Implementing a ward accreditation programme to drive improvements in infection prevention

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Abstract

University Hospitals Southampton NHS Foundation Trust aspires to be a national leader in the reduction of healthcare associated infections (HCAIs). The need to further improve patient safety requires continual improvements in infection control practice in order to sustain high quality and safe patient care. To help achieve this, an infection prevention ward accreditation scheme was introduced across the trust in 2009. The accreditation scheme was initially based on the results of clinical wards'/areas' infection prevention audits, aiming to motivate wards to achieve success and support areas to identify and address gaps in compliance. The ward accreditation scheme acts as a certification of best practice and policy compliance related to reducing HCAIs. Since its introduction four years ago, the ward accreditation programme has been expanded and developed to incorporate other elements of infection prevention policy and practice and continues to be developed in order to drive the trust forward as leaders in infection prevention. The introduction and ongoing development of the accreditation scheme has encouraged healthy competition, aiding local ownership and driving forward improvements, and with this, the trust has significantly reduced infection rates over the last four years.

Introduction

The prevention and control of healthcare associated infections (HCAIs) remains high on the English government's agenda and has been one of the top five priority issues in the National Health Service (NHS) Operating Framework for England since 2007 (Department of Health, 2011). The government has sought to

influence NHS trusts to tackle infections by implementing a range of mechanisms, through the production of national guidance, national targets for meticillin resistant *Staphylococcus aureus* (MRSA) blood stream infections (BSI) and *Clostridium difficile* and national campaigns. A combination of different methods for improving rates of HCAIs has been used including the improvement of education and compliance with clinical practices. Many trusts have adopted the use of audits such as the *Saving Lives High Impact Interventions* (Department of Health, 2007) to monitor and improve clinical practices, which have been incorporated into a ward accreditation programme. Sheffield Teaching Hospital implemented a ward accreditation programme and found that it contributed significantly to improved compliance with infection prevention policies. Following the implementation of a ward accreditation programme, Sheffield Teaching Hospital found that their rates of MRSA BSI had reduced by 39% and hospital acquired MRSA by 60% (Parker, 2008). Newcastle Upon Tyne Hospital implemented a similar programme in 2008, which resulted in a 36% reduction in MRSA over a 12 month period (Coward et al, 2009).

Background

The trust provides acute services to some 1.3 million people living in and around the area, plus specialist services such as neuroscience, cardiac services and paediatric intensive care to more than 3 million people in central southern England and the Channel Islands. The trust is also a major centre for teaching and research. Patient safety is the highest priority for the trust and it outlines its vision in the Infection Prevention Strategy to 'aspire to be a national leader for the reduction of HCAIs and in the promotion of innovations and continued improvements in infection prevention'. The need to further improve

Table 1. Accreditation status

Ward accreditation status	Red, amber, green (RAG) rating	Overall score
Full accreditation	Green	95–100%
Partial/conditional accreditation	Amber	85–94.9%
No accreditation	Red	<85%

the quality of patient care and drive forward improvements in infection control practice, which can be sustained, was identified and led to the development of a trust-wide infection prevention ward accreditation programme.

The aims of the ward accreditation programme;

- To develop an accreditation programme using existing infection prevention audit data
- To motivate wards/clinical areas to achieve success in infection prevention practice
- To support wards/clinical areas struggling to achieve full accreditation and identify actions to address the gaps.

Development of infection prevention ward accreditation metrics

A project group was initially set up to develop and help drive the ward accreditation programme within a given timeframe. The project group's functions were to agree the metrics to be incorporated into the accreditation scheme, pilot this on two project wards and then rollout across the trust by the end of December 2009. The project group agreed to develop an internal process using existing infection prevention data and include the following audits:

Saving Lives High Impact Intervention audits, which include urinary catheter care, peripheral intravenous cannula care, central venous catheters, renal dialysis, ventilated associated pneumonia, surgical site infection and cleaning and decontamination. The saving lives care bundles were introduced by the Department of Health in 2005, most recently revised in 2010 to support the NHS by providing evidence-based practice guidance in order to help reduce healthcare associated infections. Only the Ventilated Associated Pneumonia Saving Lives High Impact Intervention care bundle has been modified to reflect current agreed practice within the trust. Each relevant clinical area carries out each saving lives audit twice a year.

Hand hygiene audits, which are observational audits carried out on clinical staff, were developed from the tool used by the Health Protection Agency in Scotland (Health Protection Scotland, 2009). All clinical areas are required to carry out hand hygiene audits quarterly.

Environmental audits such as sharps safety, waste management, linen, isolation, personal protective equipment, standard precautions and ward kitchen are carried out once a year by clinical and ward areas. Audit tools are taken from the Infection Control Nurses Association's (ICNA) audit tools for monitoring infection control, devised in 2004 for use within acute care and updated using Infection Prevention Society (IPS) quality improvement tools (2011).

Once the data to be incorporated into the ward accreditation programme was agreed by the project group, a mock up of the data for the two project wards was developed along with the draft ward accreditation process. Feedback from these two wards was gained in order to establish whether the score required to achieve full accreditation was realistic; whether the process was feasible; if the wards would be supportive of such process; and in what format could wards inform patients and visitors about their accreditation. Positive

feedback was gained from both project wards and it was agreed that such a process would help wards to drive improvements in infection prevention practice. At this point, the process was formalised and disseminated to all areas in the trust, before rollout took place.

Ward accreditation process

The ward accreditation status indicates the overall performance over a 12 month period, April – March. The accreditation scheme was communicated and rolled out to all clinical areas across the trust in December 2009. In April 2010 accreditation scores were calculated for each area based on the audits submitted between April 2009 and March 2010, as per the annual audit programme. The ward accreditation score is calculated by adding together all the audit scores for an area and dividing by the number of audits completed to give an average assessment/score. This overall score is used to determine whether the clinical area is awarded full accreditation, partial/conditional accreditation or no accreditation (see Table 1).

Saving lives, environmental and hand hygiene audit tools are completed by wards online. The infection prevention team use Snap software (Snap Surveys Ltd) for developing online audit tools. The Snap software system calculates the overall audit score by ward, which is exported into an Excel document. The Excel documents for each audit are linked to an audit results framework. This framework, which is also an Excel document, captures the audit data result for each clinical area.

Each tab represents an infection prevention audit and lists the clinical areas required to do the audit and the audit scores achieved (see Figure 1).

This data is then used to produce an average score, based on audits applicable and those submitted, for each clinical area and used as the accreditation score (see Figure 2).

Full accreditation is valid for up to 12 months and reviewed annually in April. However, data is monitored on an ongoing basis and any infection issues that arise in a clinical area will cause the accreditation score to be reviewed. An example of this is that MRSA and *C. difficile* are not included in the accreditation, but any identified issues in an area may cause the accreditation status to be reviewed. There is a review panel in place to do this, which consists of the Director of the Infection Prevention Unit (Graeme Jones), the Head of Infection Prevention (Julie Brooks) and the Infection Prevention Programme Manager (Tracy Garton), three of the authors of this paper.

Areas achieving full and partial accreditation are issued a certificate for public display. Partial/conditional accreditation is valid for six months. Partially accredited areas and areas that have not been awarded accreditation are required to have improvement plans in place in order to achieve full accreditation at the mid year review in September, following the first round of audit submissions. Any areas that show improvement at the mid year are reissued with a new certificate which is valid to the end of the financial year.

Further development since implementation

Following review of the first year ward accreditation scores a celebration event was held and full and partial accredited areas were awarded their certificates.

Figure 1. Audit results framework - all infection prevention audit results are inputted into the framework. Each tab represents a different audit

Figure 2. Ward accreditation tab of the audit results framework. Excel page pulls in data from all audits, by ward, to produce an average annual score

From April 2010, penalising areas who failed to submit the required audits was introduced. The infection prevention team faced the issue of where areas were consistently failing to submit audits. It was agreed that where audits were not submitted the area would receive a 0% score against that audit, which may affect the area's overall ward accreditation score.

At the end of 2010, remediable causes of delays in isolation of patients with *C. difficile* were introduced into the ward accreditation process. Surveillance, by the infection prevention team is carried out on all patients who are *C. difficile*-positive, which includes the monitoring of isolation. The trust has incorporated a system into the ward accreditation programme, whereby any clinical area that has two or

Table 2. Number and percentage of clinical areas achieving accreditation status each year

	Year			
	2009/10	2010/11	2011/12	2012/13
No. areas with full accreditation	85 (75%)	97 (87%)	84 (75%)	90 (76%)
No. areas with partial accreditation	26 (23%)	12 (11%)	24 (21%)	23 (20%)
No. areas with no accreditation	2 (2%)	2 (2%)	4 (4%)	4 (3%)
Total number of areas	113	111	112	117

[The number of areas included in ward accreditation has varied year on year due to ward changes and restructures within the trust]

Figure 3. Ward accreditation development time line

more delays in isolation (not isolating the patient within two hours of identifying symptoms) of *C. difficile* patients, in a six month period, would have their ward accreditation status downgraded. Fully accredited areas would therefore move to partial accreditation and partially accredited areas move to no accreditation. Wards that are downgraded as a result of delays in isolation are required to go a period of six months without any further incidents of delays in isolation. In April 2011, this same system was introduced for delays in isolation (not isolating patients within four hours of receiving the presumptive result) of newly acquired MRSA positive inpatients.

Audits of clinical cleaning to ensure compliance to national cleaning specifications are carried out by the trust's environmental monitoring team on a five-weekly rota. In order to aid improvements in clinical cleaning across the trust, a decision was made to include these audits in the ward accreditation programme, and the audits were included from April 2011. The system for incorporating these audits is to provide each ward with a percentage score, based on the percentage of audits completed in that area that met the required target. These scores are inputted manually into the accreditation tab of the audit results' framework document.

In April 2012, elements of Aseptic Non Touch Technique (ANTT)TM practice have been incorporated into urinary catheter care, central venous cannula care and peripheral intravenous catheter care saving lives audits. This enables the monitoring of ANTT practice without having to introduce further auditing and is therefore now incorporated into the ward accreditation scheme. An additional environmental audit on standard precautions, based on IPS quality improvement tools (2011) was also incorporated into the annual audit programme from April 2012. At this time the infection prevention spotlights, carried out annually by the infection preven-

tion nurses on each area, look at compliance with the hygiene code and clinical practice standards including cleanliness and the environment, isolation, hand hygiene and invasive devices were included in the accreditation programme.

After three years of implementation of the ward accreditation scheme, exemplar status was introduced in April 2012. Areas who have sustained full accreditation for three continuous years are awarded 'exemplar status'.

See Figure 3, showing development over the three years.

Clinical areas achieving accreditation

Table 2 shows the number and percentage of clinical areas achieving accreditation status each year;

At the end of 2012/13, 59 areas (51%) had received exemplar accreditation status.

Apart from 2010/11 there does not appear to be a significant increase in the number of areas achieving full accreditation. This is due to the ongoing development of the scheme and the introduction of new metrics each year. In particular in 2011/12 the incorporation of clinical cleaning audits reduced the number of areas achieving full accreditation. This makes comparison over the four years difficult. As there have been no new developments in the programme in 2013/14, we would expect to see a significant increase in the number of areas achieving full accreditation.

Strengths and limitations

The infection prevention ward accreditation scheme is now fully embedded within the trust and has adopted a ward-to-board approach. It has developed local ownership and helps the positive reinforcement of good infection prevention practice. The audits

highlight areas where improvements are required and the ward accreditation scheme drives forward those improvements. The scheme also creates healthy competition between clinical areas and divisions, as these areas take pride in displaying their accreditation certificate. The introduction of 'exemplar' areas has further driven improvements and it is clear that areas who have achieved exemplar status have good practices embedded and low avoidable infections – 85% of exemplar areas have had no hospital acquired *C. difficile* or MRSA BSI cases in 2012/13.

It is difficult solely to correlate a reduction in infection rates with the introduction of a ward accreditation programme owing to a large number of measures being implemented over the years to reduce HCAs. However the trust has shown dramatic reductions in its infection rates since 2009. Between 2007/08 and 2008/09 the trust showed a 31% reduction in rates of MRSA BSI. Following the introduction of the ward accreditation programme, in 2009/10 this reduction increased to 74%. The trust has shown a further 57% reduction between 2009/10 and 2012/13 in MRSA BSI. In 2009/10 rates of *C. difficile* were reduced by 58% compared to 45% in 2008/09.

There are some limitations with the accreditation scheme. The saving lives, hand hygiene and environmental audits are self reported by the clinical areas and may sometimes not reflect true practice. Peer auditing is a way to overcome this, but this makes it difficult to penalise areas for failing to submit audits. The ward accreditation programme may also have less impact on improving infection prevention practice as time goes on. It may require continual change and adaptation to keep it effective as an improvement programme.

Future plans

The infection prevention team are continually developing the infection prevention ward accreditation scheme. Future plans include:

- Incorporating antibiotic prescribing audits to help drive prudent antibiotic prescribing
- Introducing peer audits for clinical hand hygiene from 2013/14
- Identifying a process to review areas failing in audits and introduce intensive support and special measures

Infection prevention accreditation has now been incorporated into a wider trust clinical accreditation scheme that incorporates a range of patient safety, patient experience and workforce elements. Within this, areas must have achieved infection prevention accreditation (full or partial) to receive their overall clinical accreditation.

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