The Regulation and Quality Improvement Authority

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RQIA
Unannounced Infection Prevention/Hygiene Augmented Care

Year 2 Inspection

South West Acute Neonatal Unit

11 August 2015

Assurance, Challenge and Improvement in Health and Social Care

www.rqia.org.uk

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 hygiene and infection prevention and control inspections are carried out by a dedicated team of inspectors, supported by peer reviewers from all trusts who have the relevant experience and knowledge. Our inspection reports are available on RQIA's website at www.rqia.org.uk.

Inspection Programme

The Chief Medical Officer's (CMO) letter (HSS MD 5/2013) endorsed the use of the Regional Infection Prevention and Control Audit Tools for Augmented Care Settings by all health and social care (HSC) trusts in Northern Ireland in the relevant clinical areas. In these inspections we use the following audit tools www.rqia.org.uk.

- Governance Assessment Tool.
- Infection Prevention and Control Clinical Practices Audit Tool.
- Neonatal Infection Prevention and Control Audit Tool.
- Critical Care Infection Prevention and Control Audit Tool.
- Augmented Care Infection Prevention and Control Audit Tool.

The introduction of this suite of audit tools is a follow on from development of the existing regional healthcare hygiene and cleanliness standards and audit tool, developed and disseminated in 2011. Both sets of tools should be used in conjunction with each other. A Guidance and Procedural Paper for Inspections in Augmented Care Areas has been developed, which outlines the inspection process www.rqia.org.uk.

The inspection programme for augmented care covers a range of specialist facilities. A rolling programme of unannounced inspections has been developed by RQIA to assess compliance with these sets of audit tools.

RQIA also carries out announced inspections. These examine the governance arrangements and systems in place to ensure that infection prevention and control and environmental cleanliness policies and procedures are working in practice.

Contents

1.0 Inspection Summary

The three year improvement programme of unannounced inspections to augmented care areas commenced in the South West Acute Neonatal Unit on 28 August and 5 September 2013.

RQIA use audit tools as an assessment framework to build progressive improvement over the three-year inspection cycle. Compliance scores for the first inspection are 85 per cent, rising to 95 per cent by the end of the third inspection.

The findings of the inspection indicated that the unit achieved year two compliance rate of over 90 per cent in:

- The Regional Neonatal Infection Prevention and Control Audit Tool.
- The Regional Healthcare Hygiene and Cleanliness Standards and Audit Tool.

As a result, these tools were not included as part of the year two inspection programme.

The neonate unit did not achieve the set compliance level in the Regional Infection Prevention and Control Clinical Practices Audit Tool for year one. An unannounced inspection was undertaken to the neonatal unit on 11 August 2015 as part of the three-year improvement programme. The inspection team comprised of two RQIA inspectors. Details of the inspection team and trust representatives who received feedback can be found in section 5.

The report highlights strengths as well as areas for further improvement, and includes recommendations and a quality improvement action plan. This can be read in conjunction with year one inspection report www.rqia.org.uk.

Overall the inspection team found evidence that the neonatal unit at South West Acute was working to comply with the Regional Infection Prevention and Control Clinical Practices Audit Tool.

Inspectors observed:

- The unit was fully compliant in two sections of the Regional Infection Prevention and Control Clinical Practices Audit Tool.

Inspectors found that the key areas for further improvement were:

- The management of blood cultures and antimicrobial prescribing.

Inspectors observed the following areas of good practice:

Picture 1 - ANTT procedure trolley

- ANTT procedure trolley (Picture 1).
- DVDs on ANTT, talking blood cultures, and cannulation for staff to access via the intranet.

The inspection resulted in **eight** recommendations for improvement listed in Section 4.

The inspection in **2013** resulted in **eight** recommendations, related to the Regional Infection Prevention and Control Clinical Practices Audit Tool. **Six** recommendations have been addressed, **two** have been repeated and there are **six** new recommendations.

The final report and quality improvement action plan will be available on RQIA's website. Where required, reports and action plans will be subject to performance management by the Health and Social Care Board and the Public Health Agency (PHA).

RQIA's inspection team would like to thank the Western HSC Trust (WHSCT), and in particular all staff at the South West Acute Neonatal Unit for their assistance during the inspection.

2.0 Overall Compliance Rates

Regional Infection Prevention and Control Clinical Practices Audit Tool

RQIA uses audit tools as an assessment framework to build progressive improvement over a three-year inspection cycle. Compliance scores for the first inspection are 85 per cent, rising to 95 per cent by the end of the third inspection.

Compliance rates are based on the scores achieved in the various sections.

Table 1: Regional Neonatal Infection Prevention and Control Audit Tool Compliance Levels

Areas Inspected	28 August & 5 September 2013	11 August 2015
Aseptic non touch technique (ANTT)	82	100*
Invasive devices	100	93*
Taking Blood Cultures	65	82*
Antimicrobial prescribing	73	86
Clostridium *difficile* infection (CDI)	N/A	N/A
Surgical site infection	N/A	N/A
Ventilated (or tracheostomy) care	N/A	N/A
Enteral Feeding or tube feeding	88	90*
Screening for MRSA colonisation and decolonisation	91	100*
Average Score	**83**	**92**

* Staff practice was not observed during the inspection. Information was gained through staff questioning and review of documentation.

	Year 1	Year 2
Compliant	85% or above	90% or above
Partial Compliance	76% to 84%	81 to 89%
Minimal Compliance	75% or below	80% or below

Where an inspection identifies issues that are considered to be of high risk, trusts will be asked to take immediate action.

3.0 Inspection Findings: Regional Infection Prevention and Control Clinical Practices Audit Tool

The Regional Neonatal Infection Prevention and Control Clinical Practices Audit Tool contains nine sections. Each section aims to consolidate existing guidance in order to improve and maintain a high standard in the quality and delivery of care and practice in neonatal care. This will assist in the prevention and control of healthcare associated infections.

The Regional Infection Prevention and Control Clinical Practices Audit Tool Compliance Levels

Areas Inspected	**28 August & 5 September 2013**	**11 August 2015**
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* Staff practice was not observed during the inspection. Information was gained through staff questioning and review of documentation.

The findings indicate that year two overall compliance was achieved in relation to the Regional Infection Prevention and Control Clinical Practices Audit Tool. Inspectors identified areas for improvement, especially in the management of blood cultures and antimicrobial prescribing.

Due to the limited opportunity for inspectors to observe clinical procedures, staff were questioned on all aspects of the clinical practices audit tool. Staff displayed good knowledge on the practical application of clinical procedures.

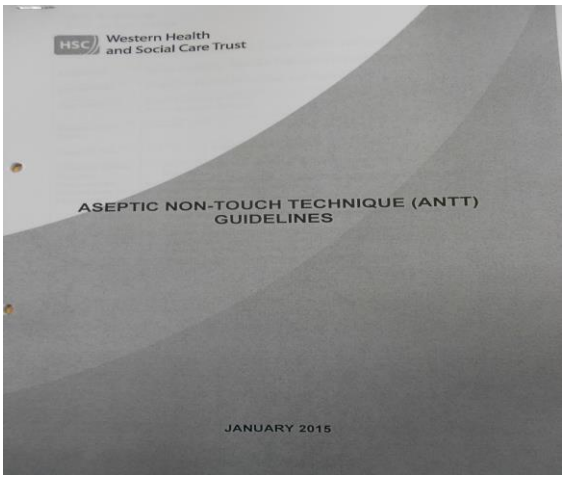
The unit undertakes observational audits of clinical practice. Results viewed showed that staff adhere to good practice.

3.1 Aseptic Non Touch Technique (ANTT)

ANTT is a standardised, best practice and safe aseptic technique used for care the overall management of invasive clinical practices and preparation of medication. For organisations to comply with this section they must have a policy in place; staff should display knowledge and practical skills on the key principles; and, audit of staff competency is carried out.

The unit achieved full compliance in this section of the audit tool. This is commendable.

Staff displayed good knowledge on the principles of ANTT and were able to demonstrate when ANTT procedures should be applied.



Picture 2 - ANTT policy

A trust ANTT policy is now available for staff (Picture 2). DVD's are also available on ANTT, talking blood cultures, and cannulation for staff to access via the intranet. ANTT awareness and training is part of all clinical staff induction and mandatory yearly update training. The infection prevention and control (IPC) team hold stand-alone, face-to-face ANTT training for nursing and medical staff four times a year; utilising clinical skills work stations to reinforce ANTT skills. The nominated unit ANTT leads continue to cascade training to nursing staff.

Within paediatric care, there is a lead doctor for ANTT. The IPC team are to carry out ANTT training for new paediatric medical staff in September 2015. This will include ANTT theory and the use of clinical skills workstations. Nursing staff at ward level assess medical staff ANTT competency as part of the collection of blood cultures.

ANTT competency assessment continues for all nursing staff as part of clinical practices: venepuncture, administration of intravenous antibiotics, cannulation and taking blood cultures. The IPC team independently verify compliance audits for ANTT.

Invasive Devices

Invasive devices are medical devices which in whole or in part, penetrate the body, either through a body orifice or through the surface of the body. For organisations to comply with this section they must ensure that there are systems and process in place to ensure a standardised and consistent approach by staff in the insertion and ongoing maintenance of invasive devices.

The unit achieved compliance in this section of the audit tool.

Guidelines for the prevention of infection for invasive devices were available and up to date. All new staff as part of their orientation and learning package receives training and competency assessment on intravenous cannulation, administration of medication and nasogastric/orogastric tube insertion. Long-term staff can avail of update training however; this is based on staff identifying their own need for an update in practice. With the exception of nasogastric tube insertion, there is no programme of update training for long term staff where they are assessed competent in the skill of insertion and maintenance of a device. Competency is a key part of the use of any medical device as outlined in the DHSSPS Medical Devices Control Assurance Standard.

Audit results reviewed evidenced 100 percent compliance with peripheral line insertion and ongoing management care bundles; supported by good staff knowledge. Staff should ensure the batch number for invasive devices is documented.

As part of the inspection, it was identified that the current in use peripheral safety cannula, is not user friendly. Staff have experienced difficulty in inserting the device, on some occasions medical staff have had multiple attempts at insertion into the neonate. This issue has been raised with senior staff and should be reviewed by the trust medical devices group.

Taking Blood Cultures

A blood culture is a microbiological culture of blood. It is employed to detect infections that are spreading through the bloodstream. For organisations to comply with this section, they must ensure that a policy is in place, staff display knowledge and practical skills on the key principles and monitoring of the rate of blood cultures is carried out.

The unit achieved partial compliance in this section of the audit tool. An overarching trust approach to data analysis and dissemination of information is required to improve compliance within this intervention.

A trust guideline for ‘Taking Peripheral Blood Cultures in NICU’ is in place. Medical staff generally take blood cultures; some nursing staff can carry out

this procedure. As part of IPC induction, medical staff are sign posted to the trust DVD on taking blood cultures.

A 'blood culture results' sticker is in place to record the date, time, site of specimen, the result, and who the result has been communicated to. However, on review of documentation the date, time and site of a blood culture were not recorded.

Documentation reviewed evidenced that the unit has had no positive blood cultures between January – July 2015. Therefore, there is no incidence of blood culture contamination. At unit level, meetings are held between the neonatal manager, lead consultant and unit manager/deputy. Minutes of meetings evidenced the discussion of blood cultures as a standing item on the agenda, under IPC. Blood culture results are emailed to the lead consultant on a monthly basis and available on the unit IT SharePoint system for all staff to access. The unit should ensure all staff are familiar with this system and the information available.

In the event of positive blood cultures, being isolated there is currently no trust system in place to identify the incidence of blood culture contamination or false positives. Blood culture contamination should be less than three per cent.

Inspectors were advised that there is no overarching trust system in place to discuss and compare the rate of positive blood cultures with units within the trust. IPC advised that monthly surveillance meetings only discuss alert organisms and not the rate of positive or false positive blood cultures.

Compliance with best practice when taking blood cultures is audited for all blood cultures taken. Audit results are recorded on Share point. However, the unit has not correlated this into an overall per cent, therefore are unable to indicate an overall compliance rate in achievement of best practice.

Antimicrobial prescribing

Antibiotic prescribing should be carried out in line with evidence-based antimicrobial guidelines. This should improve and reduce the progression of antibiotic resistance and optimise patient outcomes. For organisations to comply with this section they must ensure that there are systems and process in place to ensure a standardised and consistent approach by staff to prescribing. Prescribing should be monitored and reviewed.

The unit achieved partial compliance in this section of the audit tool. Improvement has been made since the last inspection, however further work is required to reach year two compliance score.

The neonatal antibiotic formulary was due for review in January 2015; this has yet to be carried out. Staff can access the Neonatal Network Northern Ireland (NNNI) 'Guidance on Management of Infants who are at risk of Early Onset Sepsis' and the NNNI 'first choice' antibiotic ready reckoner.

Antimicrobial usage is audited in line with anti-microbial guidance. Documentation reviewed on adherence to guidelines evidenced 100 per cent compliance for those prescriptions audited. The unit does not have a dedicated pharmacist however a pharmacist is linked to the unit for advice and support as necessary.

A trust wide antimicrobial stewardship group is in place with clear links between antimicrobial stewardship and infection prevention and control. This group centrally reviews audit results, incidents and usage.

The unit does not have antimicrobial ward rounds. Microbiology staff visit the hospital on a Monday, Wednesday and Friday. In discussions with medical staff during the inspection, it was reported that microbiology provide good supportive role for staff within the unit.

A review of notes and medicine Kardex evidenced that information to guide prescribing of antimicrobials was recorded. This included the indication to prescribe an antimicrobial, and the planned duration of the antimicrobial.

Antimicrobial usage was reviewed, as part of a Point Prevalence Survey carried out in June 2012. There had been no patients prescribed antimicrobials within the unit during the survey; no issues were identified.

Enteral Feeding or Tube Feeding

Enteral feeding or tube feeding is defined as a mode of feeding that delivers nutrients directly into the stomach, duodenum or jejunum (gastrostomy, jejunostomy, naso/orogastric tubes). For organisations to comply with this section staff should display awareness of guidelines for the management of an enteral feeding system; insertion, set up and care. Adherence to best practice should be monitored.

The unit achieved compliance for this section of the audit tool.

Guidance on the 'Insertion of a naso/orogastric enteral feeding tube and Staff Competency' was updated in January 2014. However, the guidance does not detail the time interval for changing the enteral feeding tube. The inspection team were advised that due to the use of different feeding tubes, the trust has decided to omit this detail from the guidance and instructed staff via Safety Briefings to change tubes every 3-5 days. An overarching statement about replacement of feeding tubes should be added to the guidance on review.

Enteral feeding lines are not routinely labelled; there is no requirement within trust guidelines for staff to carry out this practice. These guidelines and practice should be reviewed in line with National Patient Safety Agency (NPSA) Alert 19 – Promoting safer measurement and administration of liquid medicines via oral and other enteral routes. Account should also be taken of the high impact intervention for enteral feeding in which enteral feeding systems should be labelled to indicate the route of administration.

Staff advised that they have never had to manage a stoma site on a neonate, however stated that they could avail of stoma care advice and expertise within the trust if required.

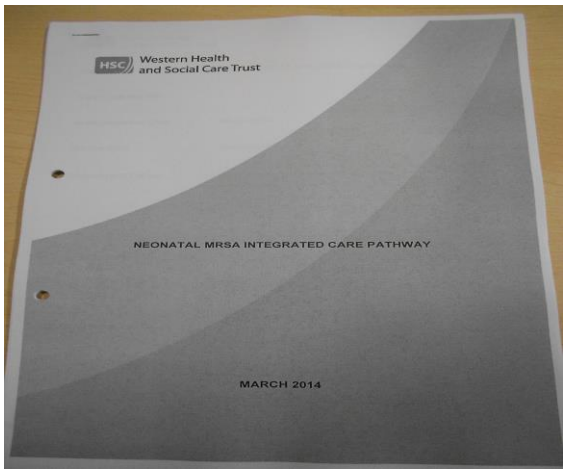
Staff displayed good knowledge of the storage, disposal, set up care and administration of enteral feeds and administration systems. However, on review of documentation there were gaps in the recording of the provision of mouth care on a special care nursing chart.

Compliance with best practice guidance for enteral feeding was monitored using a monthly enteral feeding care bundle. Full compliance had been achieved in audits reviewed for June and July 2015.

Screening for Meticillin Resistant Staphylococcus Aureus (MRSA) colonisation and decolonisation

The detection and treatment of MRSA should be carried out in line with DHSSPS Best Practice on Screening for MRSA Colonisation (HSS MD 12/2008). For organisations to comply with this section they must ensure that a screening and treatment policy is in place, staff display knowledge of the policy and adherence to best practice is monitored.

The unit achieved full compliance in this section of the audit tool.



Picture 3 - Neonatal MRSA Integrated Care Pathway

Trust guidelines for 'MRSA Screening and Treatment' and a 'Neonatal MRSA Integrated Care Pathway' are in place (Picture 3). Staff reported that there has been no incidence of MRSA (bacteraemia or colonised) within the unit since the inspection in 2013. Due to this, there has been no audit of compliance with MRSA management, isolation or completion of the care pathway. Audit tools are available to assess compliance if an MRSA case is isolated.

Despite having no recent experience, staff displayed good knowledge on the management of a neonate with MRSA.

4.0 Summary of Recommendations

The Regional Infection Prevention and Control Clinical Practices Audit Tool

Recommendations

1. It is recommended that longer-term staff receive update training and ongoing competency assessment in the management of invasive devices.

2. It is recommended that the trust medical devices group review the peripheral safety cannula used in NICU.

3. It is recommended that a trust wide system is developed to monitor the rate of blood culture contamination. This should be discussed at the trust HCAI Group and local MDT meetings. Results or actions taken should be fed back to clinical, nursing and IPC staff. **(Repeated)**

4. It is recommended that trust blood culture (positive, false positive,) results are reviewed and discussed at senior trust meetings. A system should be in place to compare the rate of positive blood cultures between units within the trust. Results or actions taken should be fed back to clinical, nursing and IPC staff.

5. It is recommended that all documentation is completed correctly for the taking of blood cultures. An overall compliance rate should be correlated for adherence to best practice when taking blood cultures. This information should be fed back to staff, with action plans developed and independent verification carried out if issues are identified.

6. It is recommended that the Neonatal Antibiotic Formulary is reviewed and updated as required to ensure continued accuracy of guidance for staff.

7. It is recommended that electronic/computer aided prescribing tools should be available to assist with antimicrobial prescribing. **(Repeated)**

8. It is recommended that the 'Guidance on the Insertion of Naso/Orogastric Enteral Feeding Tube in NICU and Staff Competency' is reviewed and updated to include time interval for the replacement of enteral feeding tubes and labelling of enteral feeding lines.

5.0 Key Personnel and Information

Members of RQIA's Inspection Team

Sheelagh O'Connor	Inspector Infection Prevention/Hygiene Team
Thomas Hughes	Inspector Infection Prevention/Hygiene Team

Trust Representatives receiving Feedback

The key findings of the inspection were outlined to the following trust representatives as part of informal feedback delivered on the unit:

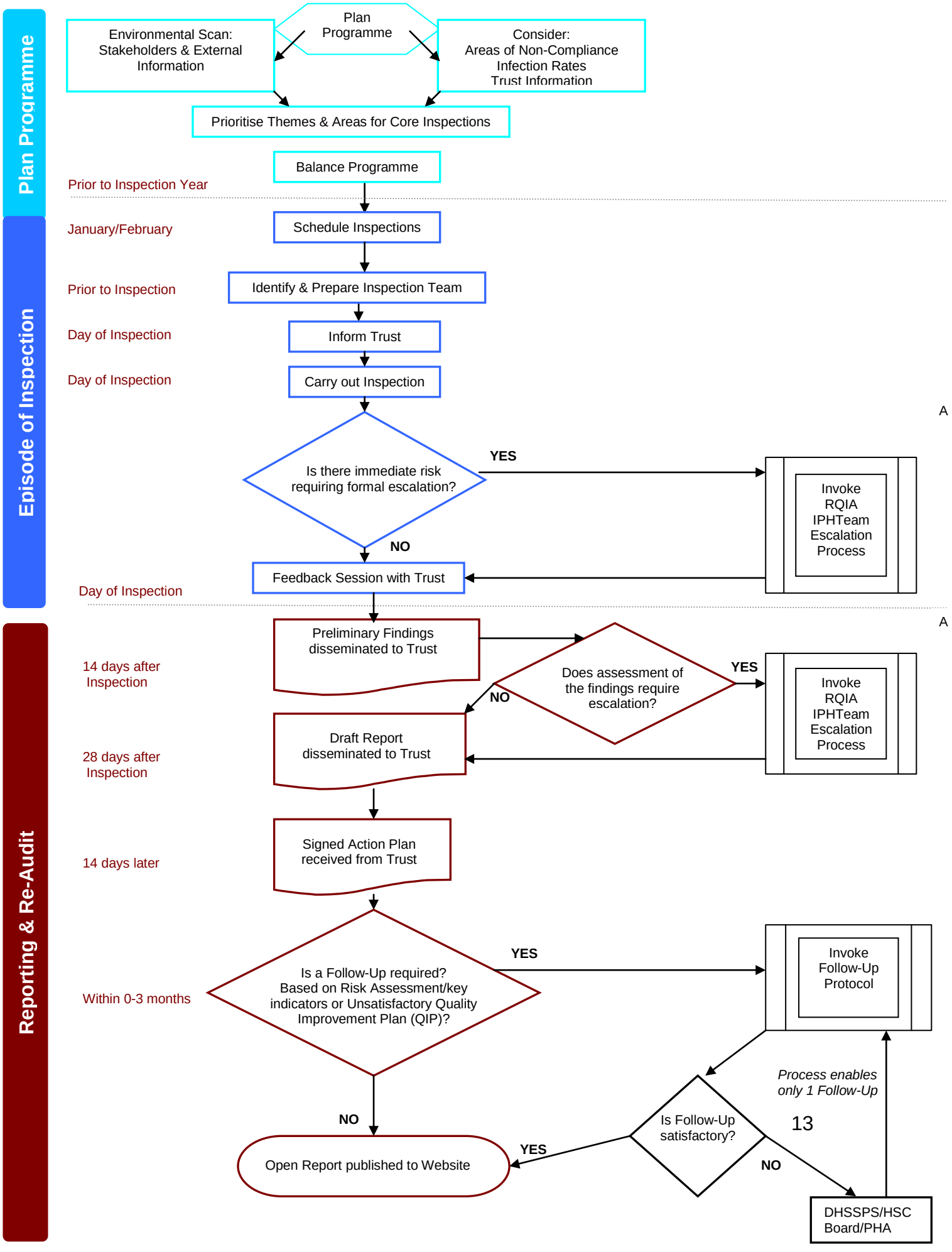
Anne Witherow	Assistant Director of Nursing
Mary McKenna	Head of Paediatric and Neonatal Services
Nuala Colton	Neonatal Manager
Shireen McGlone	Infection Prevention & Control Nurse
Ethna Curran	Staff Nurse
Anne McCarney	Staff Nurse

6.0 Augmented Care Areas

Based on DHSSPS guidance, the augmented care areas currently identified for inclusion in inspections are:

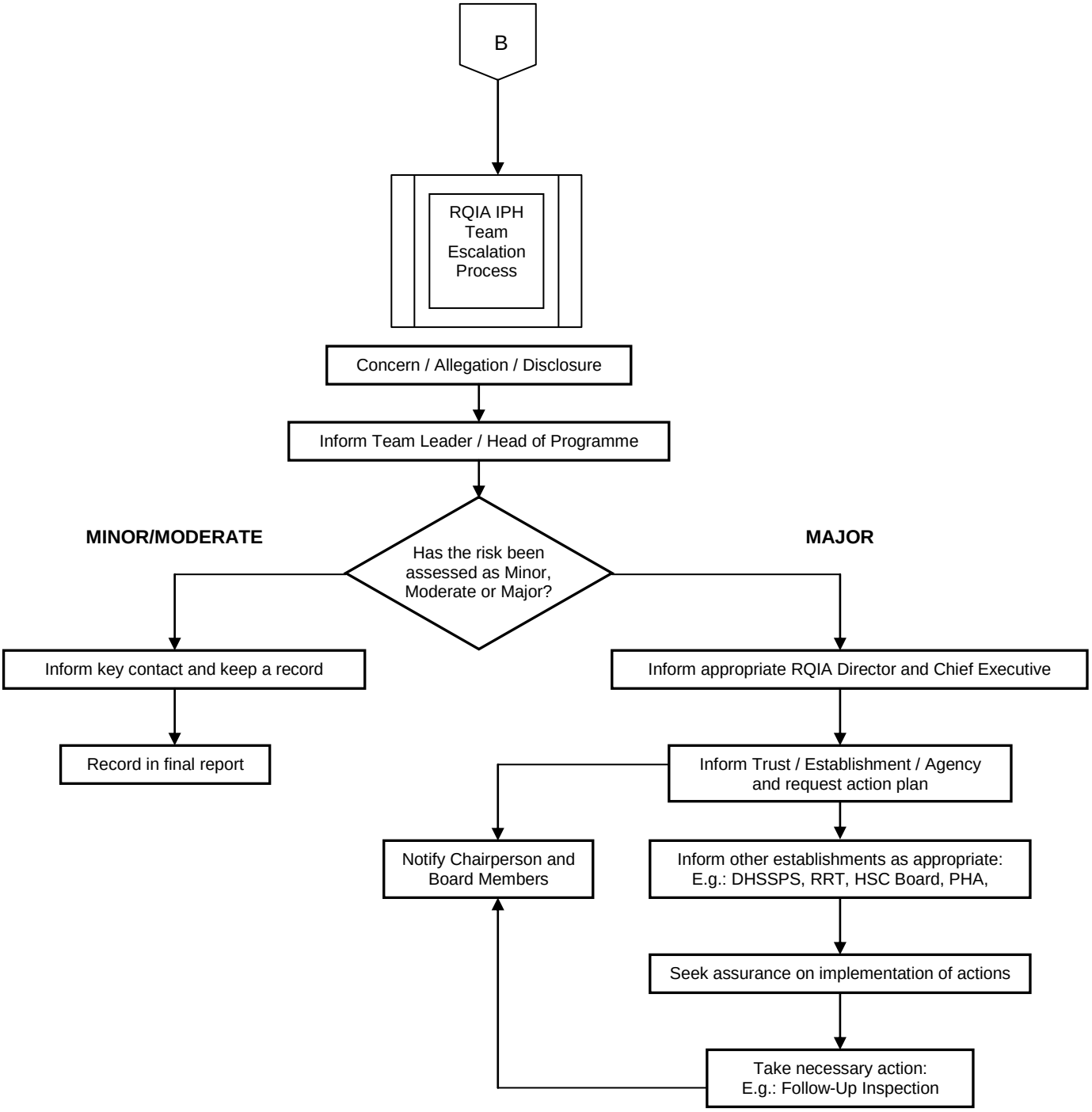
- neonatal and special care baby units
- paediatric intensive care
- all adult intensive care which includes cardiac intensive care
- burns units
- renal (dialysis) units
- renal transplant unit
- high dependency units (HDU)
- haematology
- oncology

7.0 Unannounced Inspection Flowchart



8.0 Escalation Process

RQIA Hygiene Team: Escalation Process



9.0 Quality Improvement Plan

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
The Regional Infection Prevention and Control Clinical Practices Audit Tool				
1	It is recommended that longer-term staff receive update training and ongoing competency assessment in the management of invasive devices.	**NNU**	A programme needs to be developed to ensure that staff are updated and undergo annual competency assessment in the management of invasive devices. A database set up to monitor compliance Competencies will be reviewed at appraisal	March 2016
2	It is recommended that the trust medical devices group review the peripheral safety cannula used in NICU.	**NNU**	Further training and an opportunity for evaluation of these devices needs to be made available locally	August 2016 (in line with new Drs starting)

3	It is recommended that a trust wide system is developed to monitor the rate of blood culture contamination. This should be discussed at the trust HCAI Group and local MDT meetings. Results or actions taken should be fed back to clinical, nursing and IPC staff. (Repeated)	NNU	Database to be set up Trustwide and made available on SharePoint MDT Unit meetings to continue with IPC presence. Standard agenda item to discuss all reported positive blood cultures. Blood culture audits continued and reviewed at local level. Positive HCAI reviewed and RCA completed and shared at Trust HCAI group and locally. Reports stored electronically on SharePoint and disseminated with all MDT staff.	March 16
4	It is recommended that trust blood culture (positive, false positive,) results are reviewed and discussed at senior trust meetings. A system should be in place to compare the rate of positive blood cultures between units within the trust. Results or actions taken should be fed back to clinical, nursing and IPC staff.	NNU	As above	March 2016

5	It is recommended that an overall compliance rate is correlated for adherence to best practice when taking blood cultures. This information should be fed back to staff, with action plans developed and independent verification carried out if issues are identified.	**NNU**	As above. Independent audits to be carried out.	March 2016

6	It is recommended that the Neonatal Antibiotic Formulary is reviewed and updated as required to ensure continued accuracy of guidance for staff.	NNU	Network Neonatal Antibiotic Formulary to be implemented when completed	Network to determine completion date
7	It is recommended that electronic/computer aided prescribing tools should be available to assist with antimicrobial prescribing. **(Repeated)**	**NNU**	This remains unachievable unless finance is made available.	Without investment this is not achievable.
8	It is recommended that the 'Guidance on the Insertion of Naso/Orogastric Enteral Feeding Tube in NICU and Staff Competency' is reviewed and updated to include time interval for the replacement of enteral feeding tubes and labelling of enteral feeding lines.	NNU	Guideline to be updated to reflect best practice Labels sourced and utilised	September 2015

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