The Regulation and Quality Improvement Authority

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RQIA
Unannounced Infection Prevention/Hygiene Augmented Care

Year 2 Inspection

Altnagelvin Neonatal Unit

2 and 3 September 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 Altnagelvin Hospital Neonatal Unit on 4 and 16 July 2013.

The Neonatal Unit is located on the second floor of the new South Wing Altnagelvin Hospital beside the Maternity Unit. The unit was officially opened in February 2009. The unit cares for premature babies, sick babies, any baby requiring special care and those babies who may need special attention during the first days of life.

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 Healthcare Hygiene and Cleanliness Standards and Audit Tool

As a result, this tool was not included as part of the year two inspections.

The neonatal unit did not achieve year two compliance level in the Regional Neonatal Infection Prevention and Control Audit Tool and the Regional Infection Prevention and Control Clinical Practices Audit Tool for year one. An unannounced inspection was undertaken to the neonatal unit on 2 and 3 September 2015 as part of the three-year improvement programme. The inspection team comprised of three RQIA inspectors. Details of the inspection team and trust representatives who received feedback can be found in section 6.

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 Altnagelvin Hospital was working to comply with the Regional Neonatal Infection Prevention and Control Audit Tool and the Regional Infection Prevention and Control Clinical Practices Audit Tool.

Inspectors observed:

- Inspectors have observed notable improvements within the unit from year 1 of the inspection. The unit has achieved year three compliance scores in year two in both the Regional Neonatal Infection Prevention

and Control Audit Tool and the Regional Infection Prevention and Control Clinical Practices Audit Tool

Inspectors found that the key areas for further improvement were:

- The layout and design of the general environment
- Antimicrobial prescribing

Inspectors observed and were informed of the following areas of good practice:

- Unit staff have developed an IPC handbook, specifically tailored for IPC practices within the neonatal unit.

- Inspectors were informed that unit staff aim to reduce the number of invasive procedures. The unit philosophy is to introduce early enteral feeding thus reducing the need for IV fluids and invasive lines.

- Staff are focused on reducing the degree of noxious stimuli within the unit. They do this by reducing noise and light levels, and by allowing babies to have undisturbed sleep time to allow them to recover and conserve energy.

- Staff are committed to improving breastfeeding initiation. The unit has a Lactation Consultant who provides ongoing support for mothers and staff with ongoing training needs.

- Staff are also reviewing the use of barcode scanning as a method of ensuring verification and traceability of expressed breast milk. It is hoped that this will be taken forward as a regional project.

- Over the past year, the post of a Practice Educator role has been implemented within the unit.

- Nursing handover sheets within the unit are now recorded and stored electronically.

- The neonatal unit has participated in a number of clinical research projects over the past six years, as part of the Northern Ireland Clinical Research Network. At present staff are working towards initiating a large multicentre trial of prophylactic enteral lactoferrin supplementation to prevent late onset infection in preterm infants.

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

The inspection in **2013** resulted in **19** recommendations**,** related to the Regional Neonatal Care Audit Tool, **17** have been addressed, **two** have been repeated and there are **two** new recommendations. There were **seven** recommendations, related to the Regional Infection Prevention and Control Clinical Practices Audit Tool. **Six** recommendations have been addressed, **one** has been repeated and there are **five** 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 Altnagelvin 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	Aug 2014	Sept 2015
Local Governance Systems and Processes	78	96
General Environment – Layout and Design	76	88
General Environment – Environmental Cleaning	95	100
General Environment – Water Safety	95	95
Neonatal Clinical and Care Practice	94	100
Neonatal Patient Equipment	80	100
Preparation, storage and use of Breast Milk and Specialised Powdered Infant Formula	77	98
Average Score	**85**	**97**

Table 2: Regional Infection Prevention and Control Clinical Practices Audit Tool Compliance Levels

Areas inspected	2013	2015
Aseptic non touch technique (ANTT)	82	100
Invasive devices	100	93
Taking Blood Cultures	74	95*
Antimicrobial prescribing	72	81
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	100
Screening for MRSA colonisation and decolonisation	91	100*
Average Score	**85**	**95**

* Symbol indicates that staff practice was not observed during the inspection. Information was obtained 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 Neonatal Infection Prevention and Control Audit Tool

The Regional Neonatal Infection Prevention and Control Audit Tool contains seven 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.

Regional Neonatal Infection Prevention and Control Audit Tool Compliance Levels

Areas inspected	Aug 2014	Sept 2015
Local Governance Systems and Processes	78	96
General Environment – Layout and Design	76	88
General Environment – Environmental Cleaning	95	100
General Environment – Water Safety	95	95
Neonatal Clinical and Care Practice	94	100
Neonatal Patient Equipment	80	100
Preparation, storage and use of Breast Milk and Specialised Powdered Infant Formula	77	98
Average Score	**85**	**97**

The findings indicate that an excellent standard of compliance was achieved in relation to the Regional Neonatal Infection Prevention and Control Audit Tool.

3.1 Local Governance Systems and Processes

For organisations to comply with this section, good governance should be displayed through management that displays effective decision-making and leadership. Systems and processes should be robust, and staff should be aware of their roles and responsibilities. Appropriate policies and procedures should be available. The unit achieved compliance in this section of the audit tool.

Leadership and Management

The unit management team have demonstrated strong leadership and management qualities in relation to infection prevention and control (IPC). The neonatal nurse manager and unit sisters had an excellent knowledge base on the principles of infection prevention and control (IPC) and the necessary measures to take in managing infection within the unit. As an active member within the Northern Ireland Neonatal Network (NNNI), the neonatal nurse manager has continued to participate in the development of regional policy and guidance documents, many of which were firmly embedded in staff practices within the unit. Unit staff, displayed good

awareness and an appreciation of the importance of infection prevention and control.

An area noted for improvement in year one of the inspection was to improve the accessibility of IPC information for all staff within the unit. In recognition of this issue, a local shared network (SharePoint) had been developed. The SharePoint network allows for all staff within the unit to access up to date IPC records and guidelines from any computer. Staff members within the neonatal unit at South West Acute (SWA) hospital are also able to access this network; which ensures close communication between both neonatal units within the trust.

Staff commented that they had a strong relationship with the IPC team who had always been very supportive in providing advice and assisting with IPC concerns or initiatives. Inspectors were informed that although IPC staff did not visit the unit on a daily basis they are readily available for advice by phone and generally made contact with the unit on a daily basis. The dedicated IPC nurse for the unit could also access the unit's SharePoint network to enhance IPC communications with unit staff. Inspectors were informed that visits by IPC staff would be increased for incidences of infection within the unit.

Inspectors were informed that the ratio of nursing and domestic staff were reviewed and increased to assist in the delivery of care and ensure adherence to good infection prevention and control practices. Medical staff shortages had resulted in the closure of two neonatal cots recently.

Review of Documentation

In contrast to the year one inspection, all documentation required for evidence and outlined in the appendix of the audit tool was available for inspectors to review.

A review of documentation evidenced a range of meetings, from management level to frontline staff, which feed into each other. IPC is a prominent agenda item in all these meetings.

Root cause analysis is a well-recognised way of identifying what, how and why patient safety incidents have occurred. The WHSCT conduct a Root Cause Analysis (RCA) on MRSA/ MSSA bacteraemia and Clostridium *difficile* infections. Nursing and IPC staff reported that a RCA had been undertaken on a very infrequent basis within the unit over the last number of years. However, the neonatal nurse manager was aware of their responsibility to report on incidents in relation to IPC and to take a multidisciplinary approach to incident management, including feedback for staff. This was evidence in the minutes of a review meeting that discussed the incidences of MRSA colonisation within the unit, which was available on the SharePoint network.

A trust overarching occupational health/infection prevention and control policy was available to negate the potential risk and transmission of infection. The

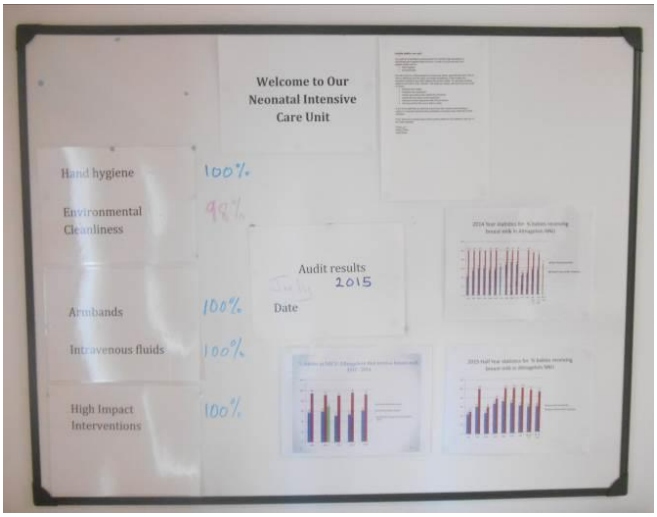
policy provides guidance to both managers and employees on necessary screening and vaccination in relation to a number of infectious conditions.

A system was in place for unit staff to identify and report maintenance and repair issues. The computerised recording system in the estates department captured this information.

Audit

Local and regional audits were undertaken to improve IPC practices and environmental cleanliness. A review of audit scores on the patient care performance dashboard from January 2015 highlighted excellent compliance scores with environmental cleanliness, hand hygiene and with the appropriate management of invasive devices used within the unit.

Evidence was available to show that this key performance data from audits was reported to unit staff and these results were displayed publicly at the entrance to the unit (Picture 1).



Picture 1: Audit scores displayed on the unit entrance notice board

When audits identified deficits in practice, action plans were developed to address poor practices. Minutes of recent meeting highlighted that there had been recent hand hygiene audit failures, mostly attributable when staff move from one room to another without decontaminating their hands. Alerted to this issue, a member of the IPCN team conducted a random validation audit of hand hygiene; full compliance was achieved.

Surveillance

Surveillance, the continuous monitoring of Healthcare Associated Infection (HCAI) is key to the control of infection. A surveillance programme can be used to implement improvement initiatives, assess effectiveness of clinical interventions and can quickly identify outbreaks of infection.

Inspectors noted that infection prevention and control audit and microorganism surveillance programmes were in place. Its effectiveness was evident in alerting staff to review incidences of MRSA colonisation within the unit. Multidisciplinary meetings had taken place to review cases within the unit. Inspectors were informed that following further analysis and molecular typing, all cases identified with a different MRSA strain. This would indicate that precautions to reduce the risk of transmission were working effectively. Action plans included enhanced cleaning, screening and use of decolonisation therapies within the unit.

Surveillance data was analysed by the microbiology and the IPC teams and presented at the trust surveillance meetings. This forum reviews the trust incidence of CDI, MRSA and MSSA bacteraemia in line with set PHA targets. Each case is reviewed for learning and trends.

As a member of the Vermont Oxford Network (VON), the unit continued to submit data to their databases. The primary goal of the database is to assist the unit in understanding their performance for purposes of quality improvement. Sepsis data from the unit can be compared with other units both regionally and internationally.

Training and Development

Staff infection prevention and control knowledge and up-to-date practical skills are a prerequisite for clinical staff to carry out their role in an effective manner.

Since the last inspection, the role of a practice educator had been introduced within the unit. Inspectors were informed that the practice educator's role was to provide targeted teaching and learning activities for staff to facilitate improvement in the quality of care. The practice educator would be responsible for ensuring that all staff competencies and training records are kept up to date.

Training records available highlighted that all unit staff had participated in the trust's induction programme and mandatory training on IPC. Staff attend face to face mandatory IPC training every two years.

All new band 5 nursing staff to the neonatal unit must progress through a set knowledge and skill IPC competencies when they first take up employment within the unit. Example competencies include ANTT practices and the decontamination of incubators and neonatal equipment.

Unit staff have developed an IPC handbook, specifically tailored for IPC practices within the neonatal unit. The contents include guidance for staff on surveillance, screening practices and schedule, ANTT, environmental cleanliness, decontamination of equipment, water safety, infection management plans, high impact interventions and staff training.

Medical staff provided evidence of competency in undertaking invasive procedures through Direct Observation of Procedural Skills (DOPS) assessments.

The IPC team are facilitating an IPC study day for all trust link nurses in October 2015.

Information and Communication

Information on infection prevention and control and the effective communication of this information is vital to ensure adherence to good practice.

A range of educational sources was available to advise parents and visitors of infection prevention and control precautions. Hand hygiene is an integral aspect of this and the inspection team were informed that parents receive appropriate guidance and a one to one session on hand hygiene, which is documented in the Infant Admission to NICU form.

Parents are provided with a comprehensive information booklet on the admission of their baby to the neonatal unit. This booklet provides essential infection prevention and control information for parents. It instructs parents in how to minimize the risk of the transfer of infectious organisms, examples include: not wearing stoned rings, watches and bracelets. Advice for parents on bringing food into the unit and the concept of 'bare below the elbow' has now been included within the information booklet.

A focus within the unit is to actively involve and encourage parents in care-giving. Inspectors were informed that a new discharge form is being introduced in which parents can take a lead in their readiness for the discharge of their baby.

3.2 General Environment

Layout and Design

For organisations to comply with this section of the audit tool they must ensure adequate facilities are available for the delivery of care. This includes the space available to carry out care on the neonate, decontaminate equipment and to ensure effective isolation.

The unit is a bright, spacious, modern facility that contains 18 funded incubator/cot spaces. Neonatal staffing levels are based on the British Association of Perinatal Medicine (BAPM) nurse to neonate ratio e.g. 1:1/1:2/1:4. Bays are designed for four or six spaces which supports maximum use of staff.

In the intensive care, high dependency and special care baby areas the core clinical space around the incubator/cot area for the delivery of care, was not within 80 per cent of the minimum dimensions currently recommended for existing units by the DHSSPSNI as outlined in the audit tool (Picture 2).

Picture 2: Cot spaces within NICU

Inspectors noted that although the space does not meet current recommended requirements, staff are working within these limitations to deliver safe and effective care.

There were two single isolation rooms equipped to intensive care level. Although a two-cot nursery equipped to intensive care level was not available, it was reported that bays could be reconfigured to cohort two babies if isolation is required.

On the year one inspection, there were concerns regarding the size and ventilation in the dirty utility room. The dirty utility room now has improved ventilation and has been extended to accommodate additional storage cupboards and trolleys. The additional space has improved the working area; staff are now able to clean incubators and cots in a defined dirty to clean process and in a cooler environment.

Alterations have also been made to the equipment store. The room was tidy, accessible and only used for clean equipment (Picture 3). Equipment in need of repair was cleaned at the bedside and removed immediately to the technical department. The blood gas monitoring equipment was still located in the equipment store but in a more defined work area.

Picture 3: Clean and tidy equipment store

Environmental Cleaning

For organisations to comply with this section they must ensure cleaning staff display knowledge of cleaning policies and procedures and are competent in cleaning hand washing sinks. Environmental cleaning audits should be carried out and the infection prevention and control team should be consulted when infection has been identified.

Good practice was observed and the unit achieved full compliance in this section on environmental cleaning. Environmental cleaning, guidelines, audit and staff competency based training were reviewed. These evidenced good practice in adhering to current guidelines for cleaning. On questioning, staff displayed good knowledge on cleaning procedures and adherence to guidelines. There was a regular programme of de-cluttering in place and terminal cleans were randomly validated by cleaning staff supervisors.

Water Safety

For organisations to comply with this section, they must ensure that an overarching water safety plan and individual area risk assessment plan is in place. Water sampling, testing, flushing and maintenance were carried out correctly and there was a mechanism in place to report water analysis results.

The unit was compliant in relation to water safety. An overarching trust water safety plan was in place. An individual water risk assessment had been undertaken within the unit although it needs reviewed. The water safety plan and risk assessment were available on the Unit SharePoint network for staff to review.

Collection of tap water samples to facilitate microbiological organism testing and analysis had been carried out. The trust carried out scheduled water sampling for legionella and pseudomonas *aeruginosa* from all water outlets in the neonatal unit. All results of water analysis were reported to the trust water safety group. The group is inclusive of staff from IPC, estates and clinical representatives.

Within the unit, all taps were flushed daily to avoid stagnant water conditions. All flushing records were available for the inspection team to review.

Hand washing sinks were used only for the purposes of hand washing. A system was in place to address any issues raised with the maintenance of hand washing sinks and taps.

Neonatal Clinical and Care Practice

For organisations to comply with this section they must ensure that, the delivery of care is provided in a way that negates the risk of transmission of infection. This is provided through adequate staffing, monitoring of neonate movement, infection control screening policies and adherence to DHSSPSNI and local guidance on cleansing the neonate.

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

On the day of inspection, staffing levels were in line with the number of incubator/cot spaces to ensure optimal infection prevention and control practices.

An incubator/cot tracking system was in place to record the movement of neonates within and outside the unit. An incubator/cot mapping system recorded the movement of babies within the unit. This information provided staff with the ability to carry out a retrospective placement tracing exercise, if required.

Local screening policies/protocols were in place. When a baby was admitted into the neonatal unit or transferred in from another hospital, they were screened for pseudomonas and MRSA as part of the admission procedure. Routine weekly screening for Pseudomonas and MRSA took place every Monday for all babies in the unit.

A procedure for personal care of the neonate was in place and known by staff. Staff used alcohol rub after hand washing and when caring for the neonate. Risk factors that cause skin injury were identified and documented within the Patient's Clinical Management Plan. Staff were aware of the safe handling and removal of maternal secretions. Personal protective equipment was worn as per policy when washing infant/handling infants until maternal blood and secretions were removed. Risk factors that cause skin injury were identified and documented on the Patient's Clinical Management Plan.

On transfer of neonates from the unit, staff completed the regional NNNI neonate notification of alert organism status transfer form to ensure the receiving unit was aware of the neonate's colonisation/infection status.

Inspectors were informed that if the neonate's admission screens or if their results following discharge or transfer to another ward were positive, the receiving or transferring wards were routinely informed of these results. A communication protocol was in place that highlighted the nominated responsibilities of staff in informing receiving or transferring units of results and patient infection status.

Neonatal Patient Equipment

For organisations to comply with this section they must ensure specialised neonatal equipment is effectively cleaned and maintained. Audits of equipment cleaning and education on the use of equipment should be available.

There was notable improvement in this section of the audit tool where full compliance was achieved.

Guidelines were in place for the cleaning, storage of and replacement of specialised neonatal equipment. Specialised neonatal equipment was clean and in a good state of repair. Equipment cleaning schedules were in place and well completed. Senior nursing staff audited adherence to guidelines for the cleaning of specialised equipment. All staff were competency assessed in the decontamination of incubators and the continuous positive airway pressure (CPAP) machine.

Preparation, Storage and Use of Breast Milk and Specialised Powdered Infant Formula

For organisation to comply with this section they must ensure that preparation, storage and use of breast milk and specialised powdered infant formula is carried out correctly. Policies and procedures should be in place, known and implemented by staff.

There was notable improvement in this section of the audit tool where full compliance was almost achieved.

Protocol/guidelines for the collection, storage and use of breast milk were available. A risk assessment was in place in relation to the collection, storage and use of breast milk. Temperature checks were carried out on receipt of donor milk. Evidence was available to indicate that the milk fridge/freezer was routinely cleaned with temperature checks completed consistently. Donor milk was stored, used and disposed of as per trust guidance.

Staff should ensure that the date and time of expression of breast milk is recorded and the fortifier label template used when fortifier is added to patient ID labels.

4.0 Inspection Findings: Regional Neonatal 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	**2013**	**2015**
Aseptic non touch technique (ANTT)	82	100
Invasive devices	100	93
Taking Blood Cultures	74	95*
Antimicrobial prescribing	72	81
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	100
Screening for MRSA colonisation and decolonisation	91	100*
Average Score	**85**	**95**

* Symbol indicates that staff practice was not observed during the inspection. Information was obtained through staff questioning and review of documentation.

The findings indicate that year three overall compliance was achieved in relation to the Regional Infection Prevention and Control Clinical Practices Audit Tool. An area for improvement is most notably in antimicrobial prescribing.

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.

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

A trust ANTT policy was available for staff. ANTT awareness and training was part of all clinical staff induction and two yearly mandatory IPC training. To reinforce ANTT skills, staff could utilise skill stations as part of mandatory

training. Skill stations included ANTT practice with venepuncture, urinary catheterisation, obtaining blood cultures, cannulation and ongoing management of the cannula. Training within the unit was also supported by the use of ANTT e-resources which can be viewed via the local intranet.

Nominated unit ANTT leads continued to assess the knowledge and practice of all nursing and medical staff on a yearly basis and sign them off as ANTT competent. ANTT competency was assessed on a range of interventions including venepuncture, administration of intravenous antibiotics, peripheral venous cannulation and the obtaining of blood cultures. ANTT pictorial guidelines on these interventions were found displayed throughout the unit and on the SharePoint network (Picture 4).

Picture 4: Displayed ANTT pictorial posters

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 with invasive devices were available and up to date. All new band 5 nurses in the unit must progress through a set knowledge and skill competencies in the safe management of peripheral venous cannula, central and arterial lines and the insertion of nasogastric/orogastric tubes.

Long-term staff can avail of update training however; this was based on staff identifying their own need for an update in practice. With the exception of nasogastric tube insertion, there was no programme of update/refresher training for long term staff following their initial assessment of competence 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, central line and urinary catheter care bundles.

Inspectors identified on a peripheral venous cannula document, the batch number and the gauge number of the device were not recorded.

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 compliance in this section of the audit tool.

A trust guideline for 'Taking Peripheral Blood Cultures in NICU' was in place. Medical staff and the Advanced Neonatal Practitioner (ANNP) were responsible for obtaining blood cultures within the unit.

As part of medical staff induction within the unit, the ANNP provided update training in relation to the obtaining of blood cultures. Medical staff could also utilise a blood culture ANTT skill station during IPC mandatory training.

When blood cultures were taken, a label was documented to record the baby's name, the date, time and site of specimen, the result, and whom the result had been communicated to.

Compliance with best practice when taking blood cultures was audited for the majority of all blood cultures obtained within the unit. Full compliance with best practice had been achieved this year. Audit results were shared with all unit staff on SharePoint.

The rate of positive blood cultures and incidence of contaminated samples were monitored and reviewed within the trust. From January 2015, 191 blood culture samples had been obtained within the unit, 183 samples were negative, eight were positive and the contamination rate was 3.6 per cent.

Evidence from a recent meeting highlighted that these results were discussed by medical, nursing and IPC staff. An action plan had been developed to reduce blood culture contamination rates, which includes further training and auditing of practice.

Blood culture results were emailed to the lead consultant on a monthly basis and available on the unit SharePoint system for all staff to access.

Inspectors evidenced that there was an overarching trust system in place to discuss and compare the rate of positive blood cultures with other units within the trust. The unit continued to submit data to the Vermont Oxford Network, which allows for comparisons of positive samples with other neonatal units both locally and internationally.

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 had 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 had yet to be carried out. Staff could access the NNNI 'Guidance on Management of Infants who are at risk of Early Onset Sepsis' and the NNNI 'first choice' antibiotic ready reckoner. The trust antimicrobial pharmacist was a member of the NNNI task group that is responsible for the development of a new regional Antimicrobial guide. It was anticipated that this regional document would be available for use within the next number of months.

Antimicrobial usage was audited in line with anti-microbial guidance. Documentation reviewed on adherence to guidelines evidenced good compliance for those prescriptions audited. The unit had a dedicated pharmacist.

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

The unit did not have antimicrobial ward rounds. In discussions with medical staff during the inspection, it was reported that microbiology provided a good supportive role for staff within the unit as and when required.

A review of notes and medicine Kardexes 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. Electronic/computer aided tools were not available within the unit to assist with antimicrobial prescribing.

Antimicrobial usage was reviewed, as part of a Point Prevalence Survey carried out in June 2012. During the point prevalence survey, the unit achieved 100 per cent compliance with antimicrobial prescribing guidelines.

The WHSCT also participated in a global PPI survey in 2015; the unit achieved 100 per cent compliance with prescribing guidelines.

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 full compliance for this section of the audit tool.

Staff displayed good knowledge of the storage, disposal, set up care and administration of enteral feeds and administration systems.

Guidance on the 'Insertion of a Naso/orogastric Enteral Feeding Tube and Staff Competency' was updated in January 2014. The guidance did not detail the time interval for changing the enteral feeding tube however; during safety briefings, staff had been updated to change the tubes every 3 - 5 days. An overarching statement about replacement of feeding tubes should be added to the guidance on review.

Enteral feeding lines were routinely labelled; staff should ensure that labels are always signed.

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.

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 from January 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.

Trust guidelines for 'MRSA Screening and Treatment' and a 'Neonatal MRSA Integrated Care Pathway' were in place. Staff reported that there had been no incidence of MRSA (bacteraemia) within the unit since the previous inspection.

As previously discussed within the surveillance section of this report, the trust surveillance system alerted staff to review incidences of MRSA colonisation within the unit. The trust surveillance officer and the IPC team monitored adherence to the MRSA policy and care pathway. Results evidenced that full compliance with best practice was achieved; results are reported to the Trust board annually.

Staff displayed good knowledge on the management of a neonate with MRSA. Unit staff also developed an MRSA screening information booklet for families of neonates.

5.0 Summary of Recommendations

The Regional Neonatal Care Audit Tool

1. It is recommended that Infection prevention and control staffing levels should be reviewed to facilitate daily visits to the unit. **(Repeated)**

2. It is recommended that adherence to core clinical space recommendations and an improvement in the facilities available within the unit should be reviewed as part of any refurbishment/new builds planning. **(Repeated)**

3. It is recommended that the unit water risk assessment is reviewed

4. It is recommended that staff ensure that all relevant documentation is recorded on expressed breast milk and the relevant label is fixed to the bottles when fortifier is added.

The Regional Infection Prevention and Control Clinical Practices Audit Tool

Recommendations

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

6. It is recommended that all documentation is completed correctly for the insertion of invasive devices.

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

8. It is recommended that antimicrobial ward rounds are carried out.

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

10. 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.

6.0 Key Personnel and Information

Members of RQIA's Inspection Team

Thomas Hughes	Inspector Infection Prevention/Hygiene Team
Lyn Gawley	Inspector Infection Prevention/Hygiene Team
Margaret Keating	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:

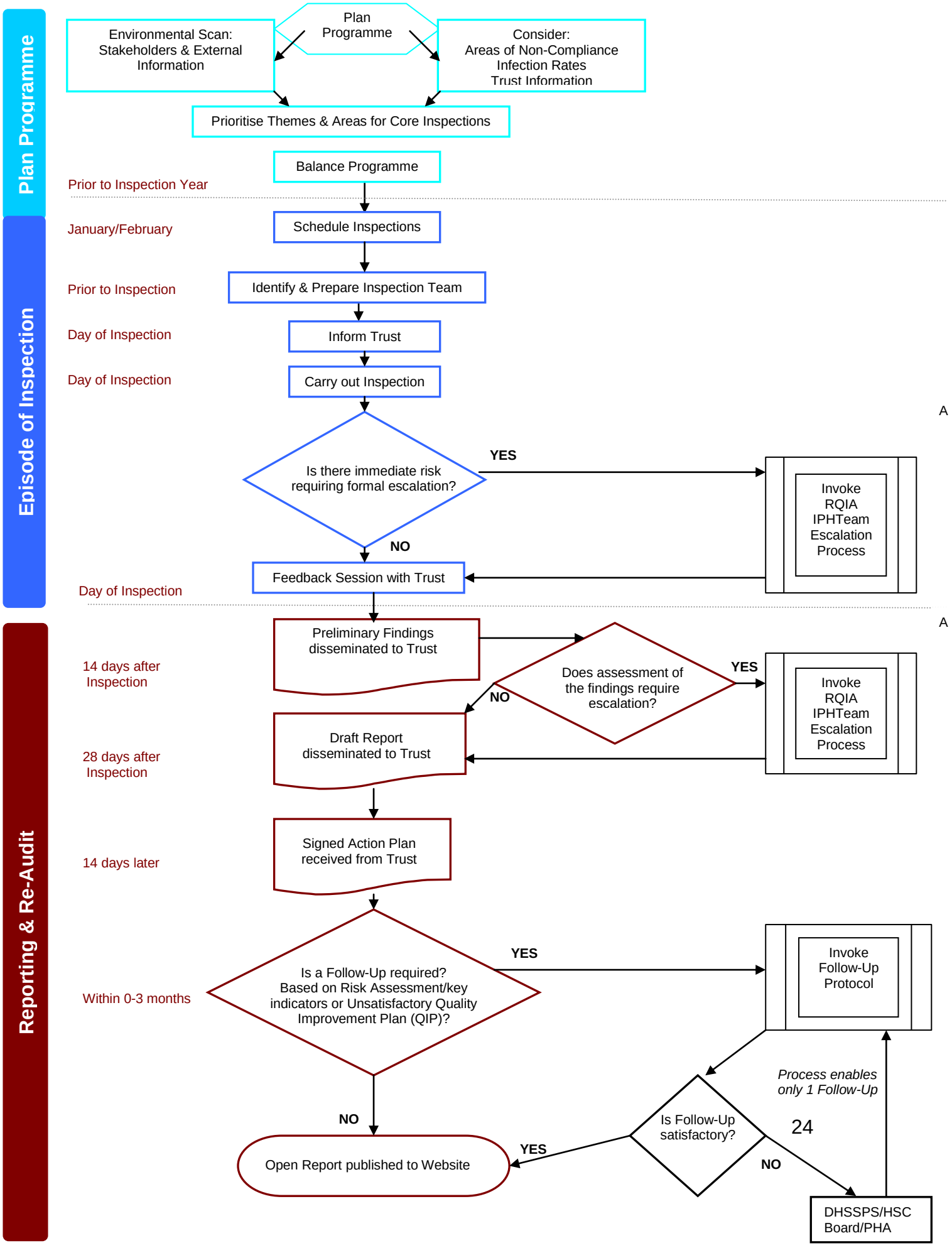
Mary McKenna	Head of Paediatrics and Neonatal services
Kate McDaid	Assistant Director Women and Children's Healthcare
Nuala Colton	Neonatal Nurse Manager
Wendy Cross	Lead Nurse Governance and Performance
Ciara Doherty	Neonatal Unit Sister
Angela Hughes	Advanced Neonatal Practitioner
Sonia Gormley	Support Services Manager
Eileen Gingell	Lead Pharmacist Women and Children's (Acting)
Nyree McKenny	Infection Prevention and Control Nurse

7.0 Augmented Care Areas

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

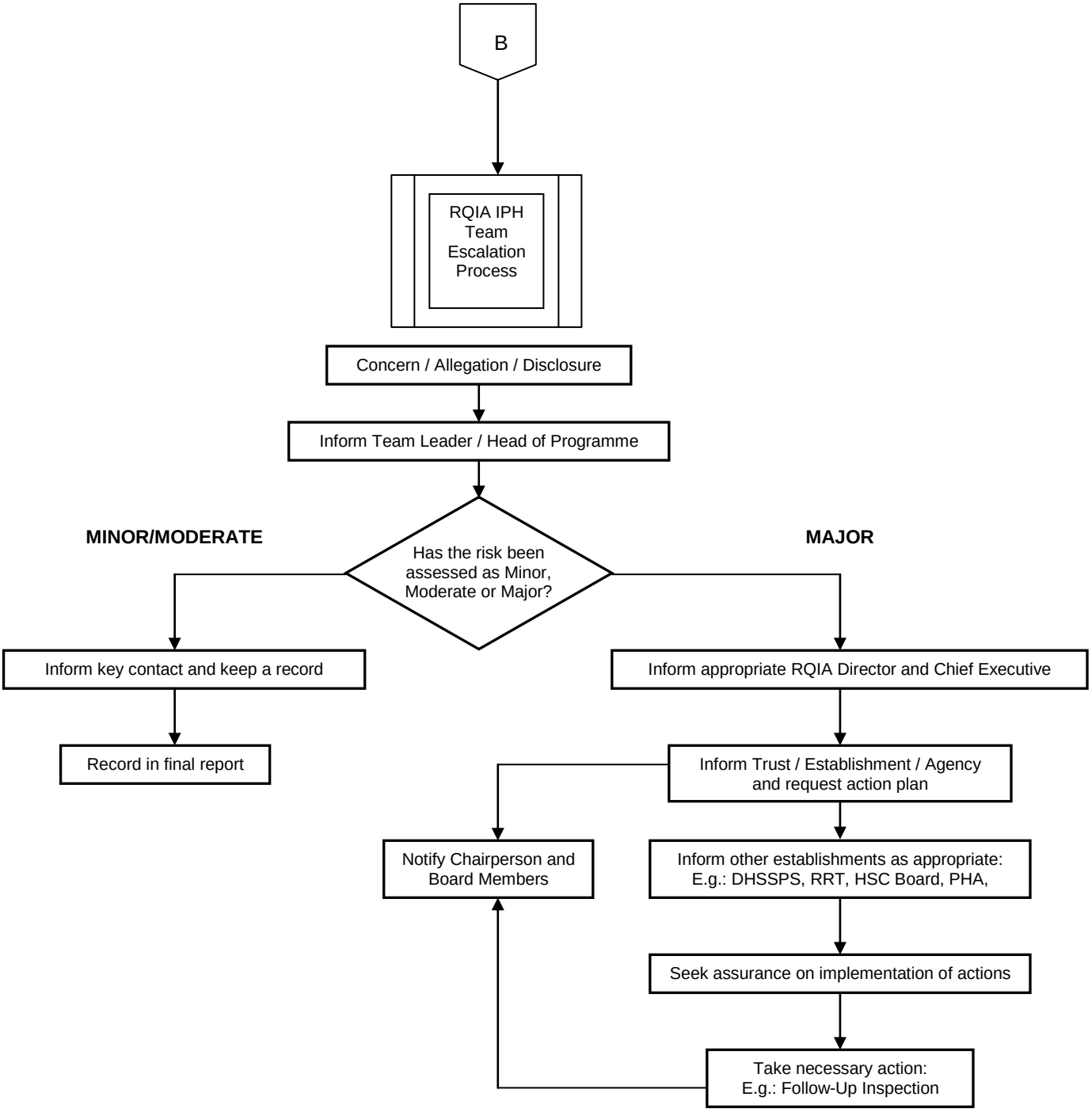
- neonatal and special care baby units
- paediatric intensive care
- all adult intensive care which includes cardiac intensive care
- burns units
- renal (dialysis) units
- renal transplant unit
- high dependency units (HDU)
- haematology
- oncology

8.0 Unannounced Inspection Flowchart



9.0 Escalation Process

RQIA Hygiene Team: Escalation Process



10. Quality Improvement Plan

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
The Regional Neonatal Care Audit Tool				
1.	It is recommended that Infection prevention and control staffing levels should be reviewed to facilitate daily visits to the unit. **(Repeated)**	IPCT	Current IPCN staffing levels do not allow for daily visits. However, when risks are identified daily communication is present. This is also strengthened by IPCNs having access to the Neonatal SharePoint. Regular communication between IPC Link Nurse and Nurse Manager (currently monthly meetings established). Validated HII audits undertaken by IPCNs. A business case for additional IPC staff to enable daily visits was prepared. We have been advised that the Trust cannot submit business cases unless invited to do so by the commissioners. As a result a proposal to be invited to submit a	Outstanding

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
			business case will be tabled.	
2.	It is recommended that adherence to core clinical space recommendations and an improvement in the facilities available within the unit should be reviewed as part of any refurbishment/new builds planning. **(Repeated)**	Estates	The core clinical space recommendations cannot be changed at this time due to restrictions of the building. However, they will be reviewed during any future refurbishment of the unit.'	Achieved
3.	It is recommended that the unit water risk assessment is reviewed.	Estates	Will be reviewed and updated at the next Water safety meeting	December 2015
4.	It is recommended that staff ensure that all relevant documentation is recorded on expressed breast milk and the relevant label is fixed to the bottles when fortifier is added.	NICU	All staff have been updated and new staff will undergo training. This will be added to the unit Induction booklet.	Completed
The Regional Clinical Practices Audit Tools				
5.	It is recommended that longer-term staff receive update training and ongoing competency assessment in the management of invasive devices.	NICU	A programme of competency assessments will be developed and all staff will undergo assessments	May 16
6.	It is recommended that all documentation is completed correctly for the insertion of invasive devices.	NICU	All staff will undergo education in the necessary documentation. Labels updated to include all relevant	March 16

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
			information. Medical staff to be reminded at time of insertion.	
7.	It is recommended that the Neonatal Antibiotic Formulary is reviewed and updated as required to ensure continued accuracy of guidance for staff.	NNNI	This is currently a regional initiative. Local formulary to be reviewed and updated	Aim for this to be available within 1 year December 15
8.	It is recommended that antimicrobial ward rounds are carried out.	Consultant Microbiologists	Current Consultant Microbiology staffing levels do not allow for daily visits. However, Microbiologists are readily available for advice and information	Not achievable
9.	It is recommended that electronic/computer aided prescribing tools should be available to assist with antimicrobial prescribing. **(Repeated)**	Antimicrobial Pharmacist / Consultant Microbiologists	This is not currently achievable as lack of funding is available. Antimicrobial prescribing guidance and the BNF for children are available on the intranet.	Without investment this is not achievable
10.	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	NICU	Nursing staff reviewed and completed	Completed

Reference number	Recommendations	Designated department	Action required	Date for completion/ timescale
	time interval for the replacement of enteral feeding tubes and labelling of enteral feeding lines.			

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