The Regulation and Quality Improvement Authority

The Regulation and Quality Improvement Authority

Review of Theatre Practice in Health and Social Care Trusts in Northern Ireland

Overview report

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Assurance, Challenge and Improvement in Health and Social Care

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The Regulation and Quality Improvement Authority

The Regulation and Quality Improvement Authority (RQIA) is the independent body responsible for regulating and inspecting the quality and availability of health and social care (HSC) services in Northern Ireland.

RQIA's reviews and inspections are designed to identify best practice, to highlight gaps or shortfalls in services requiring improvement and to protect the public interest.

Our reports are submitted to the Minister for Health, Social Services and Public Safety, and are available on the RQIA website at www.rqia.org.uk

This review was commissioned by the Department of Health, Social Services and Public Safety (DHSSPS) and scheduled within the RQIA three year review programme for 2012 to 2015. The review was carried out through a programme of inspections of hospitals across Northern Ireland. Separate reports have been prepared on each individual inspection and are available on the RQIA website.

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1.0 Executive Summary

This DHSSPS commissioned review of theatre practice considers the arrangements in place for the effective management of several areas of practice within the theatre setting in health and social care (HSC) trust hospitals.

Evidence was collected for the review using a range of methodologies including:

- completion of a profiling questionnaire by HSC trusts
- site inspections of theatres
- validation meetings with trust senior theatre staff
- review of patients' notes and relevant documentation

An announced inspection was undertaken to the theatre departments of 10 acute hospitals in Northern Ireland. The inspections reviewed aspects of theatre practice included within the terms of reference of the review, to provide a report of current practice. The individual reports of these inspections are available on the RQIA website: www.rqia.org.uk

The delivery of safe, effective surgical care is complex, involving many interventions, processes and safety checks that should be consistently applied for every patient.

This overview report highlights areas of strengths and sets out recommendations for improvement, which apply to all organisations. Recommendations in relation to the hospitals inspected are included in individual hospital inspection reports, published separately.

Summary of Findings

The WHO Surgical Safety Checklist has been implemented in all hospitals. However, findings indicate that further improvement is required to ensure that it is consistently applied, with full engagement, participation and completion by the relevant professional staff.

Consent forms were present in patients' notes, however, these were not always fully completed and handwriting and signatures were at times illegible.

All trusts have introduced a risk assessment to reduce the risk of developing a venous thromboembolism (VTE). Inspectors found variation in all trusts with regard to completion of VTE risk assessment forms in theatres and the retrospective review of patients' notes in the wards. Adherence with the venous thromboembolism risk assessment tool needs to be improved and strengthened.

Systems and processes were in place to review mandatory surgical site infection data. However, inspectors found compliance with the surgical site

infection care bundle was not always audited, monitored or followed up. Perioperative actions to help reduce the incidence of surgical site infection were not consistently recorded in patients' notes.

A baseline assessment had generally been undertaken regarding the prevention of inadvertent perioperative hypothermia. The National Institute for Health and Care Excellence (NICE) clinical guideline 65, on inadvertent perioperative hypothermia, provides guidelines for the care and treatment of people undergoing surgery in hospital, in order to reduce their potential risk of getting cold before, during or after their operation.

Inspectors found that none of the trusts had formal procedures in place regarding a definition of a high-risk patient, or a formal risk assessment to identify a patient's risk of developing hypothermia. The notes reviewed indicated that the American Society of Anaesthesiologists (ASA) grade, the most commonly used system to predict morbidity and mortality, is not always recorded by the anaesthetist.

Theatre care pathways or documentation do not have a place to record whether a patient is considered to have an increased risk of developing hypothermia. Significant work is required to ensure this NICE guideline is fully implemented.

Inspectors found that there were systems and processes in place for the management of medicines in theatres. Further work is required to ensure that these systems provide assurance that the management of medicines complies with legislative requirements and current best practice.

There should be regional clarification and standardisation of the training required for operating department practitioners and anaesthetic assistants.

There was good compliance with the Regional Healthcare Hygiene and Cleanliness Standards. However, improvement is required in theatre healthcare hygiene practices. All hospitals need to improve theatre healthcare hygiene practices and ensure staff adherence to their trust's policy, particularly the eight hospitals that achieved a partially compliant score. Compliance with Regional Healthcare Hygiene and Cleanliness Standards and audit tool will complement and strengthen the goal for zero tolerance of healthcare associated infections.

In conclusion, although RQIA identified examples of good practice in relation to each of the areas examined during the review of theatres, there are areas where significant and ongoing improvement is required.

2.0 Introduction and Background

Background

During the planning of RQIA's Three Year Review Programme 2012-15, several areas of theatre practice were identified where assurance was required. As a result, DHSSPS commissioned RQIA to conduct a review of theatre practice in hospitals.

Reducing harm in perioperative care has been a key challenge within the surgical setting. The World Health Organisation (WHO) estimates that, each year, worldwide, one million people die and a further six million suffer disabilities, as a direct result of surgical procedures. [1]

Several initiatives have been introduced to strengthen the arrangements for ensuring patient safety. The following areas were included in this review;

- use of the WHO Surgical Safety Checklist
- use of a venous thromboembolism risk assessment tool
- prevention of inadvertent perioperative hypothermia
- prevention of surgical site infection
- medicines management in theatres
- use of operating department practitioners
- healthcare hygiene and cleanliness in theatres

2.1. WHO Surgical Safety Checklist

In June 2008, the WHO launched a second Global Patient Safety Challenge, Safe Surgery Saves Lives[2] to reduce the number of surgical deaths across the world.

The goal of this initiative is to strengthen the commitment of clinical staff to address safety issues within the surgical setting. This includes: improving anaesthetic safety practices; ensuring correct site surgery; avoiding surgical site infections; and improving communication within the team. A core set of safety checks has been identified in the form of the WHO Surgical Safety Checklist[3] for use in the operating theatre environment. The checklist is a tool for the relevant clinical teams to improve the safety of surgery, by reducing deaths and complications.

On 13 May 2009, the DHSSPS strongly commended the use of the WHO checklist to all HSC trusts, with the HSC Safety Forum asked to provide support in the implementation of this initiative[4].

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[1] http://www.who.int/patientsafety/education/curriculum/course10_handout.pdf
[2] http://www.who.int/patientsafety/safesurgery/en/
[3] http://whqlibdoc.who.int/publications/2009/9789241598590_eng_Checklist.pdf
[4] http://www.dhsspsni.gov.uk/hss-md-18-2009.pdf

The WHO Surgical Safety Checklist is designed to reduce the number of errors and complications resulting from surgical procedures. It also provides assurance on the safe delivery of anaesthesia, appropriate prophylaxis against infection, effective teamwork by the operating room staff and other essential practices in perioperative care.

The WHO Surgical Safety Checklist identifies a core set of surgical safety standards that can be applied in all healthcare settings and should be completed at three critical points during operative care;

- sign in: before anaesthesia is administered
- time out: before skin incision
- sign out: before the patient leaves the operating room

In the sign in phase, prior to induction of anaesthesia, the patient confirms their identity, site, procedure and consent. Wrong site or wrong patient incidents are rare, but the consequences can result in considerable harm to the patient. Staff should make the patient aware of the requirement for this process to be carried out several times, as this is necessary, but can appear repetitive. When confirmation by the patient is impossible, carers or significant others can support this process.

The time out phase is undertaken prior to start of surgical intervention, for example, skin incision. This critical point is to ensure that all team members have introduced themselves by first and last name and their role, as the operating team membership may change frequently. Effective management of high-risk situations requires that all team members understand who each member is and their roles and capabilities. The surgeon, anaesthetist and registered practitioner should verbally confirm patient, site and procedure.

The sign out phase should occur before any member of the team leaves the operating theatre. The registered practitioner verbally confirms with the team the name of the procedure recorded. This is important, as a procedure may have changed or expanded during the course of an operation, the procedure that has been carried out must then be confirmed. This critical process is also designed to verify that the instruments, swabs and sharps counts are accounted for and correct.

Handovers and briefing sessions are not an integral part of the checklist. However, it is considered good practice for these to take place at the beginning and end of a theatre list to enhance and improve on team performance.

These sessions are a simple way for the operating team to share vital information about patients attending for surgery, discuss potential and actual safety issues before and after the list/procedure takes place.

The Productive Operating Theatre programme results[5], evidenced that when briefing and debriefing (steps 1 and 5 of the five-step process) are used alongside the checklist, there is a greater positive impact on team performance and safety. Additional benefits include reductions in delays, smoother running of lists and an improved safety climate.

The DHSSPS circular HSS (MD) 18/2009[6] states that the WHO Surgical Safety Checklist could be adapted locally, or for specific specialties, through trust clinical governance procedures. Whilst enhancements to the checklist are encouraged, the removal of minimum checks is not. However, it is recognised that for some specialties, several of the interventions may not be applicable. In this case, specific templates for local use may be developed following an appropriate scrutiny process. It is recommended that this is undertaken in accordance with high-level guidance from the relevant college or specialty association.

2.2. Venous Thromboembolism (VTE) Risk Assessment Tool

VTE is an significant potential cause of death in hospitalised patients. Treatment of nonfatal symptomatic VTE and related long-term morbidities is associated with a considerable cost to the health service. The risk of developing VTE depends on the condition and/or procedure for which the patient is admitted, and on any predisposing risk factors.

NICE Clinical Guideline CG92: Reducing the Risk of Venous Thromboembolism (Deep Venous Thrombosis and Pulmonary Embolism) in Patients Admitted to Hospital[7], outlines the process for the care and treatment of people in order to reduce the risk of developing deep venous thrombosis (DVT) while in hospital. The guideline describes the care and treatment that should be offered to all adults (aged 18 and over) who are admitted to hospitals as inpatients, including those admitted for day case procedures.

In Northern Ireland, the Safety Forum VTE Advisory Group has developed and agreed a single risk assessment tool for use throughout all HSC trusts. This is to help to ensure that every adult patient has a documented VTE risk assessment on admission to hospital and that the risk assessment is conducted in accordance with clinical risk assessment criteria set out in NICE clinical guideline CG92. In particular, the assessment reflects the balance between the risk of bleeding and the clotting risk for each patient.

It was envisaged that this unified approach to VTE risk assessment would simplify the training of medical staff and nursing staff, and also reduce the need for retraining staff if they rotate through trusts or move their place of employment. HSS (MD) 13/2011[8] strongly commends the use of the VTE risk assessment tool and encouraged its use in all trusts.

[5] http://arms.evidence.nhs.uk/resources/qipp/29541/attachment
[6] www.dhsspsni.gov.uk/hss-md-18-2009.pdf
[7] http://guidance.nice.org.uk/CG92
[8] http://www.dhsspsni.gov.uk/hss-md-13-2011.pdf

The DHSSPS has also developed a patient safety leaflet, Reducing the Risk of a Blood Clot.

2.3. Inadvertent Perioperative Hypothermia

Inadvertent perioperative hypothermia is a common, but preventable complication of perioperative procedures, associated with poor outcomes for patients. On 5 February 2009, DHSSPS issued circular HSC (SQSD) (NICE) 13/09 CG 65 Management of Inadvertent Perioperative Hypothermia in Adults[9]. This circular endorsed the NICE 13/09 CG 65 guidance[10] for implementation across HSC trusts in Northern Ireland.

The guideline covers the care and treatment of people undergoing surgery in hospital, to reduce their risk of getting cold before, during or after their operation.

The National Patient Safety Agency (NPSA) How to Guide: Five Steps to Safer Surgery[11] indicates that patients should be assessed for their potential to develop inadvertent hypothermia during surgery. There should be routine monitoring of all patients' temperature, and, where necessary, initiating pre-operative, intraoperative and postoperative interventions, including forced warm air and fluid warming.

Preoperatively, if patients are assessed as having a core temperature of less than 36°C, their anaesthesia and surgery should be delayed until the patient has been warmed using forced, warm air which should be continued throughout the duration of surgery. When intravenous fluids (500 ml or more) and blood products are required, they should be warmed to 37°C, using an appropriate fluid warming device.

The maintenance of a normal temperature, during surgery is also one of the components of the surgical site infection (SSI) bundle.

2.4. Surgical Site Infection (SSI)

Surgical site infection is a type of healthcare associated infection, in which a wound infection occurs after an invasive (surgical) procedure. Surgical site infections have been shown to compose up to 20 per cent of all healthcare associated infections. At least five per cent of patients undergoing a surgical procedure develop a surgical site infection.

Most surgical site infections are caused by contamination of an incision with microorganisms from the patient's own body during surgery. Infection caused by microorganisms from an outside source following surgery is less common. The majority of surgical site infections are preventable. Measures can be

[9] http://www.dhsspsni.gov.uk/hsc_13-09_cg65_perioperative_hypothermia.pdf
[10] http://www.nice.org.uk/Guidance/CG65/NiceGuidance/pdf/English
[11] http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=93286&type=full&servicetype=Attachment

taken in the pre-, intra- and postoperative phases of care, to reduce risk of infection.

In 2007, NICE developed guidance on surgical site infection[12]. On 2 March 2009, the DHSSPS advised that this guidance is valid for Northern Ireland, and endorsed it for implementation in HSC trusts[13]. The DHSSPS in Changing the Culture, 2010[14], refers to the mandatory surveillance of surgical infection in specified areas and healthcare associated infection (HCAI) surveillance, to include surgical site infection, as part of the monitoring and assurance process in preventing and controlling HCAIs.

2.5. Medicines Management

It is important that medicines in theatres are managed safely and securely in line with relevant guidelines and standards. In 2007, DHSSPS issued a NPSA alert under circular HSC (SQSD) 28/2007[15] in relation to medication safety. NPSA Safe Medication Alert 20[16] provides advice on promoting safer use of injectable medicines. A further communication in relation to this was issued in April 2008, Addendum 1/08[17].

In 2009, DHSSPS introduced new monitoring and inspection arrangements for controlled drugs. The Controlled Drugs (Supervision of Management and Use) Regulations (Northern Ireland) 2009[18] introduced standard operating procedures (SOPs) for the use and management of controlled drugs as one of the practical measures that will help to ensure good practice. Guidance has been published by DHSSPS Safer Management of Controlled Drugs – A Guide to Good Practice in Secondary Care (Northern Ireland) 2012[19].

2.6. Operating Department Practitioners

Many HSC trusts are developing new staff roles within their perioperative teams in order to create more flexible working teams, which should benefit staff development and patient care. Operating department practitioners (ODP), anaesthetic assistants (AA) and physicians' assistants (PA) for registered practitioners are examples of new roles within perioperative practice. Organisations must ensure that the appropriate education and support is provided for these staff to ensure patient safety, and competency levels of individual staff.

As members of the theatre team working alongside anaesthetists, surgeons and nurses during operations, the work of such practitioners may vary

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[12] http://www.nice.org.uk/nicemedia/pdf/CG74NICEGuideline.pdf
[13] http://www.dhsspsni.gov.uk/hsc_20-09_cg74.pdf
[14] http://www.dhsspsni.gov.uk/changing_the_culture.pdf
[15] http://www.dhsspsni.gov.uk/hsc__sqsd__28-07.pdf
[16] http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=60098&type=full&servicetype=Attachment
[17] http://www.dhsspsni.gov.uk/hsc__sqsd__28-07_addendum_1-08.pdf
[18] http://www.legislation.gov.uk/nisr/2009/225/contents/made
[19] http://www.dhsspsni.gov.uk/safer_management_of_controlled_drugs_a_guide_to_good_practice_in_secondary_care_2012.pdf

between HSC trusts or hospitals. Their roles may include the scrub role, application of aseptic technique, wound management and the preparation of the environment.

2.7. Healthcare Hygiene and Cleanliness in Theatres

In 2008-09 the Minister for Health Social Services and Public Safety directed RQIA to establish a programme of infection prevention and hygiene inspections as one element in the drive to reduce the incidence of healthcare associated infections. Regional Healthcare Hygiene and Cleanliness Standards[20] and the Regional Healthcare Hygiene and Cleanliness Audit Tool[21] were agreed by DHSSPS, HSC Board, Public Health Agency (PHA) and all HSC trusts. The standards and audit tool were endorsed by the Minister for Health Social Services and Public Safety in July 2011.

The standards are intended to provide a benchmark for healthcare hygiene, general cleanliness and state of repair of healthcare facilities and aspects of infection prevention and control. This is not only from a professional perspective, but also as observed by patients, visitors and members of the public. The audit tool provides a common set of overarching hygiene and cleanliness standards for all hospitals and other healthcare facilities in Northern Ireland. The audits obtain information from observations in functional areas including: direct questioning; observation of clinical practice; and review of relevant documentation, where appropriate.

During this review, RQIA considered the healthcare hygiene and cleanliness in theatres, using the Regional Healthcare Hygiene and Cleanliness Audit Tool. This contains an additional section specific to theatres, adapted from the Infection Prevention Society quality improvement tools. Compliance rates have been assessed based on the scores achieved in the various sections of the Regional Healthcare Hygiene and Cleanliness Audit Tool.

The audit tool used for this inspection includes the following sections:

- general environment
- patient linen
- waste and sharps
- patient equipment
- hygiene factors
- hygiene practices

❖ additional section: specific for theatres

[20] Regional Healthcare Hygiene and Cleanliness Standards
[21] Regional Healthcare Hygiene and Cleanliness Audit Tool

3.0. Terms of Reference

RQIA will review:

1. The conduct and processes around the use of the WHO Surgical Safety Checklist, or similar, in accordance with DHSSPS circular HSS(MD)18/2009.

2. The use of a venous thromboembolism risk assessment tool in accordance with the NICE clinical guideline 92, Venous Thromboembolism: Reducing the Risk (January 2010), referenced in DHSSPS circulars HSC (SQSD) (NICE) 07/11 and HSS (MD) 13/2011.

3. The implementation of DHSSPS circular HSC (SQSD) (NICE) 13/09 CG 65, with respect to NICE clinical guideline 65, Inadvertent Perioperative Hypothermia (April 2008).

4. Health and social care trusts' processes used to review surgical site infection data and improve practice.

5. The systems in place which provide assurance that: medicines are administered, stored and handled safely and securely in accordance with the prescribing practitioner's instructions; and records comply with legislative requirements and current best practice.

6. The current arrangements for the use of operating department practitioners and anaesthetic assistants.

7. The healthcare hygiene and cleanliness in theatres, using the Regional Healthcare Hygiene and Cleanliness Audit Tool and, in addition, a section specific to theatres adapted from the Infection Prevention Society quality improvement tools.

4.0 Methodology

The methodology adopted for this review was designed to gather information in relation to theatres in two acute hospitals within each trust.

Health and Social Care Trust	Acute Hospital
Belfast	• Royal Victoria Hospital • Belfast City Hospital
Northern	• Causeway Hospital • Antrim Area Hospital
South Eastern	• Ulster Hospital • Lagan Valley Hospital
Southern	• Craigavon Area Hospital • Daisy Hill Hospital
Western	• Altnagelvin Hospital • South West Acute Hospital

The methodology included the following steps:

- A review of relevant literature to examine the context for the review.
- A profiling questionnaire was forwarded to each HSC trust, to establish a baseline position in relation to each area covered in the terms of reference.
- An announced inspection was undertaken in each hospital included within the scope of the review. Inspectors visited the main theatre suite to conduct audits, observe practices, meet and discuss practices with theatre staff. This included a visit to some surgical wards to review notes of those patients who had undergone surgery the previous day.
- Visits included day procedure units to assess the implementation of the Safer Surgery Checklist in accordance with the PHA Safety and Learning Letter of 21 Dec 2012 (LL/SAI/2012/012 AS).
- The regional healthcare hygiene and cleanliness audit tool was used. In addition, a specific section had been created for the theatre environment using a similar format, together with information from Infection Prevention Society quality improvement tools.
- A pharmacist visited the main theatre to assess the medicines' management.

During the inspections, inspectors met with senior theatre managers to discuss the review and gather information on issues and current initiatives.

5.0 Summary of the Findings

5.1 Term of Reference 1

The conduct and processes around the use of the WHO Surgical Safety Checklist or similar in accordance with DHSSPS circular HSS(MD)18/2009.

Implementation of the WHO Surgical Safety Checklist

Inspectors found that all trusts have acted on the DHSSPS circular regarding implementation of the WHO Surgical Safety Checklist. The HSC Safety Forum has provided support in the implementation of this initiative. In all but the Causeway Hospital, the WHO Surgical Safety Checklist is provided as a separate single page inserted into the patients' notes.

HSC trusts indicated in their responses, and inspectors found, that a clinical lead had been identified for the development and introduction of the WHO Safety Checklist in all theatres. All trusts have developed quality improvement action plans, and submitted these to the HSC Safety Forum. Reporting of compliance is ongoing in all trusts through their patient safety initiatives. A policy or guideline to help staff implement and use the WHO Surgical Safety Checklist was not always available in trusts.

During the inspections, when possible, inspectors attended briefing and debriefing sessions. These sessions are not an integral part of the Safer Surgery Checklist, however, it is considered good practice for these to take place at the beginning and end of a theatre list, to enhance and improve team performance. These sessions are a simple way for the operating team to share vital information about patients attending for surgery, and discuss potential and actual safety issues before and after the list/procedure takes place.

Inspectors noted that there was a variation between trusts regarding handovers and briefing sessions. These ranged from a briefing in each theatre, attended by a surgeon, anaesthetist and nursing, to only a briefing for nursing staff.

RQIA recommends that trusts should review the way these sessions are undertaken. It would be considered good practice to introduce briefing and debriefing sessions at the beginning and end of all theatre lists.

During the February 2013 meeting of the Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infections (ARHAI), the members agreed the SSI care bundle complements the WHO Surgical Safety

Checklist[22]. The committee recommended that the two systems be integrated, to provide a single optimal pathway to prevent surgical infection. A SSI subgroup is to be set up to update and unify the current WHO Surgical Safety Checklist and the high impact intervention SSI care bundle. This group will also develop audit measures to assess efficacy and compliance, and provide advice on best practice with regard to communication (to patients and clinicians). When the results of this are available, DHSSPS should consider how this should be taken forward in Northern Ireland.

Observation of Practice

The individual hospital reports outline the inspection findings in more detail. The WHO Surgical Safety Checklist safety briefings observed by inspectors were generally led by a nurse who also completed the checklist. There were variations noted in one trust, where the sign in section of the checklist should have been taken and signed by the anaesthetist; the time out section by the surgeon; and sign out by a nurse. However, this process was not always followed. In other hospitals some checklists were led by the anaesthetist or the surgeon.

All safety briefings were undertaken when the patient was awake to confirm identity. Patients appeared relaxed and were put at ease by staff who explained what was happening in theatre.

Generally staff were fully engaged in the briefing. They stopped and listened, no other activity was undertaken at this time, and the briefings were delivered in a way that promoted participation.

There were instances observed by the inspectors when some medical staff were not fully engaged in the completion of the checklist. Examples included surgeons wishing to start the surgery before the time out section had been called or checklist completed; and, an anaesthetist not fully participating in the process until prompted by nursing staff. All the time out sections observed were called by the nurse and signed by the surgeon.

Inspectors observed good practice in some hospitals where all aspects of the checklist were covered during the safety briefing. Observation of safety briefings in other hospitals evidenced that all aspects of the surgical checklist were not covered in the briefing. At times adherence was assumed or implied. Various practices were observed, and the following areas were noted for improvement:

- two of the critical points, sign in and time out sections of the checklist were completed at the same time
- on one occasion, an anaesthetic nurse assumed that all staff knew each other, rather than asking for introductions

[22] https://www.gov.uk/government/policy-advisory-groups/advisory-committee-on-antimicrobial-resistance-and-healthcare-associated-infection#minutes

- when all aspects of the surgical checklist were not covered, inspectors noted that these had been ticked by the nurse as being completed

- various aspects on checklists were recorded as not applicable

Review of Patients' Notes

Inspectors reviewed the notes of patients in theatre, and a random retrospective review of the notes of patients from the previous day's theatre lists. The inspections evidenced that only Craigavon Area and South West Acute hospitals had the checklist present, and fully completed in all patients' notes. In most of the other hospitals a checklist was present, but not fully completed or signed. In Altnagelvin Hospital one of the patient's notes reviewed retrospectively did not have a checklist present. The Lagan Valley Hospital checklist was absent in the notes of five patients who had undergone day surgery under local anaesthetic.

Adaptations to the WHO Surgical Safety Checklist

Inspectors noted that all trusts had made modifications to the checklist. Specific changes made by each trust are detailed in the hospitals' individual reports. Some areas have been added, wording and questions have been removed. In some instances this changed the wording and layout of the WHO Surgical Safety Checklist.

In some hospitals the signatures on the sign in and time out sections of the checklist and the tick boxes for yes/no at each question have been removed. The three steps in the checklist (sign in, time out, sign out) are not intended as a tick box exercise. Rather, these are a tool to initiate meaningful and purposeful conversation between relevant members of the clinical team to improve the safety of surgery. The removal of tick boxes for yes/no means that there is no evidence to indicate that all aspects have been covered during safety briefings.

Trusts need to review the adaptations made to the safer surgery checklist, to ensure the removal of minimum checks and wording changes do not alter the principles of the WHO Surgical Safety Checklist.

Monitoring Arrangements

Ongoing monitoring arrangements are in place in all trusts to measure compliance. Trusts indicated that there was good compliance with the completion of the WHO Surgical Safety Checklist, which inspections generally supported. There is some improvement needed to ensure that all aspects of the checklist are covered and that these are fully completed on all occasions. Monitoring arrangements for completion of the WHO Surgical Safety Checklist should include observational audits.

Implementation of the WHO Surgical Safety Checklist in Day Procedure Units

Inspections included visits to day procedure units to assess the implementation of the WHO Surgical Safety Checklist in accordance with the PHA, Safety and Learning Letter, dated 21 Dec 2012 (LL/SAI/2012/012 AS).

The findings of the inspection indicate that some work is required by some trusts to develop and implement a separate, adapted Surgical Safety Checklist for endoscopy/operations under local anaesthetic.

Consent Forms

The completion of the DHSSPS Form1/2/3/4 Consent for Examination, Treatment or Care was reviewed during the inspection.

Inspectors also observed nurses receiving patients into theatre, confirming that the consent form was present, and that all patients were questioned and aware of the surgical procedure that was to be undertaken.

Inspectors checked if a consent form was present in patients' notes; that all sections of the consent form had been completed as appropriate by the patient and healthcare professional; and that the healthcare professional's writing and signature on the consent form were legible.

In the review of patients' notes in theatre, and a retrospective review of the notes of patients from the previous day's theatre lists, a consent form was present in all notes, except on one occasion at Belfast City Hospital. In this instance, an elderly patient arrived in theatre without a signed consent form. Consent was obtained in theatre by the consultant. Although the lack of consent on this occasion was identified and rectified prior to theatre, it is recognised by staff that obtaining consent in this situation is not the preferred option. Patients should give their consent in an environment where they have the time to consider and review their decision, as well as asking the clinician questions.

The review of patients' notes highlighted that all sections of consent forms had not always been fully completed, and that the healthcare professional's writing and signature on the consent forms were not always legible.

Inspectors found that the most common issues identified related to the completion of the explanation of and benefits of procedure. On the morning of surgery, a patient who required consent to be updated, did not have the section confirmation of consent completed. In one instance the consent form had not been dated.

Overall, inspectors identified several issues in the retrospective review carried out on patients' notes from the previous day's theatre lists. The date of consent section to be completed by a patient was not always completed. On one occasion, a patient had not signed the consent form. The consent was signed by the registrar on the patient's behalf; however, there was no witness signature present.

Other issues observed related to the section confirmation of consent not being completed on the morning of surgery, where a patient had provided consent at an earlier date. Some forms were not dated or had wrong dates recorded and, on one occasion, had not been signed by the patient.

There was no record in any patients' notes that an information leaflet on consent had been given to the patient.

Recommendations

1. The DHSSPS should consider how the results from the Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infections (ARHAI) work on updating and unifying the current WHO Surgical Safety Checklist and the high impact intervention SSI care bundle should be taken forward in Northern Ireland when the results of this work are available.

2. All HSC trusts should ensure that the WHO Surgical Safety Checklist should be consistently applied with full engagement, participation and completion by the relevant professional staff. Monitoring arrangements should include observational audits.

3. All HSC trusts should review any adaptations made to the WHO Surgical Safety Checklist, to ensure that the core principles have been maintained.

4. The DHSSPS Forms 1/2/3/4 Consent for Examination, Treatment or Care should be fully completed and legible. HSC trusts should audit the standards of competency in the completion of these consent forms.

5.2 Term of Reference 2

The use of a venous thromboembolism risk assessment tool in accordance with the NICE clinical guideline 92 (venous thromboembolism: reducing the risk) referenced in DHSSPS circulars HSC (SQSD) (NICE) 07/11 and HSS (MD) 13/2011.

Implementation of a VTE Risk Assessment Tool

Inspectors found that all HSC trusts, with the exception of the Northern Trust, have introduced the regional risk assessment tool developed by the HSC Board's Safety Forum VTE Advisory Group.

HSC trusts have identified organisational leads to take forward the implementation of a VTE risk assessment tool. All trusts, with the exception of the Northern Trust, have incorporated the risk assessment tool into the medicine kardex. In this trust, the VTE risk assessment has been incorporated into the medical assessment documentation and surgical admissions pack.

There was evidence provided in all but the Northern Trust that a thromboprophylaxis policy or clinical guideline was available for staff.

Confirmation was received from all trusts that training has been provided as part of junior doctor induction. In the Southern Trust, training and awareness sessions were carried out at ward level for nursing and pharmacy staff.

Inspectors' Assessment

Inspectors reviewed the use and completion of the risk assessment tool. In each hospital:

- the medicines kardex or the risk assessment tool in the admission documentation was reviewed for a sample of seven patients in theatre

- the notes of seven patients who had undergone surgery the previous day were checked retrospectively at ward level

Inspectors found variation in all HSC trusts regarding completion of the VTE risk assessment form both in theatre and the retrospective review in the wards. In Lagan Valley Hospital a VTE risk assessment was not completed in any patients' records checked. In the Southern Trust, the review identified that all but one set of patient's notes, checked on the wards, had a completed VTE checklist.

Identified areas by inspectors:

- A VTE risk assessment was not carried out for day cases in most trusts.
- The VTE risk assessment was not reviewed prior to a patient attending theatre, nine days after admission. The patient was identified on admission as no risk, however, the patient received anticoagulant therapy in theatre.
- At ward level the pharmacological section of a VTE risk assessment was not always completed, even when thromboprophylaxis had been prescribed in the medicine kardex.
- The VTE risk assessment tool was not always completed for patients who were prescribed anticoagulant therapy, stockings and sequential compression devices.
- Although compliance is monitored monthly for each ward, the results of the trusts' audits indicate low compliance with the completion of the VTE risk assessment tool. This was confirmed by the findings of this review.
- A patient transferred as an emergency from another hospital did not have medical notes. Staff advised that the patient's medical notes were not always transferred from another hospital with the patient. This has implications for follow on care, and the availability of essential information.

Inspections confirmed that a venous thromboembolism risk assessment tool was in use in all trusts. All but the Northern Trust used the regionally agreed tool. In all trusts compliance with the completion of the venous thromboembolism risk assessment tool requires improvement.

Recommendation

5. All HSC trusts should ensure that VTE risk assessment forms are in place and fully completed for all patients, including day cases. Monitoring audits should be carried out and action plans put in place where there is an identified need to increase compliance rates.

5.3 Term of Reference 3

The implementation of DHSSPS circular HSC (SQSD) (NICE) 13/09 CG 65, with respect to NICE clinical guideline 65, Inadvertent Perioperative Hypothermia.

Implementation of NICE clinical guideline 65, Inadvertent Perioperative Hypothermia

NICE clinical guideline 65 covers the care and treatment of people who are attending hospital for an operation, in order to reduce their risk of getting cold before, during or after their operation. Inspectors found that none of the HSC trusts had fully implemented this NICE clinical guideline 65 on the management of inadvertent perioperative hypothermia in adults.

No HSC trust had an overarching policy to address this issue, although the Northern Trust did have a protocol to guide staff. Various actions had been taken by trusts regarding the implementation of the DHSSSPS circular. However, any improvements put in place had not ensured that this guideline had been fully implemented.

A baseline assessment had not been carried out by any trust regarding the implementation of the guideline. An action plan or recommendations for implementation were not always available. However, inspectors were informed that a number of improvements to address this issue had been introduced.

Patient Information

All HSC trusts had a patient information leaflet advising patients of the clothing and items to bring into hospital. Belfast and Northern trusts had a leaflet which contained information to inform patients of the need to stay warm before surgery to help lower postoperative complications. These leaflets also advised that the hospital environment may be colder than their own home. It also advised that they should bring additional clothing (such as a dressing gown, a vest, warm clothing) and slippers, and to tell staff if they are cold at any time during their hospital stay.

RQIA recommends that, where appropriate, HSC trusts should update their patient information leaflets to include this information.

Risk Assessment

Inspectors found that none of the trusts had a formal risk assessment to identify a patient's risk of developing hypothermia. Staff stated that they know which patients are at risk, and the type of patient that would require a warming device. The notes reviewed indicated that the American Society of Anaesthesiologists grade, which is the most commonly used grading system to predict morbidity and mortality, is not always recorded by the anaesthetist.

The theatre care pathways or documentation do not include a designated area to record if the patient is considered to be a high-risk of developing hypothermia.

As there is no formal guidance on the definition of a high-risk patient, the anaesthetist identifies which patients are high-risk, and the need for warming devices when a procedure is less than 30 minutes. Inspectors were advised that all patients who have anaesthesia lasting longer than 30 minutes are warmed during the operation with a warming device.

Observation of Practice

The majority of patients were taken to theatre in a bed. Occasionally patients walked to theatre as day patients. If outdoor clothes were worn, these were kept in theatre for the patient. The patients observed by the inspectors were kept warm throughout their journey, in theatre and on transfer back to the ward. During the inspections, most staff appeared to be aware of their role and responsibility in the prevention of hypothermia.

Review of Patients' Notes

In the patients' notes, checked in theatre, and retrospectively in the notes of patients who had undergone surgery the previous day, not all patient temperatures had been recorded one hour prior to surgery. Not all documentation reviewed had a specific area to record their temperature. In some hospitals, patients' temperatures were only taken by the anaesthetic nurse prior to commencement of anaesthesia and temperatures were not always recorded every 30 minutes to one hour in theatre.

In recovery notes, the patient's temperature was not recorded every 15 minutes. Staff in recovery areas advised inspectors that they would not return a patient to the ward with a temperature less than 35.5°C. The retrospective review of patient notes indicated that there were occasions when this occurred. If the patient's temperature fell below 36°C, warming devices were used in the recovery area.

Temperature Control and Equipment

Inspectors found that temperatures in theatre were monitored. In the Western Trust, a new cooling system has been introduced in some theatres to address temperature issues which previously, had resulted in surgery being cancelled. In all HSC trusts, sufficient warming devices were available. These are maintained on an annual external service contract. Staff advised that they received training during induction on using these devices.

Warming cabinets were widely available and IV and irrigation fluids were routinely warmed to 37 °C intraoperatively. Most cabinets in use have an alarm that is triggered if the temperature falls outside of the normal range.

Recommendation

6. Trusts should ensure that NICE clinical guideline 65 is fully implemented.

5.4 Term of Reference 4

HSC trusts' processes in place to review surgical site infection data and improve practice.

Surgical Site Infection (SSI)

In 2007, NICE developed clinical guideline 74 on surgical site infection[23]. On 2 March 2009, the DHSSPS advised that this guidance is valid for Northern Ireland, and endorsed it for implementation in HSC[24]. The DHSSPS, in Changing the Culture 2010[25], refers to the mandatory surveillance of surgical infection in specified areas and healthcare associated infection (HCAI) surveillance. This includes surgical site infection surveillance as part of the monitoring and assurance process in preventing and controlling HCAIs.

The guideline states that surgical site infection is a type of healthcare associated infection in which a wound infection occurs after an invasive (surgical) procedure. Surgical site infections have been shown to comprise 20 per cent of all healthcare associated infections. At least five per cent of patients undergoing a surgical procedure develop a surgical site infection.

In 2012, the Public Health Agency, in conjunction with HSC trusts, carried out a Northern Ireland Point Prevalence Study of Hospital Acquired Infections (HAI) and Antimicrobial Use[26]. Surgical site infection was one of the most common HAI identified. The study reported that of the surgical site infections identified, almost half (46.9 per cent) followed general surgical procedures. General surgical procedures are currently not included in SSI incidence surveillance in Northern Ireland. The report of the survey identified that there should be a realignment of SSI surveillance to include surgical specialties, for which a high prevalence rate was reported. For example, deep and organ space SSI increased from 50% in 2006, to 69% in 2012.

HSC Trust Processes to Review Surgical Site Infection Data

All HSC trusts undertake mandatory reporting of surgical site infection surveillance to the PHA for orthopaedic surgery and caesarean section delivery (with the exception of the Northern Trust, where there is no orthopaedic surgery). The Belfast Trust also undertakes mandatory reporting of SSI surveillance in neurosurgery.

At present, the Belfast Trust is running two surveillance systems: Formic and BOAS (Orthopaedics). Belfast Trust representatives advised that it would be beneficial if one regional surveillance laboratory system was developed, to allow access to and comparison between all trusts' surveillance data.

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[23] http://www.nice.org.uk/nicemedia/pdf/CG74NICEGuideline.pdf
[24] http://www.dhsspsni.gov.uk/hsc_20-09_cg74.pdf
[25] http://www.dhsspsni.gov.uk/changing_the_culture.pdf
[26] http://www.publichealth.hscni.net/sites/default/files/directorates/files/NI_PPS_hospital_acquired_infection.pdf

Caesarean Section Surveillance

RQIA requested information about the actions being taken in each HSC trust in response to information about the prevalence of surgical site infections.

No SSIs following caesarean section delivery were reported in the PHA's point prevalence study 2012 (this survey included hospital inpatients only). Currently, mandatory incidence surveillance indicates that 90 per cent of post-caesarean section SSI occurs following discharge from acute hospital care. It was therefore expected that, given the short length of stay for obstetric patients, no SSIs were noted in this survey. In hospital, complete caesarean section surveillance is commenced as an inpatient, and follows the patient into the community.

The Belfast Trust sets out the reduction of SSIs as a key priority for each directorate. This has been assisted by a 95 per cent reliable implementation of the perioperative care bundle, and a target of 75 per cent return rate for caesarean section surveillance forms. The Belfast Trust rate for Caesarean Section SSI in quarter 1 of 2013 was 9.22 per cent. A target for 2013-14 has not been set.

The Northern Trust aimed to sustain the annual average SSI rate in all caesarean section patients at 15 per cent by March 2013. It also aimed to achieve 95 per cent compliance with all elements of the SSI bundle with all caesarean section patients.

A reduction was noted in the South Eastern Trust in the SSI rate for caesarean section patients. The trust's Safety and Quality Improvement Plan indicates that the trust aims to maintain the SSI rate in caesarean section patients at or below 13.14 per cent (SET 2011-12 average) by March 2013.

The Southern Trust has seen a significant reduction in the SSI rate for caesarean section patients. The trust's has set out a target to maintain or reduce the trust's quarter 1 2010 caesarean section SSI rate of 8.3 per cent by March 2013. The rate of SSIs in quarter 1 2012 for Craigavon Area Hospital was 7.0 per cent. This was below the Northern Ireland average of 9.7 per cent.

The Western Trust aimed to reduce or sustain the 2010-11 SSI rate in all caesarean sections by March 2013. The rate for caesarean section in Altnagelvin was 9.56 per cent in 2010-11. The SSI rate in the third quarter of 2012 was 6.13 per cent, which highlights a significant improvement.

Orthopaedic Surveillance

The incidence of SSI following orthopaedic surgery has significantly reduced since the introduction of mandatory orthopaedic SSI incidence surveillance in Northern Ireland. This was reflected in the PHS's point prevalence study in 2012, and in the quarterly SSI surveillance following orthopaedic procedures.

Surgical Site Infection Care Bundle

Care bundles are evidence-based care processes, related to key clinical procedures, that have been shown to reduce the risk of infection if performed appropriately. The surgical site infection care bundle has three phases of perioperative actions. Methicillin-resistant staphylococcus aureus (MRSA) screening is part of the preoperative phase. All HSC trusts in Northern Ireland now screen patients who are undergoing cardiothoracic, neurosurgical and orthopaedic implant surgery for MRSA. Some trusts also screen other high-risk patients preoperatively. Patients found to be colonised with MRSA preoperatively are decolonised, and their perioperative antimicrobial prophylaxis is altered to cover MRSA. The remaining perioperative actions in the care bundle should form part of the standard care for surgical patients.

Perioperative SSI audit is only carried out in the Belfast Trust. The perioperative SSI audit includes: safety briefing, hair removal, glucose control, beta blockade, DVT prophylaxis, normothermia and antibiotic prophylaxis.

In all other HSC trusts, inspectors were informed that compliance with the SSI care bundle was not audited, monitored or followed up within the unit. However, in some trusts, the WHO Surgical Safety Checklist, or theatre care pathways have been adapted to include elements of this bundle.

Use of Skin Cleansing Preparations

Inspectors were informed that a variety of skin cleansing preparations was used, based on consultant preference. For example, povidone-iodine was available for patients with skin sensitivity. The SSI care bundle advises the use of two per cent chlorhexidine gluconate in 70 per cent isopropyl alcohol solution for skin preparation. If the patient has a sensitivity, povidone-iodine application should be used.

Recording of Actions

Perioperative actions, such as hair removal, glucose control, beta blockade, DVT prophylaxis, normothermia and antibiotic prophylaxis to help reduce the incidence of surgical site infection, were not consistently recorded in the patients' notes reviewed.

Recommendations

7. The Public Health Agency should consider realignment of surgical site infection (SSI) surveillance to include surgical specialties, for which a high prevalence rate has been reported.

8. Compliance with the SSI care bundle should be monitored and followed up, and skin cleansing preparation in use should follow the advice in the SSI care bundle.

9. The Public Health Agency, HSC Board and HSC trusts should work together to develop a regional surveillance laboratory system to allow access to all Northern Ireland HSC trusts' surveillance data.

5.5 Term of Reference 5

RQIA will review the systems in place which provide assurance that: medicines are stored and handled safely and securely; medicines are administered safely and in accordance with the prescribing practitioner's instructions; and all medicine records comply with legislative requirements and current best practice.

Medicines Management in Theatres

The safe management of medicines within a theatre complex, from storage to administration, is a key component in preventing patient safety incidents.

All theatre departments have a medicines policy, for the safety and security of medicines. This meets the principles set out in the DHSSPS publications, Use and Control of Medicines and the Medicines Management Controls Assurance Standard (April 2009).

There are standard operating procedures (SOPs) for the management of controlled drugs (CDs) in all hospitals. The appointed nurse in charge has responsibility for ensuring that the system is followed and that the security of medicines in an operating department is maintained.

In seven hospitals, up-to-date SOPs for prescribing, preparing and administering injectable medicines were not available. HSC trusts confirmed that in the event of an incident or near miss, forms are completed and sent to the governance leads and risk management departments.

Ordering and Receipt of Medicines

All medicines are received and checked by nursing staff. In some HSC trusts, nursing staff do not sign and date delivery notes for medicines.

Storage and Security of Medicines

In accordance with current British Standard BS2881 (1989)[27], lockable cupboards were available. Controlled drugs were stored in cabinets that comply with the Misuse of Drugs (Safe Custody) Regulations 1973.

Responsibility for the safekeeping of medicines rests with the appointed nurse in charge. During visits it was observed that medicine cupboards remain unlocked during theatre times. Staff advised that this has been risk assessed, and stated that the risks were low, due to authorised only entry. This assessment does not fully negate the potential for unauthorised access to, or misappropriation of, medicines. This issue requires further review by all HSC

[27] British Standard Institution. 1989. BS2881, Specification for cupboards for the storage of medicines in health care premises

trusts. In the interim, there needs to be robust audit systems in place to ensure that any misappropriation of medicines can be promptly identified.

Inspectors noted that in the majority of theatre departments, the checking and recording of the minimum and maximum fridge and or freezer temperatures were not being carried out in line with individual trust policy. Suitable systems should be in place to ensure that refrigerated medicines are stored at the temperature specified by the manufacturer. Staff should receive further training in the management of the cold storage of medicines.

Other issues noted in relation to storage and security of medicines in some hospitals were:

- the key for the COSHH (Control of substances hazardous to health) cupboard was kept in the door
- medicines for internal and external use were not segregated
- a small trolley at a reception area had open drawers allowing free and unrestricted access to medication (photo 1)
- oxygen cylinders need to be stored correctly and have appropriate signage in place

Photo 1: Unlocked and unattended medication trolley

Administration

In all theatre departments, inspectors were informed that the authorisation of a suitably qualified practitioner is always obtained before medicines can be administered to patients. A permanent record is made of all administrations. At the time of inspection, with the exception of neurosurgery at the Royal Victoria Hospital, there were no lists held of anaesthetists' signatures. This hinders identification of illegible signatures in the CD record book.

In Craigavon Area and Ulster hospitals, theatre prescribing charts, for example, epidural and anaesthetic charts, were not cross-referenced to the patients' main medicines chart.

Disposal of Medicines

In some HSC trusts, the management and recording of the disposal of medicines needs to improve. Issues noted were:

- a record of medicines returned to the pharmacy was not retained
- a policy for disposing of theatre medicines is required
- the disposal of unused emergency medicines at the end of the shift should be witnessed and recorded
- there was inappropriate disposal of medications into household and clinical waste bins

In the majority of theatres, the disposal of controlled drugs was witnessed by a nurse, and recorded. In the South West Acute Hospital, the destruction of controlled drugs was not always witnessed by a nurse; therefore the controlled drug record was not signed accordingly.

In Altnagelvin Hospital, the controlled drug record book did not always include the relevant signatures for the disposal of controlled drugs on each occasion.

Injectable Medicines NPSA Patient Safety Alert 20

In all trusts, the NPSA Patient Safety Alert 20 risk assessment was carried out. New injectable medicines were reviewed for safety as part of the Northern Ireland regional procurement process. However, in some hospitals an action plan had not been devised to minimise identified risks of injectable medicine procedures and products.

Appropriate training was provided for anaesthetic nurses. The Belfast Trust and the South Eastern Trust have collaborated to ensure that the training is standardised to enable nurses to move across the trusts.

Inspectors noted a variation in the introduction of a purchasing for safety policy to promote procurement of injectable medicines. In some trusts this had been introduced in all hospitals inspected, whilst in other trusts this had only been introduced in one of the hospitals inspected.

All trusts confirmed an audit of staff practice in relation to injectable medicines is not included in the trust's annual medicines management audit programme. In the majority of theatres, inspectors noted that syringes prepared at the time of theatre session, were not always labelled with the medicines or the dosage recorded on the label (photo 2).

Photo 2: Unlabelled IV medications

Controlled Drugs (CD)

A list of controlled drugs stock is reviewed during pharmacy visits in all trusts. Nurses are responsible for the requisitioning, recording and receiving of controlled drugs. Only Daisy Hill and Lagan Valley hospitals had a process in place where two nurses or trained personnel witnessed the removal and stock balance of a controlled drug when it is removed from the CD cabinet.

Requisition and receipt forms were completed in detail. In the majority of theatres only one CD is recorded on each page of the requisition book. This is deemed good practice.

Issuing Controlled Drugs

In the majority of theatres recording of errors in CD records books was completed in accordance with trust policy.

The CD record book allows for a record of the three stages of supply, administration and disposal of CDs to be made. This is deemed best practice, as each stage is individually signed. Inspectors noted that a CD record book was not in use for all stages in all hospitals. In the Royal Victoria Hospital, the CD record book in the recovery area was not fully completed.

In some theatres morphine was stored at the patients' bedside in recovery. A risk assessment should be carried out on the safety of this practice.

In Altnagelvin Hospital, inspectors noted that the actual quantity of medication administered by the anaesthetist was not recorded on each occasion in the CD record book.

In the South West Acute Hospital the pharmacist does not transport the CDs back to pharmacy in a locked box. The pharmacist reported that medicines are brought back to pharmacy along secure corridors in the hospital. A record/process of the movement of CDs between theatre and pharmacy when medicines are being hand carried is required.

With the exception of the Ulster Hospital, all had a CD stock list available.

Recommendations

10. All HSC trusts should review their systems and processes to ensure that medicines are administered, stored and handled safely and securely in accordance with the prescribing practitioner's instructions. Records should comply with legislative requirements and current best practice.

11. Trusts should review the current practice of unlocked medicine cupboards during and outside of theatre times. Trusts should consult with the DHSSPS to agree a standardised approach. In the interim, there needs to be robust audit systems in place to ensure that any potential misappropriation of medicines can be promptly identified.

5.6 Term of Reference 6

The current arrangements for the use of operating department practitioners and anaesthetic assistants.

Operating Department Practitioners

There are a number of roles within perioperative practice. These include: operating department practitioners (ODP), anaesthetic assistants (AA) and physicians' assistant (PA). HSC trusts must ensure that these registered practitioners receive appropriate education and support to ensure patient safety, and that individual staff members are competent.

During this review RQIA found that each trust had different arrangements in place, and differences in the competencies and skills training expected for these practitioners.

The information provided below describes the situation in each trust. RQIA recommends that there should be regional clarification and standardisation of the training required for ODPs and anaesthetic assistants.

Operating Department Practitioners and Anaesthetic Assistants in the Belfast Trust

There are no ODPs currently employed in either the Royal or Belfast City hospitals. The Royal Victoria Hospital currently employs four band 7 PAs, who have successfully completed a postgraduate diploma in Physicians' Assistants (Anaesthesia) (PGDip Phys Assist Anaesth DE). PAs report to the consultant anaesthetist. Inspectors did not identify any issues with the reporting structure during the inspection

The Belfast Trust is currently developing the role of the theatre assistant/surgical support worker, band 5 ODP.

There is one anaesthetic nurse specialist, based in the Belfast City Hospital, though the Belfast Trust has advertised externally for six further posts. The role of the anaesthetic nurse specialist includes assisting the anaesthetist; intubation; line insertion; administration of blood; airways; resuscitation in wards; and induction and training of new staff. The anaesthetic nurse specialist reports to the band 7 sister. Inspectors did not identify any issues with the reporting structure during the inspection.

Within theatre, nursing staff are multiskilled and they carry out theatre scrub and anaesthetic duties. Nursing staff assist the anaesthetist and, on occasion, assist in recovery.

There is a three tier nurse training system in place. All nursing staff complete in-house anaesthetic/scrub training as part of their induction. There is an in-house three month module course available, which gives staff a further

awareness of anaesthetic care. Inspectors were advised that training uptake has been affected by staffing levels.

Operating Department Practitioners and Anaesthetic Assistants in the Northern Trust

Antrim Area Hospital employs one ODP, while there are none employed in Causeway Hospital. The ODP in Antrim Area Hospital has been in post for over 30 years and reports to the theatre manager.

There is an overarching induction programme for the department, which covers anaesthetics, scrub, recovery, circulation duties and responsibilities. Nurses are then multiskilled in anaesthetics, recovery and scrub roles. Recovery ward staff are also expected to cover in theatre when required. Some nursing assistants are infection prevention and control link nursing assistants. Inspectors did not identify any issues with the reporting structure during the inspection.

A number of staff have completed the Queens University Belfast (QUB) anaesthetic specialist, practice degree course or the QUB anaesthetic course. There are a number of places allocated to all theatres . In the Northern Trust, staff rarely attend the QUB module as they have devised an enhanced anaesthetic programme for new staff.

Operating Department Practitioners and Anaesthetic Assistants in the South Eastern Trust

The Ulster Hospital currently employs eight ODPs, and thirteen AAs. Lagan Valley Hospital currently does not employ operating department practitioners. There is one anaesthetic nurse within the Lagan Valley Hospital operating department who has completed the anaesthetic nurse course. Inspectors were informed that all theatre nurses, will, at some point, assist the anaesthetist. Inspectors did not identify any issues with the reporting structure during the inspection.

The role of the ODP is long standing in the Ulster Hospital, however there are no plans at the moment to employ more ODPs. This may be reviewed in the future. As ODPs are currently in the Agenda for Change process, their job descriptions cannot be formally updated at present. ODPs are line managed by the theatre manager, but are responsible, on a day-to-day basis, to the nurse in charge of the theatre to which they are assigned.

On appointment, ODPs undertake a competency-based programme to provide skills and competencies in assisting the anaesthetist. An extended programme is then undertaken for competencies and skills in emergency anaesthesia, dealing with the critically ill patient and child, obstetric anaesthesia and paediatric anaesthesia. Update training is provided in-house, as well as other relevant study days.

At both hospital sites anaesthetic assistants must, as a minimum, have undertaken the perioperative course at QUB. An extended in-house programme is then undertaken for competencies and skills similar to ODPs. Update training, as well as other relevant study days, is provided in-house. The ODPs and anaesthetic nurses assist the anaesthetist in wards and in the emergency department.

Operating Department Practitioners and Anaesthetic Assistants in the Southern Trust

There are no ODPs, AAs or PAs employed in the Southern Trust. All nurses are trained in anaesthesia, recovery ward and scrub duties. Inspectors did not identify any issues with the reporting structure during the inspection.

To ensure all staff are skilled to an introductory level in anaesthetic care, the Southern Trust sends all theatre staff to a QUB commissioned anaesthetic module. The course is one day a week for one semester, and is specific to the Southern Trust. As a minimum, 15 staff attend each year.

At present the trust is also commissioning QUB to develop a more in-depth short course. There are anaesthetic nurses within both hospitals who have completed the three years, QUB commissioned, anaesthetic nurse practitioner course.

Operating Department Practitioners and Anaesthetic Assistants in the Western Trust

There is one ODP employed by the trust working in Altnagelvin Hospital. ODPs are not employed as anaesthetic assistants; they are viewed as multi-skilled members of the perioperative team. A training needs analysis has not been carried out, and a training programme has not been developed for the ODP role. Inspectors did not identify any issues with the reporting structure during the inspection.

Nursing staff in theatre can assist the anaesthetist, and carry out theatre scrub and anaesthetic duties. They are multi-skilled, and can rotate roles. All nursing staff complete anaesthetic competencies as part of induction. There was an in-house short course which gave staff further awareness of anaesthetic care. Some staff have completed the anaesthetic nurse practitioner course. This is offered yearly to a member of theatre staff.

Nursing staff in the South West Acute Hospital complete a three month module in Altnagelvin hospital on either anaesthetic care/recovery/theatre and scrub duties. Some staff have completed the anaesthetic nurse practitioner course. At the time of the review, one member of staff was enrolled on the course.

The hospital employs operating theatre assistants (auxiliary staff). They are completing a perioperative skills course which will enable them to scrub for

noninvasive cases. One nurse was also completing the assessor's course at the same time, in order to assess the theatre assistants.

Recommendation

12. The DHSSPS should provide regional clarification and standardisation of the training requirements for ODPs and anaesthetic assistants.

5.7 Term of Reference 7

Review of the healthcare hygiene and cleanliness in theatres, using the Regional Healthcare Hygiene and Cleanliness Audit Tool, and a section specific to theatres.

During this review, the Regional Healthcare Hygiene and Cleanliness Audit Tool was used to assess healthcare hygiene, general cleanliness and state of repair of theatres. Inspections using the audit tool gather information from observations in functional areas, including direct questioning and observation of clinical practice, and, where appropriate, review of relevant documentation.

An additional section, which not part of the existing audit tool, specifically for theatres was adapted using a similar format and information from the Infection Prevention Society Quality Improvement Tools.

Compliance rates are based on the scores achieved in the Regional Healthcare Hygiene and Cleanliness Audit Tool.

Inspectors' Assessment

An announced inspection was undertaken at each hospital as part of the overall theatre review. Each theatre was assessed against the Regional Healthcare Hygiene and Cleanliness Standards.

The inspections highlighted strengths as well as areas for further improvement, including recommendations.

Overall, the inspection team found that the theatre departments evidenced good compliance against the Regional Healthcare Hygiene and Cleanliness Standards.

Table 1 summarises the overall score levels achieved. Percentage scores can be allocated a level of compliance using the compliance categories key below.

Table 1: Healthcare Hygiene and Cleanliness Inspection of Hospital Theatre

Hospital	Theatre Area	Overall Score %
Belfast City	General theatre area and theatre 1	95
Royal Victoria	General theatre area and theatre 3	92
Antrim Area	General theatre area and theatre 2	96
Causeway	General theatre area and theatre 2	97
Lagan Valley	General theatre area and theatre 2	98
Ulster	General theatre area and theatre 1	97
Craigavon	General theatre area and theatre 5	95
Daisy Hill	General theatre area and theatre 3	94
Altnagelvin	General theatre area and theatres 2 and 6	97
South West Acute	General theatre area and theatre 4	98

Compliance Categories

Compliant:	85% or above
Partial compliance:	76% to 84%
Minimal compliance:	75% or below

The overall results indicate that all hospital theatres achieved compliance with the Regional Healthcare and Hygiene Audit Tool.

Standard 2: General Environment

This standard provides guidance to assist organisations in providing a hospital environment which is well maintained and visibly clean. A clean, tidy and well maintained environment is an important foundation in promoting patient, visitor and staff confidence, and supporting other infection prevention and control measures.

Inspectors' Assessment

In most instances, the findings of the inspection indicate that cleaning, maintenance and repair of the general environment were of a high standard. Within most of the environment section of the audit tool inspectors found excellent compliance.

Photo 3: South West Acute Hospital

Photo 4: Royal Victoria Hospital

Some theatres were new (photo 3). In others, despite having been open for a number of years the level of maintenance and repair was generally good (older theatre photo 4).

Three of the theatres inspected were older and whilst the buildings have been generally well maintained, some issues were identified regarding damage and repair. In Belfast City Hospital there was construction work being carried out at the time of inspection. The reconfiguration of some areas had resulted in the loss of several stores, including the equipment store. Equipment was stored in a closed corridor. Despite staff concerns, an equipment store or storage area has not been included in the reconfiguration of this department.

Only Daisy Hill Hospital scored minimal compliance and this was in relation to a dirty utility room in need of refurbishment (photo 5). The room was old and fittings were damaged and worn. Paint finishes on doors were chipped, and laminate finishes to surfaces damaged. A new extension is to open later in 2014, this will include two new theatres, a recovery and anaesthetic rooms, which should address environmental issues.

The theatre department in Craigavon Hospital is currently being refurbished. Whilst all the theatres were new, the recovery area, dirty utility, some stores, offices, and female toilet areas, are part of the original old building (photo 6). Work to replace the old sections was to be completed by September 2013.

Photo 5 and 6: Craigavon Hospital, areas in need of refurbishment

In some of the hospitals, inspectors identified issues with cleaning, clutter and maintenance of domestic store and dirty utility rooms.

In six of the hospitals, issues with staff changing rooms were identified. Some rooms appeared small and cluttered and there was little space for staff to change or hang up their clothes. Others were in need of cleaning or repair. In one hospital a bicycle was stored in the shower cubicle.

In most hospitals there was a good display of posters and information for all staff. In a number of theatres a cleaning schedule for domestic staff was not available.

Standard 3: Patient Linen

The standard on the management of patient linen states that linen should be clean, free from damage, handled safely and stored in a clean, tidy environment. The provision of an adequate laundry service is a fundamental requirement of direct patient care. Linen should be managed in accordance with HSG 95 (18) [28] and, once published, the final DHSSPS Policy for Provision of Health and Social Care Laundry and Linen Services.

Inspectors' Assessment

Inspectors found that seven hospitals achieved full compliance in the use and management of patient linen. The other hospitals obtained high compliance. Linen was clean, free from damage and stored appropriately in a designated store. Staff practices in relation to the handling and disposal of used linen were good. A number of concerns were identified, which have been outlined in the individual reports.

Standard 4: Waste and Sharps

The safe segregation, handling, transport and disposal of waste and sharps can, if not properly managed, present risks to the health and safety of staff, patients, the public and the environment. Waste bins in all clinical areas should be labelled, foot operated and encased. This promotes appropriate segregation, and prevents contamination of hands from handling the waste bin lids. Inappropriate waste segregation can be a potential hazard and can increase the cost of waste disposal.

Sharps boxes must be labelled and signed on assembly and disposal. Identification of the origin of sharps waste in the event of spillage or injury to staff is vital. This assists in the immediate risk assessment process following a sharps injury.

[28] Department of Health. 1995. HSG (95)18: Hospital laundry arrangements for used and infected linen

Inspectors' Assessment

Waste

The scores achieved in all hospitals indicate good compliance in relation to handling and storage of waste. The following areas were noted where compliance scores could be improved.

- waste had not been disposed of in the correct waste stream
- pharmaceutical and general waste were incorrectly disposed of into the sharps box
- lack of household or clinical waste bins in some areas
- lack of yellow lidded burn bins
- free flowing liquids had been disposed of into the black lidded burn bin

Sharps

Inspectors found that six hospitals achieved full compliance in this section of the audit tool, the other hospitals, with one exception obtained high compliance.

The main areas for improvement relate to labelling and signing of sharps boxes on assembly and disposal, and ensuring that temporary closure mechanisms are closed when not in use.

The Royal Victoria Hospital achieved partial compliance and improvement is required. The inspectors noted large sharps boxes in both the male and female changing rooms. A member of staff stated that medical staff use these on emptying their pockets when taking off their scrubs. This practice is deemed as unsafe, and would indicate that sharps are not disposed of at the point of use. This should cease with immediate effect.

Standard 5: Patient Equipment

This standard is to ensure that patient equipment is appropriately decontaminated. The Northern Ireland Infection Prevention and Control Manual states that: all staff have specific responsibilities for cleaning of equipment, and should be familiar with the cleaning agents and procedures used to clean. COSHH regulations must be adhered to when using chemical disinfectants.

Any ward, department or facility, which has a specialised item of equipment, should produce a decontamination protocol for that item. This should be in keeping with the principles of decontamination and the manufacturer's instructions.

Inspectors' Assessment

Antrim Area and Altnagelvin hospitals are to be commended for achieving full compliance in relation to patient equipment. The score reflects staff awareness of their roles, responsibilities and practice in ensuring patient equipment was clean and appropriately decontaminated.

The scores achieved in all other hospitals indicate good compliance. However, there were some areas where compliance could be improved.

In seven hospitals, inspectors observed that single use equipment, such as laryngoscopes blades and ambu bags, had been removed from their original packaging. The Association of Anaesthetists of Great Britain and Ireland guidelines, Infection Control in Anaesthesia[29], state that single use resuscitation equipment should be kept in a sealed package, or should be sterilised between patients according to manufacturer's instructions. It also states that packaging should not be removed until the point of use for infection control, identification and traceability in the case of a manufacturer's recall and safety.

Inspectors noted a number of instances where patient equipment was old, worn or damaged. Some sterile instrument packs were out-of-date. In one instance a suction canister had dried blood present. Equipment and procedure trolleys had adhesive tape and residue, which means they cannot be effectively cleaned.

Standard 6: Hygiene Factors

This standard relates to the availably of a range of fixtures, fittings and equipment that should be provided to ensure that hygiene practices can be carried out effectively.

Inspectors' Assessment

The overall scores achieved in all hospitals indicate good compliance. But, there were a number of areas where compliance levels should be improved.

The inspection found good examples of hand hygiene facilities in most areas within the theatres. However, there were areas were improvement is required. Daisy Hill Hospital was partially compliant in the availability and cleanliness of wash hand basins, and within the consumables section of the audit tool.

Other issues noted related to the lack of the appropriate, dedicated hand hygiene facilities. In some hospitals, hand hygiene facilities were in need of repair and not all conformed to HBN 04-01 guidelines.

[29] The Association of Anaesthetists of Great Britain and Ireland. 2nd edition, Infection Control in Anaesthesia. London, 2008.

In most hospitals alcohol hand rub containers were available at the point of care. Dispensers were in a good state of repair, visibly clean and dispensed from a single use cartridge. However in a number of cases, inspectors noted empty alcohol hand rub dispensers. In Daisy Hill Hospital the anaesthetic room did not have liquid soap for social hand washing.

In a number of hospitals, staff use paper roll from a non-enclosed dispenser to dry their hands. This practice should be reviewed, as there is the potential for the paper roll to become contaminated.

All hospitals had a range of personal protective equipment (PPE) available and stored appropriately away from the risk of contamination. In Craigavon Area Hospital the PPE dispenser was located above the sluice hopper in the dirty utility room. This has the potential for splash-back contamination.

In some of the hospitals there were issues identified regarding the storage and use of colour coded equipment for cleaning. Staff, in some instances, were not aware of the NPSA colour coding guidelines, and there was variation in the colour of the equipment used to clean the theatres. Equipment and machinery used for cleaning was generally in a good state of repair, visibly clean and stored appropriately.

Generally cleaning/disinfectant products were stored appropriately, and staff displayed a good knowledge of these products. However, in the South Eastern Trust a domestic store and a COSHH cupboard were unlocked, therefore chemicals were not stored securely, in accordance with COSHH regulations.

Standard 7: Healthcare Hygiene Practices

The purpose of this standard is to ensure that healthcare hygiene practices are embedded into the delivery of care and related services.

Inspectors' Assessment

Inspectors found that effective hand hygiene technique and procedures were undertaken in eight hospitals, and full compliance was achieved. Staff are to be commended, as this is the single most important component of preventing the spread of infection. The scores achieved in all other hospitals indicate good compliance.

In Belfast City Hospital, where compliance could be improved, an anaesthetist was observed not handwashing prior to preparing medications. Staff, including medical staff, were observed in some hospitals to don or remove gloves, without washing their hands. Gloves are porous and there is the potential for microorganisms to pass through the gloves onto staff hands.

Inspectors noted that in some hospitals PPE was not always used appropriately. On occasion there was excessive use of gloves when there was no identified clinical need.

Other issues noted were in relation to the same gloves: used for a number of different tasks; not removing PPE after working with a patient who had a known infection; to write up notes. Gloves are a single-use item, should be worn once, and then discarded. Gloves must be changed between patients. They may also need to be changed between different procedures on the same patient.

Staff practice in relation to the safe handling and disposal of sharps were good in all hospitals. Full compliance was achieved in three hospitals.

There were some areas where compliance should be improved. Resheathed needles were observed in sharps boxes. Resheathing needles is deemed as unsafe practice, as it increases the risk of the staff member receiving a needle stick injury. This practice should stop immediately.

Inspectors observed that in the Royal Victoria Hospital a member of medical staff carried a blood filled syringe to the sharps box at the central nurses' station for disposal. Syringes should be disposed of at the point of care.

In all areas, inspectors noted that systems and processes were in place to ensure effective cleaning of the environment. Five hospitals achieved full compliance on effective cleaning. Effective cleaning removes microorganisms and a clean environment provides the foundation for good standards of hygiene and asepsis.

The scores achieved in all other hospitals indicate good compliance. There were some areas where compliance could be improved. For example, ensuring all staff are aware of the NPSA colour coding guidelines for cleaning equipment.

Inspectors observed that scrubs were worn by theatre staff. On occasion staff did not remove watches and jewellery, in line with their HSC trust's and the DHSSPS's dress code policies. These policies outline the concept of bare below the elbow, which facilitates effective hand hygiene during clinical work.

Section 8: Theatre Practices

On undertaking the inspection of this specialist area, additional information was required to that which was provided in the generic tool. An additional section, specifically for theatres, was developed using a similar format as the Regional Healthcare Hygiene and Cleanliness Audit Tool. This was supplemented by information from the Infection Prevention Society quality improvement tools.

Table 2: Theatre Practice

Hospital / Area	Belfast City	Royal Victoria	Antrim Area	Causeway	Lagan Valley	Ulster	Craigavon	Daisy Hill	Altnagelvin	South West Acute
Anaesthetic Room	97	84	92	95	98	96	100	82	93	100
Anaesthetic Recovery	95	88	92	98	96	96	92	87	98	100
Operating Room	88	83	93	100	100	100	100	96	97	100
Scrub Room	92	92	88	100	100	100	97	95	100	100
Clean/Lay-up Room	90	85	94	100	96	94	100	92	100	100
Specialist Equipment	92	90	100	100	100	100	97	96	95	91
Theatre Healthcare Hygiene Practices	76	76	80	80	81	81	88	81	80	88
Total	**90**	**86**	**91**	**96**	**96**	**95**	**96**	**90**	**95**	**97**

Compliance Categories

Compliant:	85% or above
Partial compliance:	76% to 84%
Minimal compliance:	75% or below

Inspectors' Assessment

The scores achieved in the above table indicate good compliance in the majority of sections within this part of the audit tool. However, in all but two hospitals, partial compliance was scored on theatre healthcare hygiene practices, and improvement is therefore required.

In seven hospitals damage was noted to surfaces such as the paint finish on walls; doors; floors; fixtures and fittings; and worn sanitary ware. Clutter, which impedes effective cleaning, and lack of storage, was observed in some areas.

In Daisy Hill Hospital the recovery area and theatre lay-up room were small and cluttered (photo 7 and 8). The patient receiving area was small and

cluttered. This area is used as the hospital resuscitation area, and excess equipment was stored in this area. It is recommended that a review of equipment and stock is undertaken to maximise space, and allow greater ease of cleaning. This theatre area was small and the issue of safe evacuation in the event of fire at the main door has been raised by the trust's fire officer. The layout of the unit and wall configuration does not permit beds to be moved to the back exit. Special evacuation mats have been purchased, and staff training on how to use them has been arranged.

Photo 7 – Daisy Hill Hospital recovery room, worn fixtures

Photo 8 – Daisy Hill Hospital limited space in recovery room

Effective cleaning is imperative within the healthcare environment. Inspectors noted dust and debris in some places; some chair crevices were dirty; vinyl covers damaged; and limescale was noted on some taps. Stains and adhesive tape were present on some equipment.

Some specialist theatre equipment was not clean, or was in poor repair (photo 9). For example: rust on trolleys; damaged gel pressure mats; split cover on theatre operating table; taped x-ray vests; damaged cover on limb resting aids.

Photo 9 Royal Victoria Hospital Rusted frame on warmer

In Lagan Valley Hospital there were seven out-of-date instrument packs in the emergency anaesthetics trolley. Staff stated they were aware the packs were out-of-date, the instruments were rarely used and very expensive. The

theatre sister informed inspectors that a decision had been agreed locally with nursing staff and anaesthetic staff to use the equipment if required. However, there was no documentation or risk assessment of this decision.

Cleaning schedules for nursing equipment in some hospitals were either not available, or did not include all equipment present in the theatre. Staff roles and responsibilities relating to these schedules were not outlined.

Within the theatre environment all staff wear scrubs. These should be changed and worn as directed by HSC trust policy. Some hospital staff were observed leaving and returning to the unit wearing scrubs and head attire. They did not all don a protective coat prior to leaving or change into fresh scrubs on returning to the unit, in line with hospital policy. Inspectors observed male staff in theatre with long facial hair, which was not covered by PPE.

Issues were observed in relation to theatre shoes worn by staff. Some were stained and splashed or did not comply with EN345[30]. In various theatres, these shoes could not be effectively cleaned, or were not enclosed, to provide adequate protection.

In one theatre and recovery ward, green gauze was observed inserted into the barrel of unused syringes, the plunger had been pulled out of the syringe. This practice should cease, as syringes should not be removed from sterile packaging until immediately prior to use.

All theatres have systems for summoning aid in the event of an emergency, and for monitoring theatre temperature. In some recovery rooms, the emergency call system was not tested daily, and there was no visible method of checking room temperature. In three hospitals there were temperature sensors in the room, but staff had to contact the estates department to get a temperature reading.

In one hospital a surgeon raised the additional issue of having no dedicated emergency theatre. The designated surgeon of the week covers the work load from emergency procedures. This has an impact on routine cases, as the surgeon's time can be taken up with emergency cases.

All hospitals must improve practice in relation to theatre healthcare hygiene practices and ensure staff adherence to trust policy, particularly within the eight hospitals that achieved a partially compliant score.

Recommendation

13. The DHSSPS should give consideration to agreeing an additional section specifically for theatres to be included in the Regional Healthcare Hygiene and Cleanliness Audit Tool to improve compliance in this area.

[30] British Standard Institution. 1993. BS EN 345-1:1993 - Safety footwear for professional use.

6.0 Recommendations

1. The DHSSPS should consider how the results from the Antimicrobial Resistance and Healthcare Associated Infections Committee's (ARHAI) work on updating and unifying the current WHO Surgical Safety Checklist and the high impact intervention, (SSI) care bundle should be taken forward in Northern Ireland when the results of this work are available.

2. All HSC trusts should ensure that the WHO Surgical Safety Checklist should be consistently applied with full engagement, participation and completion by the relevant professional staff. Monitoring arrangements should include observational audits.

3. All HSC trusts should review any adaptations made to the WHO Surgical Safety Checklist, to ensure that the core principles have been maintained.

4. The DHSSPS Forms 1/2/3/4 Consent for Examination, Treatment or Care should be fully completed and legible. HSC trusts should audit the standards of completion of these consent forms.

5. All HSC trusts should ensure that VTE risk assessment forms are in place and fully completed for all patients, including day cases. Monitoring audits should be carried out and action plans put in place where there is an identified need to increase compliance rates.

6. Trusts should ensure that NICE clinical guideline 65 is fully implemented.

7. The Public Health Agency should consider realignment of surgical site infection (SSI) surveillance to include surgical specialties, for which a high prevalence rate has been reported.

8. Compliance with the SSI care bundle should be monitored and followed up, and skin cleansing preparation in use should follow the advice in the SSI care bundle.

9. The Public Health Agency, HSC Board and HSC trusts should work together to develop a regional surveillance laboratory system to allow access to all Northern Ireland HSC trusts' surveillance data.

10. All HSC trusts should review their systems and processes to ensure that medicines are administered, stored and handled safely and securely in accordance with the prescribing practitioner's instructions. Records should comply with legislative requirements and current best practice.

11. Trusts should review the current practice of unlocked medicine cupboards during and outside of theatre times. Trusts should consult with the DHSSPS to agree a standardised approach. In the interim, there needs to be robust audit systems in place to ensure that any potential misappropriation of medicines can be promptly identified.

12. The DHSSPS should provide regional clarification and standardisation of the training requirements for ODPs and anaesthetic assistants.

13. The DHSSPS should give consideration to agreeing an additional section specifically for theatres to be included in the Regional Healthcare Hygiene and Cleanliness Audit Tool, to improve compliance in this area.

7.0 Glossary

AA	Anaesthetic assistants
ARHAI	Antimicrobial Resistance and Healthcare Associated Infections Committee
ASA	American Society of Anaesthesiologists
CD	Controlled drugs
COSHH	Control of substances hazardous to health
DHSSPS	Department of Health, Social Services and Public Safety
Formic	Infection control data capture software for surveillance and analysis
HCAI	Healthcare associated infection
HSC	Health and social care
MRSA	Methicillin-resistant Staphylococcus aureus
NICE	National Institute for Health and Care Excellence
NPSA	National Patient Safety Agency
ODP	Operating department practitioners
PA	Physicians' assistants
PHA	Public Health Agency
QIP	Quality improvement plan
SOPs	Standard operating procedures
SQSD	Safety Quality Standards Department
SSI	Surgical site infection
VTE	Venous thromboembolism
WHO	World Health Organisation

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