during a seven week period. All were given the opportunity to provide feedback verbally or in writing. Trusts were asked to provide brief comments about the extent to which they are implementing the Surgical Safety Checklist, the process they have used to test and roll out the Checklist and their observations about factors which may help or hinder 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, 2 said they did not undertake surgery, and 4 did not take part. The response rate was 98%. All figures are based on feedback from 161 trusts.

All trusts that provided feedback were given an opportunity to check their data and quotes and to comment on a draft report.

Implementation status

All participating trusts said they have started implementing the Checklist.

About 14% trusts began implementing aspects of the Checklist in 2008, prior to the NPSA alert. Following the release of the national NPSA alert in early 2009, around 45% of trusts began implementation. 39% of trusts began implementation later, towards the end of 2009 and 2% began in 2010.

Most trusts have identified executive and clinical leads, set up an implementation team and developed an action plan to begin implementing the Checklist. Fewer have as yet completed identifying a method to measure how reliably the Checklist is used and recording whether the Checklist is having an impact (see Table 1 and Figure 1). There is some variation in different regions (see Table 2).

Some trusts noted that they saw some of these components as **ongoing**, rather than tasks that would ever be '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 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.

Figure 1: Proportion of trusts at different implementation stages

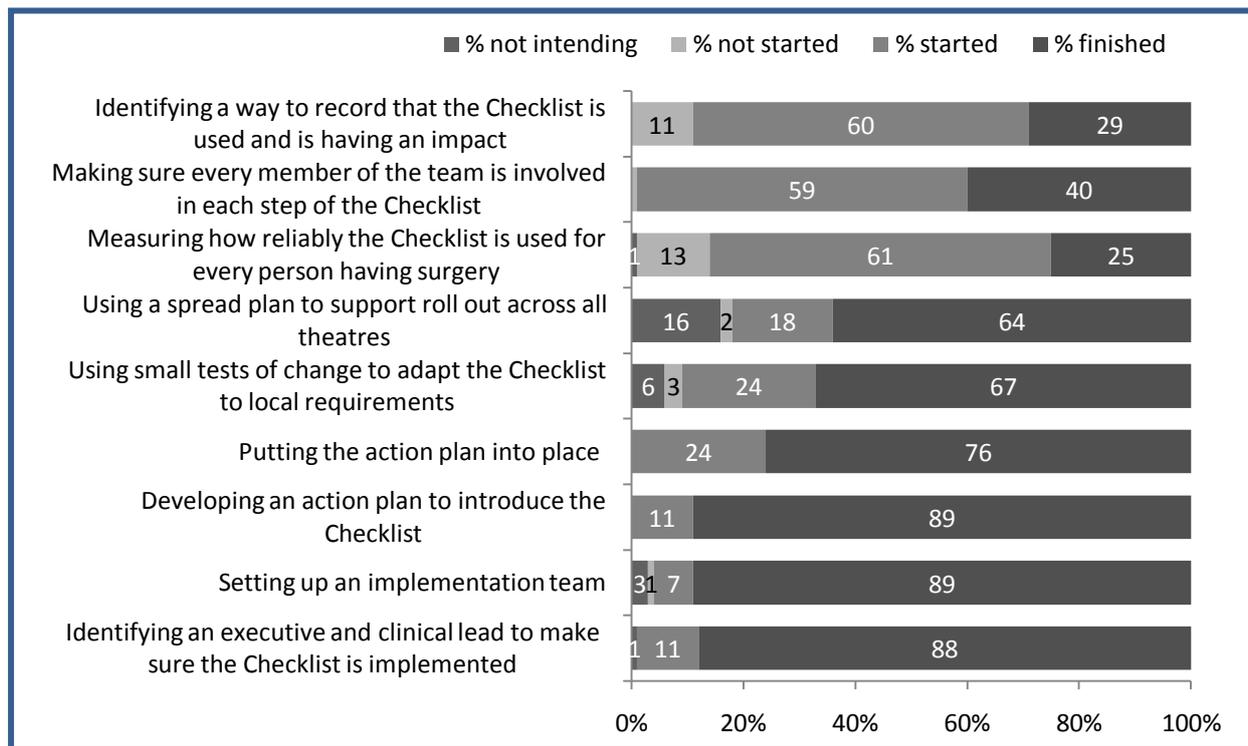


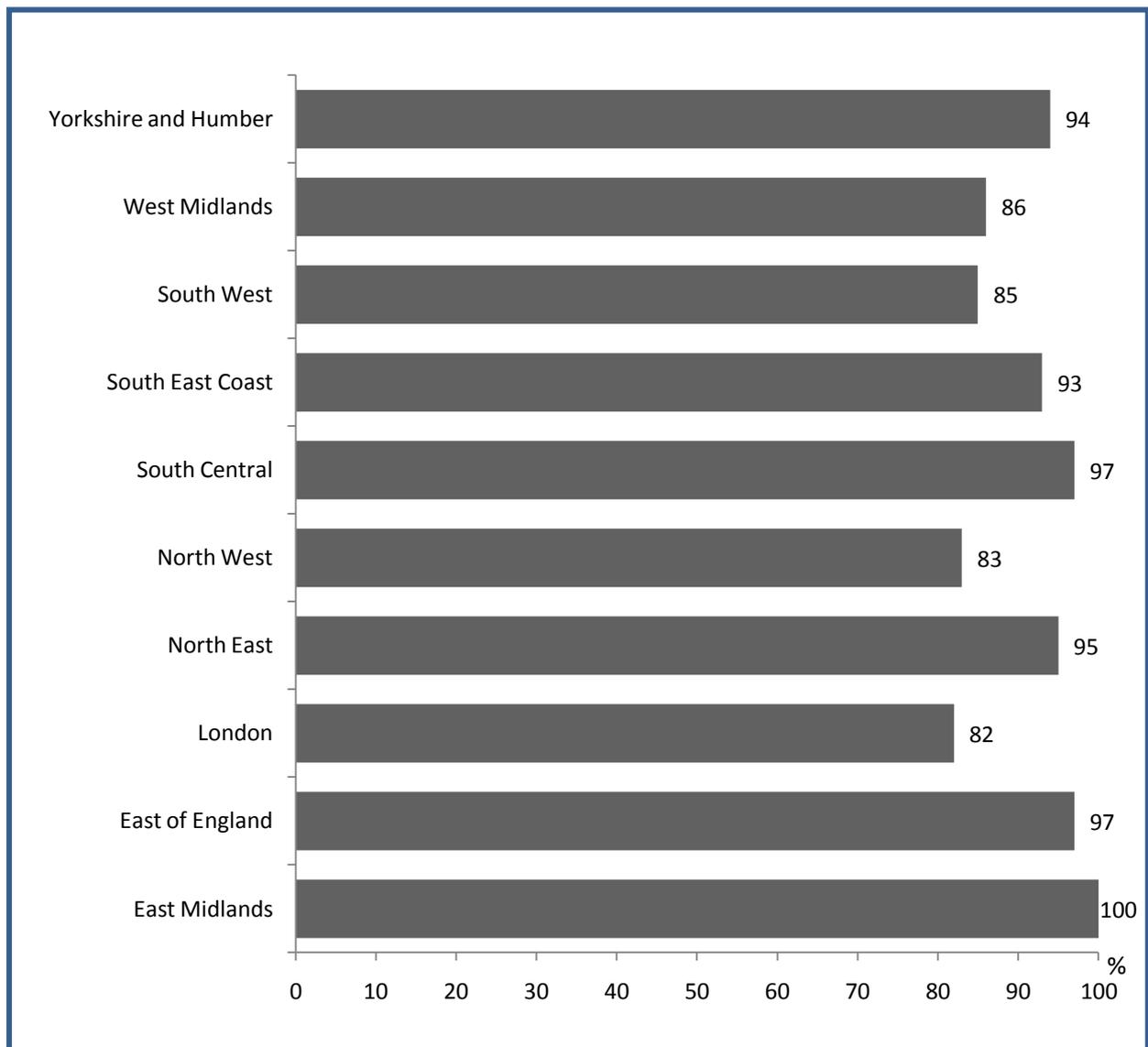
Table 2: Proportion of trusts per region that have completed aspects of implementation

Component (national av)	East Mids	East Eng	London	North East	North West	South Central	SE Coast	South West	West Mids	Yorkshire
Executive and clinical leads (88%)	88	94	97	88	96	91	80	65	84	86
Identify team (89%)	88	94	97	88	93	100	80	59	95	93
Developing plan (89%)	86	94	93	88	89	100	100	59	90	93
Put plan into action (76%)	75	82	90	63	71	91	90	47	68	86
Small tests of change (67%)	75	65	72	100	75	91	50	53	42	71
Spread plan (64%)	57	65	75	75	46	73	80	65	42	79
Measuring reliability of roll out (25%)	0	35	38	25	18	36	30	18	16	21
Every member of the team involved (40%)	14	47	59	63	36	46	40	29	11	50
Recording use & impact (29%)	0	35	41	25	32	36	20	24	26	14

Note: coloured squares represent statistically significant differences from the majority of regions

On average, **trusts estimate that the Checklist is being used for 89% of people** undergoing surgery (see Figure 2). This ranged from 0% in some trusts to 100% in others.

Figure 2: Estimated proportion of people undergoing surgery for whom the Checklist is used



Implementation approach

When asked what approach they are using to introduce the Checklist, 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 3).

53% said they used small tests of change such as PDSA cycles to adapt the Checklist, as suggested in *Patient Safety First's* model for improvement.

Patient Safety First recommends a five-step approach which includes a briefing to discuss plans for surgery and any anticipated safety concerns, sign in, time out, sign out and 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 4).

Table 3: % of trusts per region using different implementation approaches

Approach (national average)	East Mids	East Eng	London	North East	North West	South Central	SE Coast	South West	West Mids	Yorkshire
Started with one theatre or list (45%)	50	47	38	38	46	36	60	53	37	50
Started small with a few theatres (30%)	25	18	31	50	36	27	10	23	47	29
Required all theatres at once (25%)	25	35	31	13	18	36	30	24	16	21

Note: coloured squares represent statistically significant differences from the majority of regions

Table 4: % of trusts per region using briefing and debriefing

Approach (national average)	East Mids	East Eng	London	North East	North West	South Central	SE Coast	South West	West Mids	Yorkshire
Using Checklist alone (33%)	38	53	45	0	26	36	20	35	21	29
Using Checklist plus briefing (32%)	37	41	28	63	26	27	40	12	47	28
Using Checklist plus debriefing (2%)	0	0	3	0	0	0	10	0	5	0
Checklist, brief and debriefing (33%)	25	6	24	37	48	37	30	53	26	43

Making a difference

NPSA and the Department of Health have commissioned a full evaluation of how the Surgical Safety Checklist is implemented and its impacts over time. This is due to report in 2011. In the meantime, *Patient Safety First* commissioned The Evidence Centre to ask trusts about their perceptions of whether using the Checklist process makes a difference.

29% of trusts said they have selected process or outcome measures to look at the reliability and consistency of use of the Checklist.

64% said they are testing whether the Checklist is making a difference.

Common methods include checking compliance using random case note review, auditing surgery start times and delays, monitoring adverse events and near misses, critical incident reporting, collecting anecdotal evidence about outcomes, observation, staff surveys, surgery scorecards, spot checks and using the global trigger tool to review case notes.

"I have done spot checks by going into theatres to see how staff are using 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." (trust in North West SHA region)

"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." (trust in North East SHA region)

Trusts were asked whether they have noticed any changes in attitudes or behaviours as a result of using the Checklist. A number of trusts said that they are expecting to see improvements but that data are not currently available or that it is too early to draw conclusions about impacts.

However potential perceived benefits include:

- improved **teamwork** (77%)
- improved **safety** (68%)
- more near misses captured (41%)
- **smoother** / quicker procedures (35%)
- improved staff **morale** (24%)
- improved list start and finish **times** (11%)
- reduced **turnaround** times (7%)
- reduced reported **stress** (3%)
- improved **rostering** lists (1%)
- additional **cases** per list (1%)

Three quarters of trusts said that using the Checklist had resulted in improved teamwork (77%).

"The Checklist enabled routine theatre processes to be reviewed, reemphasised 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."
(trust from London SHA region)

Improved staff morale and reduced stress were also mentioned by about one quarter of trusts, which may be linked to communication.

"Team dynamics have improved – it is less stressful." (trust from South Central SHA region)

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." (trust from East Midlands SHA region)

"Our survey suggested that the Checklist has improved perception of safety and giving of antibiotics and VTE prophylaxis." (trust from South Central SHA region)

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

"Using the Checklist has reduced patient cancellation and ensures specialist equipment is available"
(trust from East Midlands SHA region)

12% of trusts said using the Checklist had made things more difficult and 8% said there had been no resulting benefits.

Helpful factors

Trusts provided feedback about what prompted them to start using the Checklist. Trusts could provide information about several key drivers that encouraged them to begin using the Checklist so percentages add to more than 100%.

71% said the national alert from NPSA was a key prompt and 55% mentioned the WHO global launch. 55% said *Patient Safety First* was a key driver to begin implementation. 9% described incidents within their trust and 10% mentioned local initiatives or other programmes including the NHS Institute for Innovation and Improvement's LIPs programme (Leading Improvement in Patient Safety) and 'productive' series and the Health Foundation's Safer Patient Initiative. 9% said information from professional organisations such as Royal Colleges or chief executives groups had been their initial prompt (see Table 5).

Table 5: % of trusts per region that mentioned key drivers for adopting the Checklist

Main driver (national average)	East Mids	East Eng	London	North East	North West	South Central	SE Coast	South West	West Mids	Yorkshire
Patient Safety First (55%)	75	71	41	63	71	9	60	29	63	64
WHO launch (55%)	63	59	69	75	43	46	50	53	37	71
NPSA alert (71%)	63	77	62	88	71	82	60	59	84	71
Local safety incident (9%)	0	0	17	13	4	27	10	6	5	14
Other initiatives (10%)	0	0	7	38	11	9	10	35	0	0
Professional groups (9%)	13	6	7	25	7	0	0	18	16	7

Note: coloured squares represent statistically significant differences from the majority of regions

Factors that trusts believed were most helpful for moving forward with implementation include:

- clinical **champions** / early adopters (76%)
- enthusiasm of **nurses** in theatres (75%)
- **'buy-in'** or engagement from clinicians (62%)
- applying the Checklist in **one area** first (57%)
- *Patient Safety First* **campaign** and similar initiatives (39%)
- executive **leadership** (37%)
- using **rapid improvement** cycles such as PDSA (24%)
- leadership **walkrounds** (14%)
- safety **incident** or never event (22%)

More than seven out of ten trusts said that having clinical champions was a key success factor in rolling out the Checklist (76%).

"Having dedicated leads to drive forward the checklist has been essential." (trust from North West SHA region)

"[Key success factors include] identifying clinical champions and ensuring surgeon and anaesthetist cooperation early." (trust from East of England SHA region)

Some trusts described innovative methods used to raise awareness of the Checklist and encourage early adopters.

"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." (trust from London SHA region)

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." (trust from North West SHA region)

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.” (trust from West Midlands SHA region)

“A lot of teams that were quite anti at the beginning have come around because of the enthusiasm of the core group.” (trust from Yorkshire and the Humber SHA region)

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.” (trust from South East Coast SHA region)

More than one third of trusts suggested that the *Patient Safety First* campaign and similar programmes such as the Safer Patient Initiative (SPI) had helped them move forward (39%). 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.” (trust from North West SHA region)

However, there were also some suggestions for improvement in the approach used by *Patient Safety First* and NPSA. Some trusts believed that the Checklist documentation could be improved.

“The NPSA form is heavily criticised. Many questions are mistimed and very frequently inappropriate. We are working on radically rewriting the form and reintroducing it with team brief.” (trust from South Central SHA region)

Others suggested more fundamental changes in the underlying philosophy used to support trusts.

“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.” (trust from North West SHA region)

Challenges

Trusts suggested that there were a range of challenges when implementing the Checklist. More than eight out of ten trusts mentioned one or more challenges.

Issues included:

- tendency to view the Checklist as a **tick box exercise** rather than a tool to improve communication and teamwork (78%)
- negative **clinician attitudes** / lack of clinical buy-in or 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%)
- using a 'big bang' approach or requiring **widespread** implementation 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 tool (78%).

"Some clinicians have viewed this as a tick box exercise but the commitment of the theatre staff has not allowed this to deter implementation." (trust from East of England SHA region)

"At the beginning there was a negative attitude by clinicians and a tendency to use the Checklist as a tick box exercise." (trust from London SHA region)

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

Some trusts said that certain clinicians may believe that aspects of the Checklist process were redundant. For instance, there has been resistance to introducing all team members by name where teams tend not to alter much.

"We have a very stable workforce and the need to check that all the team knew each other was not always appreciated." (trust from East of England SHA region)

Others said that clinicians may feel that the Checklist does not reflect everyday practice or fit in with existing pathways and protocols. However trusts noted that the Checklist process could be adjusted to account for this.

"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." (trust from the South West SHA region)

Another component that may influence clinical engagement is evidence of effectiveness.

"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." (trust from West Midlands SHA area)

Trusts noted that where clinical engagement was high, outcomes were 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." (trust from North East SHA region)

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." (trust from North East SHA region)

Summary

Telephone interviews and written feedback from 161 acute trusts over a seven week period in February-March 2010 found that all believe 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.

On average, trusts said that the Checklist is now being used with about nine out of ten people undergoing surgery (89%), though this varied widely from 0% in some trusts to 100% in others.

Key drivers for beginning to use the Checklist include the NPSA national alert, the WHO global launch and the *Patient Safety First* campaign.

About six out of ten trusts are testing any 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.

NPSA will use this feedback to continue to support implementation of the Checklist in 2010.