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## North Central & North East London Neonatal ODN: Nursing and Practice Educators Subgroup, Audit Project & Report

# Enhanced Infection Control Nursing Audit for Neonatal Care


**Report Written by:**
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# Content:



# Enhanced Infection Control Audit Report

**Background**; During the re-organisation of the NHS in 2012/13 the neonatal networks in London also underwent changes with the merger of previous network boundaries. The North East London and North Central London perinatal networks merged to form one network. This merger created a network of 14 neonatal units, with 4 regional or lead centres.

The funding of networks and no over arching management structure made clear work plans difficult during 2013. At this time there were not clear drivers for the network to formulate, although core meetings were on going and merger collaboration was taking place.

In order to support cohesion of the nursing teams and to ensure that Practice Development Nurses (PDN) workforce subgroups from both of the old network structures was supported it was agreed during early meetings, that a project that;

- supported benchmarking and clarification of best practice
- was informative for all units and would allow shared learning and quality improvements

would be of benefit and a good way to work across the newly formed operational delivery network (ODN). An audit, pan network, was defined as a project that would meet these criteria.

**Context:** Care Quality Commission (CQC) inspections were pending across all Trusts in the ODN and one of the key issues identified at the network lead nurse and PDN sub group was that of infection prevention and control. Coupled with the on-going and evolving environmental challenges with Pseudomonas and the national work relating to Department of Health (DH) [2,3,4], together with recommendations for water management and Pseudomonas management in augmented care units.

At the subgroup meetings there was discussion about inter unit communication regarding infection and individual unit's management of babies with infection. It was felt that this was a significant factor in the delay in the repatriation and transfer if babies.

As a consequence infection prevention and control was defined as an audit of value for all the units and supportive for the network as a whole in regard to transfers and patient pathways, good practice and benchmarking.

**The Audit Tool:** The aim of the audit was to allow a higher level overview of infection prevention control managements, standards and benchmarking in the neonatal units in the ODN.

A "new eyes" approach made the audit attractive and there was an added benefit of shared learning of both positive and negative points from the audit.

The audit tool was designed taking into account current research base, campaigns, recommendations and standards that were both historical and new. A review of current literature and national documents pertaining to the neonatal environment was undertaken and from this work audit points were defined that allowed assessment and a realistic approach to the general day to day working of neonatal care units.

A scoring system was then applied to the tool and a feed back proforma that supported identification of key areas of strength and weakness for each of the units and for the network as a whole.

***See appendix 1.***

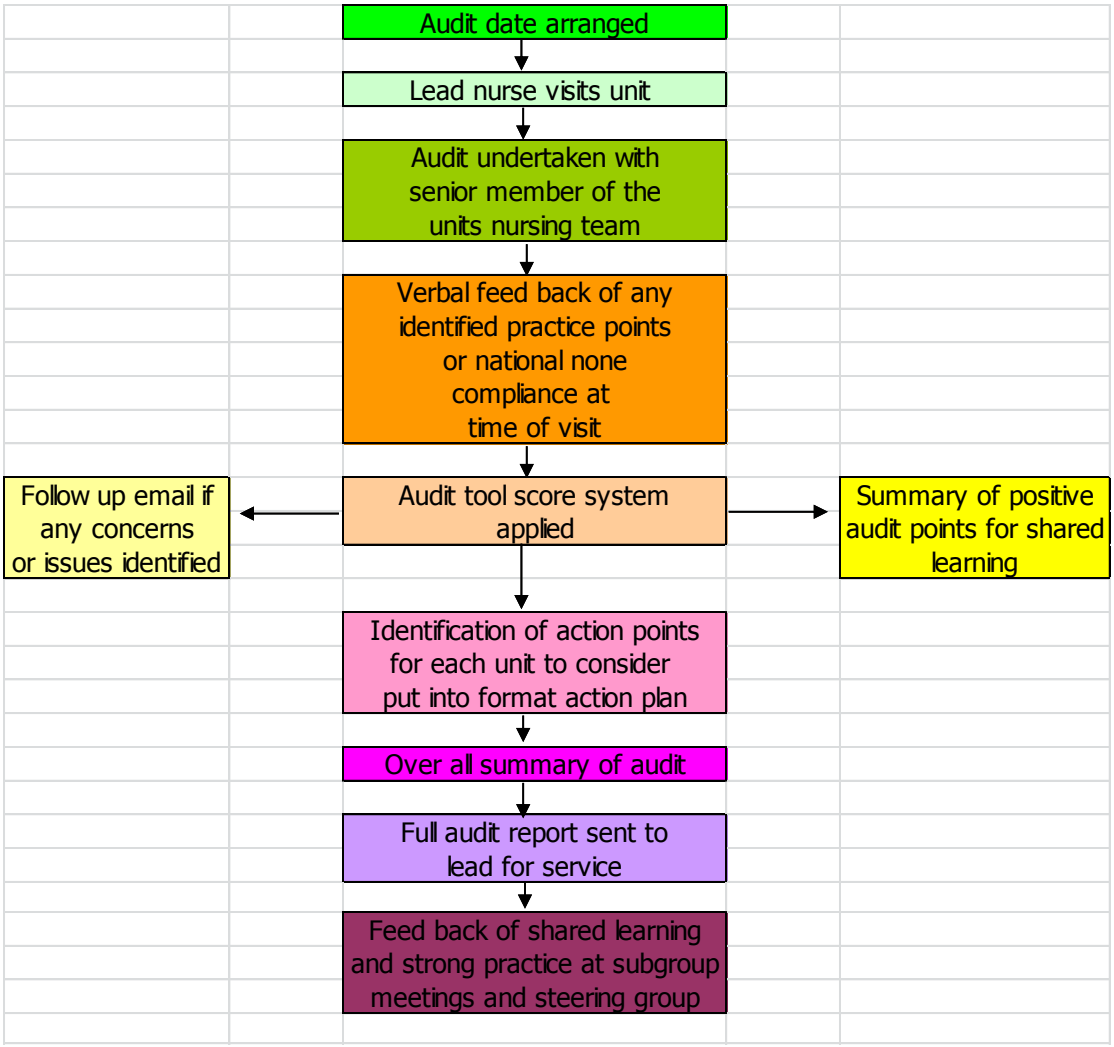
**Undertaking the Audit:** It was agreed by the quorum of the lead nurses and PDN subgroup that the audit would be undertaken by the network lead nurse. At this time there was a vacancy of 0.25 WTE of lead nurse time and this made the process challenging, however recruitment into the vacant role took place in April 2014 which allowed completion of the audit.

A gant chart was used to deliver the audit and a trial of the tool was undertaken in the Homerton NICU.

In order to ensure this was an open and non subjective approach for the audit the Lead Nurse for the East of England was invited to come to the Homerton NICU to undertake the audit, and assess the reliability, flexibility and functionality of the audit tool. This first audit took place in August 2013. The final audit of all units was completed in May 2014. There were a total of 15 units in the NCNE ODN at the start of the unit. One of the units was due to close and a second was pending closure; as the Trusts that these units were in had 2 units in their organisations the remaining service was audited, therefore a total of 13 neonatal units were audited.

**Openness and Collaboration:** The principle factor that made the audit workable and of benefit was the positive attitude of the lead nurses for each unit. There was an across the board welcome for the network nurse to visit each service and an open and receptive approach to the process, learning and feed back. Thanks is due to all of the units for supporting this work and it is clear having the audit as driver for collaboration has had an overall positive affect and benefit for all the units and the network as a whole.

## Process of ODN audit project:




**Audit Results:** There are 7 audit focuses or sections in the audit tool where a score is applied to allow benchmarking of each of the network units.

1. Entrance to the NICU
2. Entrance to nurseries and side rooms
3. In nurseries and side rooms
4. Baby Hygiene
5. Equipment cleaning
6. The milk kitchen
7. Isolation practice

For each section the results of the audit are presented in this report, as overall network performance percentage for each point of the section and the overall score for each of the units individually.

A "traffic light" rag rating was used to apply compliance scores and support alerts to areas were changes and improvements were needed.

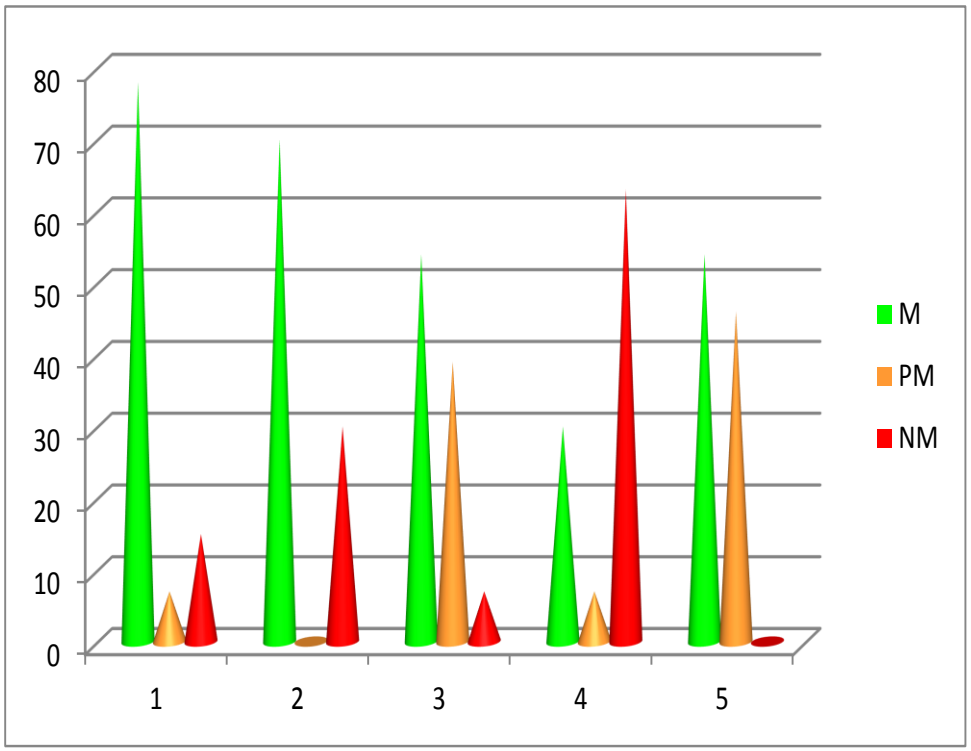
# Section 1: Entrance to the NICU

## Overall compliance to points of all 13 units audited.

| | M | PM | NM |
|---|---|---|---|
| Hand gel at the door to the unit | 78% | 7% | 15% |
| Sink for hand washing close to the entrance | 70% | 0 | 30% |
| posters and notices encouraging hand washing | 54% | 395 | 7% |
| notices to use alcohol gel after drying hands | 30% | 7% | 63% |
| secure area for parents to leave outdoor coats & bags | 54% | 46% | 0 |
| | | | |
| **TOTAL SCORE out of 15** | | | |

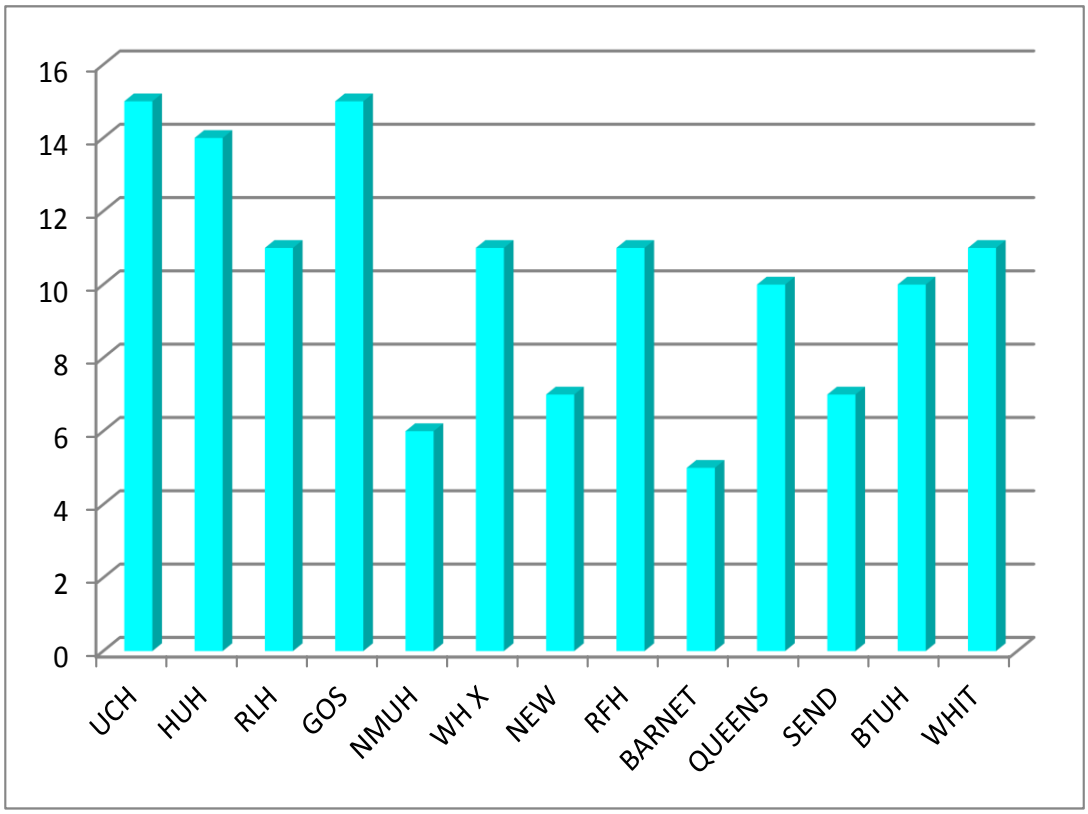
| | |
|---|---|
| M | Met |
| PM | Partly met |
| NM | Not met |

## ODN compliance to section 1 of the audit in %.



**Individual Unit scores as a total for section 1 of audit:** total available score for point =15




**Note:** for codes for unit see appendix 3.

**Overall Outcome for audit section:** The 3 units who scored the lowest percentage in this section of the audit had all recently undergone either a new build or a refurbishment, there was still a component of "snagging" taking place within these services and the results of the audit were supportive in this work.

**Areas for improvement identified:**

- No dedicated hand washing sink at or near the unit entrance
- No hand gel near or at the inside or outside of some units entrances
- Some units did not provide a secure area for parents to leave their outdoor coats and bags
- No information about hand hygiene or the importance of infection control; health warnings – e.g.; colds, D & V, chicken pox
- No signage about the use of hand gel before or after hand washing
- Some units were allowing parents to take coats and bags to the cot side as there was no secure area to leave them

**Best Practice points for shared learning:**

- Well set up areas for parents and good numbers of secure lockers in a designated area
- Good signage for parents giving clear information about infection control and what they should be doing to support this.
- Clear guidance for anyone new entering the unit; parents and multidisciplinary team members, as well as reminders for neonatal staff
- Many units were clearly very secure and entry into the unit was monitored well, whilst retaining a welcoming environment

**Auditor's network comments:** Without exception, every unit offered a warm welcome, with staff greeting the auditor and saying hello in a welcoming and friendly manner. In some services staff pointed out requirements of coming into their unit in regard to infection, again for all services this was undertaken in a non confrontational and supportive way. In many units the staff were very smart and professional in their appearance and complied with national standards for uniform.

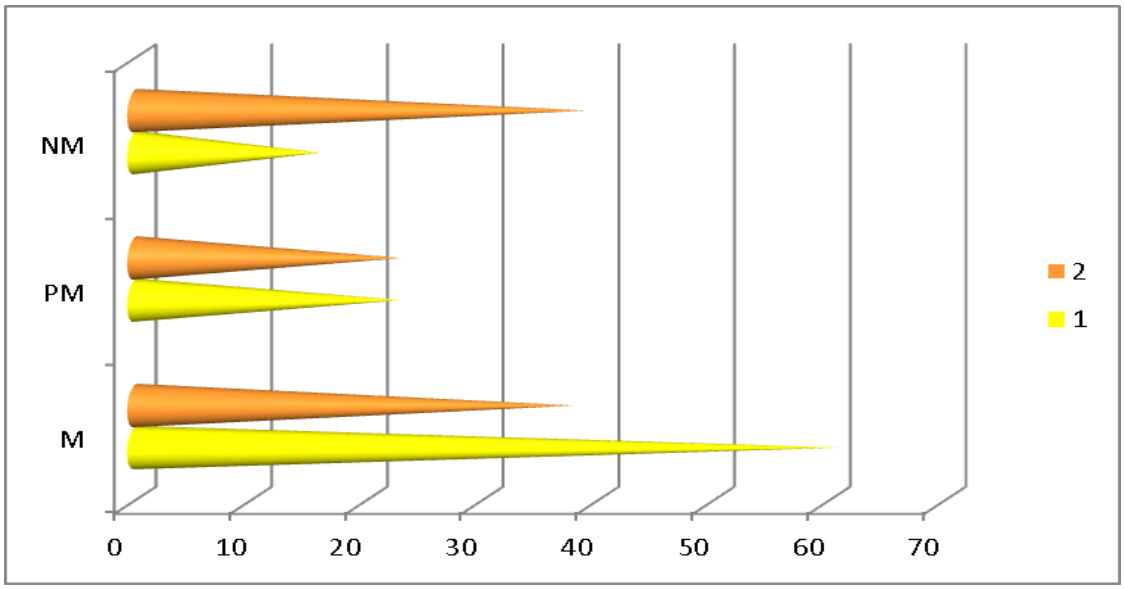
# Section 2: Entrance to nurseries and side rooms

## Overall compliance to audit points of all 13 units audited.

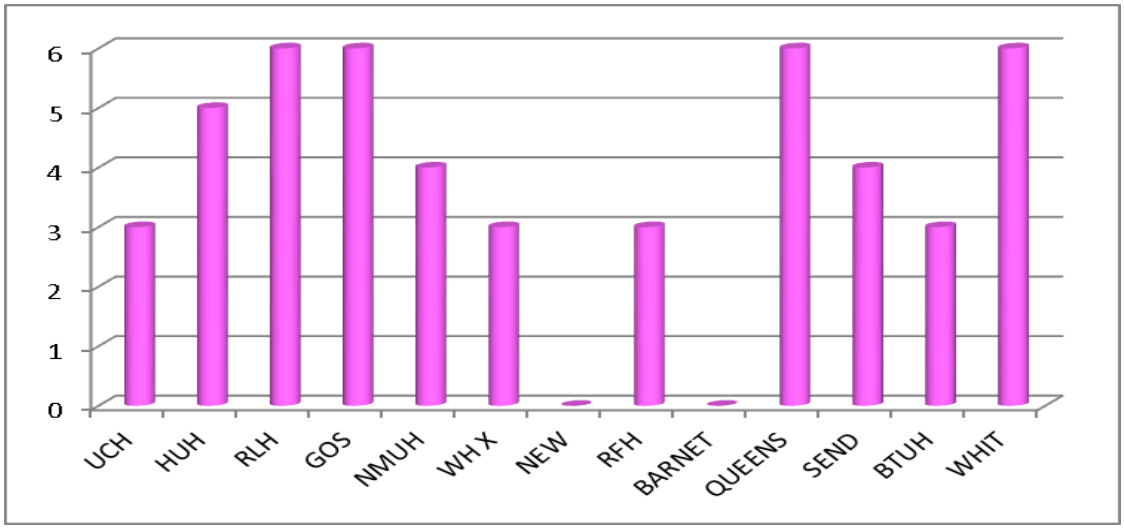
| Entrance to nurseries and side rooms | | | |
|---|---|---|---|
| | M | PM | NM |
| hand gel at the entry point | 61% | 23% | 16% |
| | | | |
| notices to wash/gel hands | 38% | 23% | 39% |
| | | | |
| TOTAL SCORE out of 6 | | | |

| | |
|---|---|
| M | Met |
| PM | Partly met |
| NM | Not met |

## ODN Compliance to section 2 of audit in %




## Individual Unit scores as a total for section 1 of audit: total available score for point = 6



**Overall Outcome section 2:** This audit point was very basic and it was unexpected that there was not 100% overall compliance across the ODN.

**Areas for improvement identified:**

- More wall mounting of hand gel in units
- Increase in posters to alert parents and MDT to use of hand gel and washing their hands

**Best Practice points for shared learning:**

- 30% of units in ODN demonstrate 100% compliance to section 2 audit points

**Auditor's network comments:** As the audit was being undertaken the value of the "new eyes" approach was clearly evident and many of the lead nurses commented that they thought they were compliant to the points in this section but when focused they clearly were not; all felt this was very supportive for improvements.

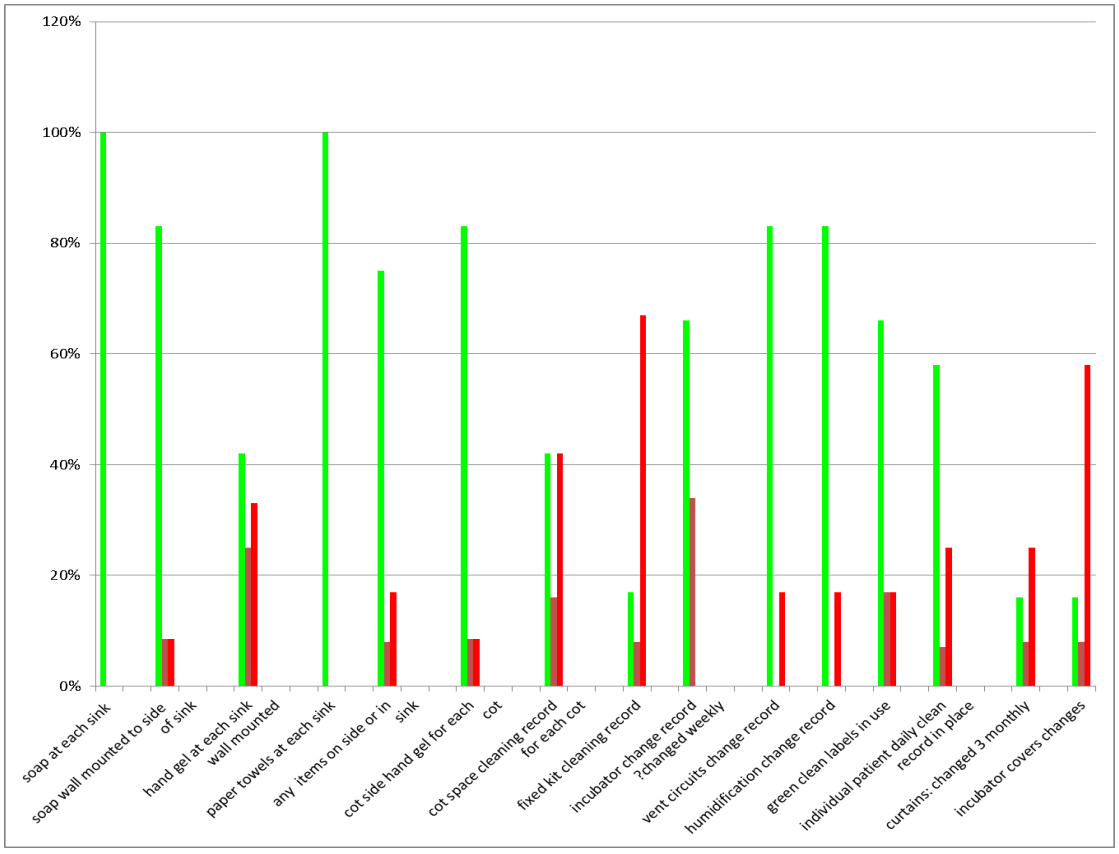
# Section 3: In nurseries and side rooms

## Overall ODN compliance to audit points of all 13 units audited.

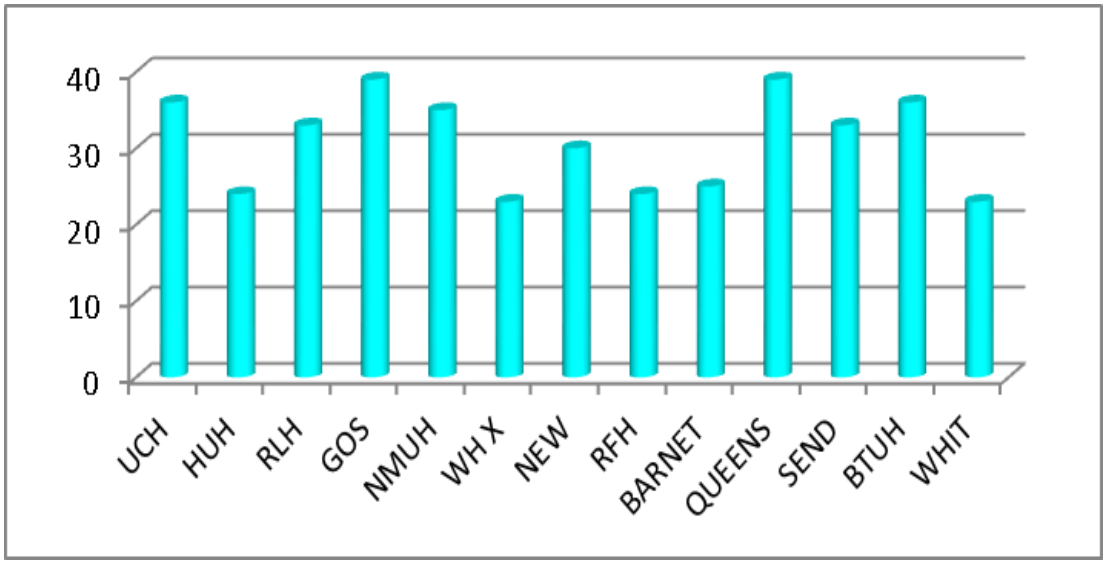
| | % of compliance | | | | | |
|---|---|---|---|---|---|---|
| **Audit point** | **M** | **PM** | **NM** | | | |
| soap at each sink | 100% | 0 | 0 | | | |
| soap wall mounted to side of sink | 83% | 8.50% | 8.50% | | | |
| hand gel at each sink wall mounted | 42% | 25% | 33% | | M | Met |
| paper towels at each sink | 100% | 0 | 0 | | PM | Partly met |
| any items on side or in sink | 75% | 8% | 17% | | NM | Not met |
| cot side hand gel for each cot | 83% | 8.50% | 8.50% | | | |
| cot space cleaning record for each cot | 42% | 16% | 42% | | | |
| fixed kit cleaning record | 17% | 8% | 67% | 8% point N/A | | |
| incubator change record ?changed weekly | 66% | 34% | 0 | | | |
| vent circuits change record | 83% | 0 | 17% | | | |
| humidification change record | 83% | 0 | 17% | | | |
| green clean labels in use | 66% | 17% | 17% | | | |
| individual patient daily clean record in place | 58% | 7% | 25% | | | |
| curtains: changed 3 monthly | 16% | 8% | 25% | 51% point N/A | | |
| incubator covers changes | 16% | 8% | 58% | 18% point N/A | | |
| **TOTAL SCORE 42** | | | | | | |

**ODN Compliance to audit points in %**
Note: some audit points were not applicable to all the units




**Individual Unit scores as a total for section 1 of audit:** total available score for point = 42



**Overall Outcome section 3:** This audit section had a focus on points of hand hygiene and the direct infection control environment that is around the baby, including equipment used to support babies. Clearly there were weaknesses identified that support learning and also how some teams record practice that they routinely undertake.

**Areas for improvement identified:**

- Ensuring hand gel and soap are not wall mounted directly above the plug hole of the sink
- Hand gel should be wall mounted and not sitting on the sink edges
- Each cot space or incubator should have accessible hand gel
- Documentation of cleaning for individual cot spaces should be included in nursing charts
- Many units had no record for cleaning of gantry/pendants/fixed kit at the cot spaces
- Documentation and labelling of equipment that should be changed weekly was not always in place
- Use of green labels to highlight equipment is clean was not used by some Trusts, review of this practice could be considered for the neonatal environment to support pan network compliance
- Changes of curtains in the direct clinical environment could not be demonstrated in some units
- Practices for using incubator covers was very variable in units, the risk from possible cross infection from covers being used for long time frames is being missed

**Best Practice points for shared learning:**

- Some units have excellent cot cleaning records incorporated into their observation records for each day and or within a dedicated chart for each baby
- One unit had a nursing process/guideline for cleaning cot spaces and for co-hort cot space cleaning after isolation management for babies, this was shared with all the units during the audit
- Weekly changes of some single use devices was very well recorded in most units
- Use of nationally recognised "clean equipment" green labels is wide spread in most of the units in the network

**Auditor's network comments:** Again the value of "new eyes" and comparative practice was clearly seen for this section of the audit. The fixed equipment focus was very interesting as the use of off the floor mounting to support infection control for cot spaces is excellent but some teams had missed how they then demonstrate cleaning of this facility.

# Section 4: Baby Hygiene

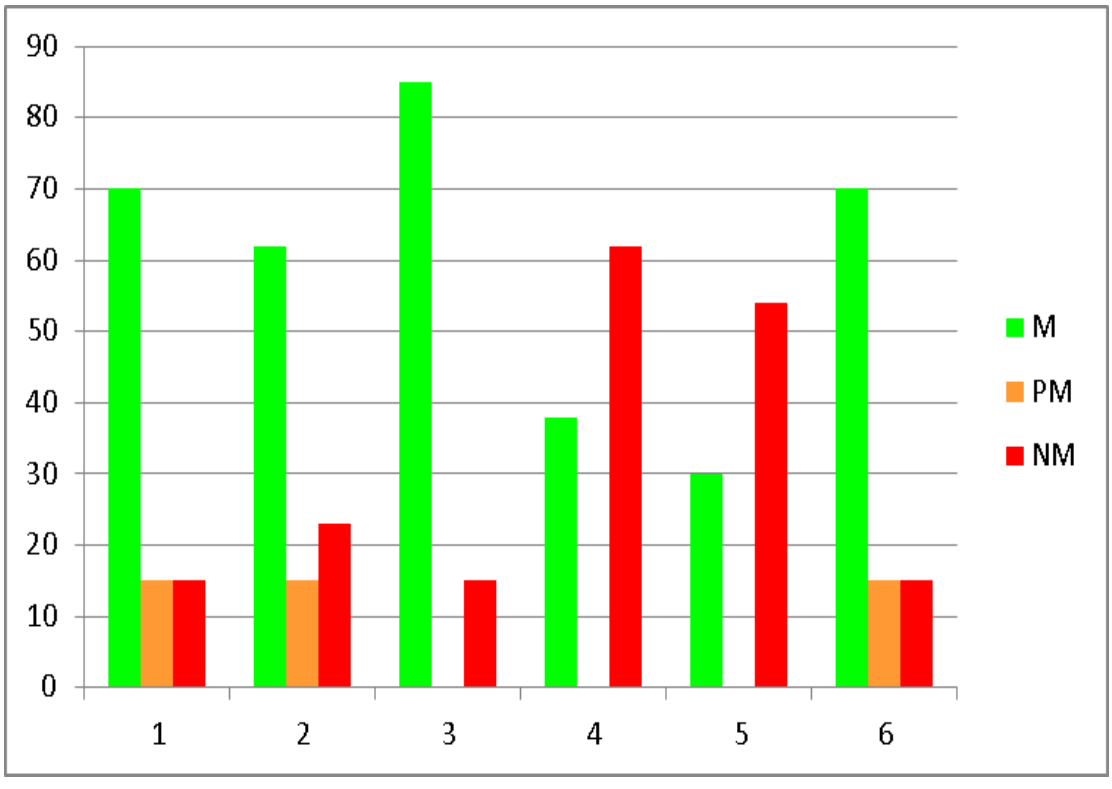
## Overall ODN compliance to audit points of all 13 units audited.

| Baby Hygiene | M | PM | NM |
|---|---|---|---|
| single use vessels for nappy changes / top and tail | 70% | 15% | 15% |
| | | | |
| waste water disposed out of clinical area | 62 | 15% | 23% |
| | | | |
| sterile water used for nappy care | 85% | 0 | 15% |
| | | | |
| sterile water warmed? | 38% | 0 | 62% |
| | | | |
| baby bathing via filter tap | 30% | 0 | 54% |
| | | | |
| body fluids disposed of in sluice sink | 70% | 15% | 15% |
| **TOTAL SCORE out of 18** | | | |

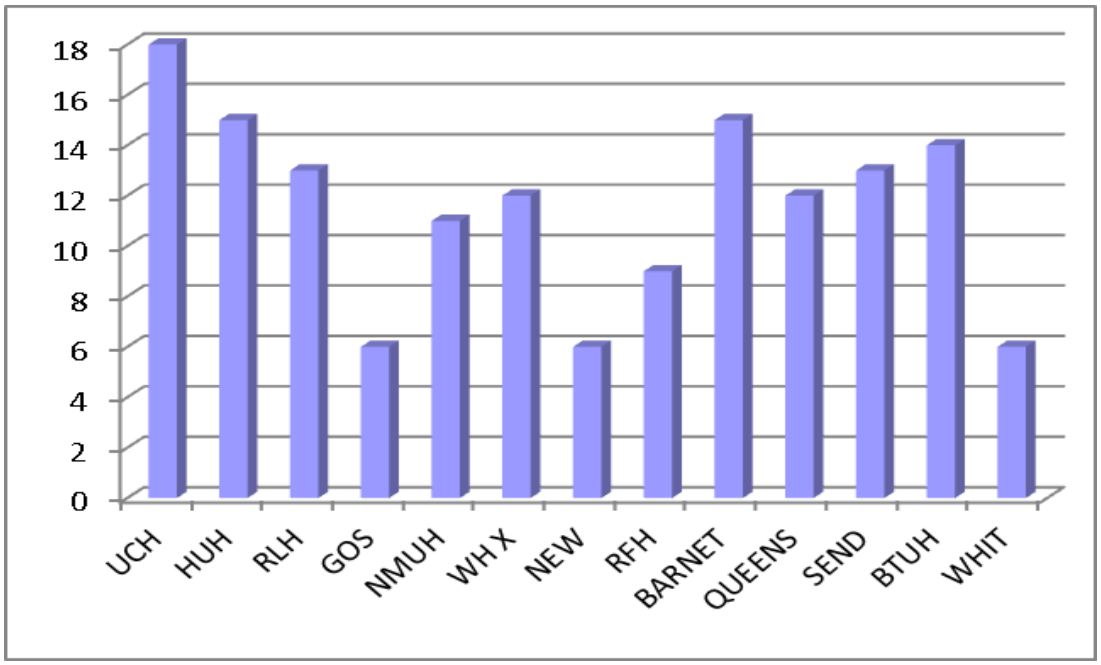
| | |
|---|---|
| M | Met |
| PM | Partly met |
| NM | Not met |

## ODN Compliance to audit points in %

Note: some audit points were not applicable to all the units



**Individual Unit scores as a total for section 1 of audit:** total available score for point = 12




**Overall Outcome section 4:** This section of the audit had very direct links to national recommendations for augmented care units in relation to pseudomonas transmission from the water supply. [2,3,4.]

Following outbreaks of pseudomonas in some neonatal units in the UK, with the source of the infection being in the water supply, learning has been disseminated across the countries via national policy and robust recommendations are made. The value of the network audit was clearly shown by the results of this section; where some units had not put in place some of these recommendations and were therefore carrying a potential risk if their water supply quality were to suddenly change.

**Areas for improvement identified:**

- All units should ensure they meet all the recommendations within the national standards for water safety in augmented care units in the NICU and that the neonatal team feed into the Trust water management group. [2,3,4.]
- For each hygiene action a single use vessel would prevent the risk of damp or wet vessels at or near the cot side
- Using room temperature or cold sterile water for top and tailing could be uncomfortable for babies; use of warming cabinets would be best practice.

- Drawing water directly from supply for baby baths contradicts national recommendations, warmed sterile water or tap filters should be used.
- No dirty water or body fluids should be disposed of via sinks in clinical areas, a hopper or sluice sink should be used.

**Best Practice points for shared learning:**

- Some of the units in the ODN demonstrated outstanding compliance to national recommendations
- Use of warming cabinet for sterile water for baby hygiene are best practice and a robust benchmark
- High level of awareness of the national recommendations was present in many teams and this included very junior and domestic staff.
- For units where there was non compliance to national recommendations the approach of all the lead nurses/matrons was very positive and proactive to addressing this.

**Auditor's network comments:** Where there were direct contradictions to the national guidance for neonatal care in regard to pseudomonas this was highlighted to the unit teams by the auditor and followed up with an email to directorate/divisional service leads, to ensure robust communication. It was clear that some units still need to undertake a full risk assessment of practice to make sure they were compliant to national standards.

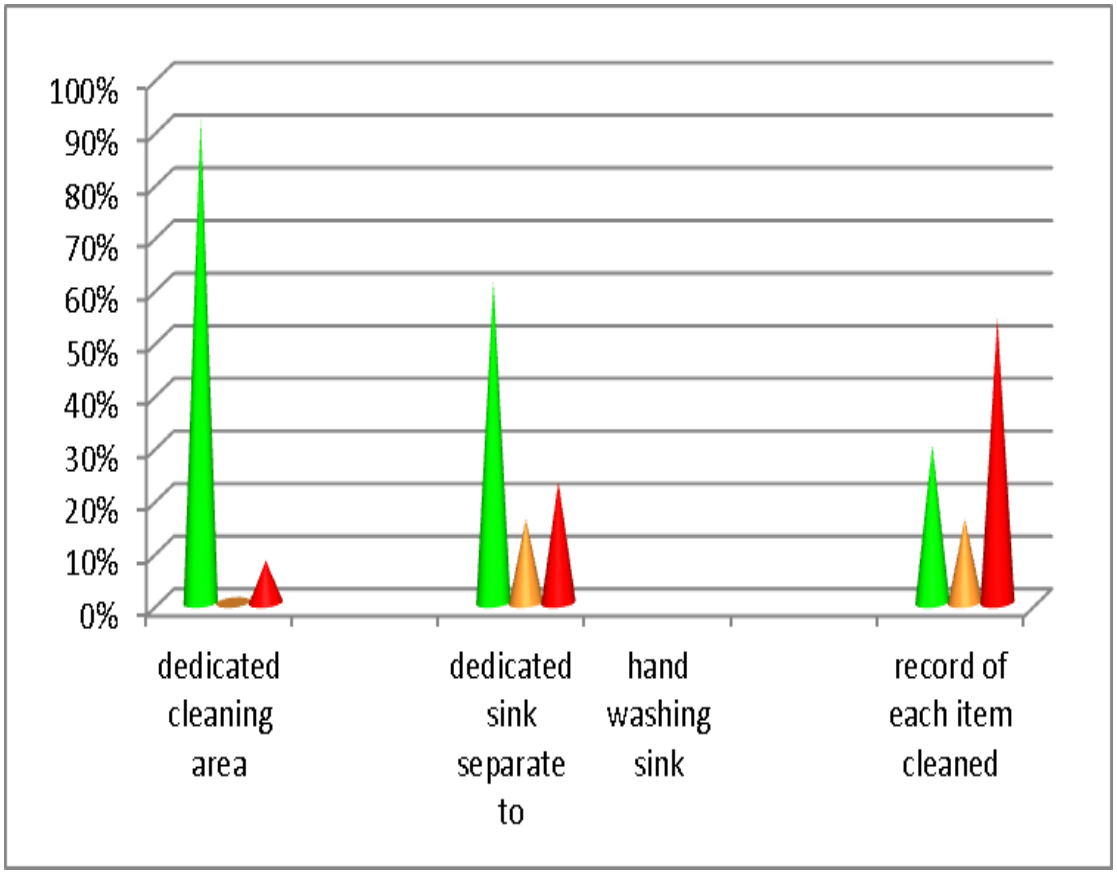
# Section 5: Equipment Cleaning

## Overall ODN compliance to audit points of all 13 units audited.

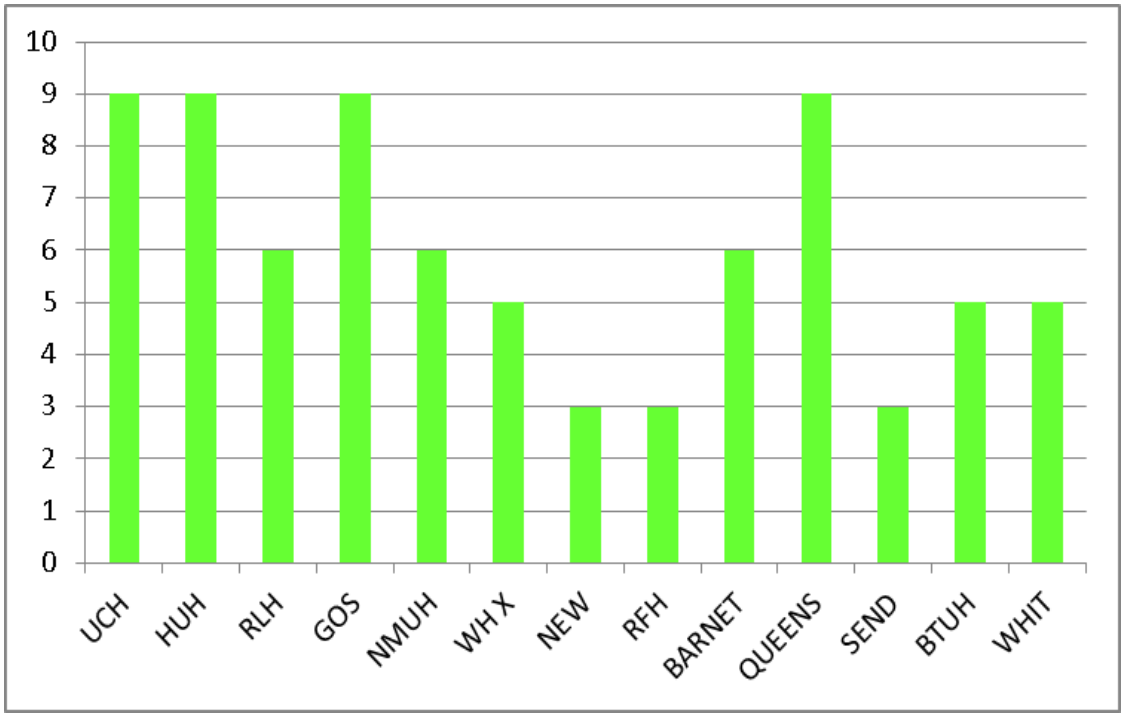
| Equipment cleaning | | | |
|---|---|---|---|
| dedicated cleaning area | 92% | 0 | 8% |
| | | | |
| dedicated sink separate to hand washing sink | 61% | 16% | 23% |
| | | | |
| record of each item cleaned | 30% | 16% | 54% |
| | | | |
| comments: cleaning fluids used | Tristal alchlor 1:1 Wipes; clinell | | Milton |
| | | | |
| **TOTAL SCORE 9** | | | |

| | |
|---|---|
| M | Met |
| PM | Partly met |
| NM | Not met |

## ODN Compliance to audit points in %



**Individual Unit scores as a total for section 1 of audit**: total available score for point = 9




**Overall Outcome section 5:** Neonatal care is one of the areas of health care where medical devices or equipment form an essential part of the care of the patient.
The quantity of devices in an NICU can be very substantial, with hundreds of devices in some services. Cross infection from medical devices is a vital consideration for the safety of the neonatal care environments and the higher the number of devices the more complex this component of care delivery becomes.
Having a constant supply of clean equipment available in neonatal care is also vital due to the unpredictable activity levels in many services. For regional services not having set up and clean devices can compromise capacity and the network objectives of the "right care, in the right place"

As the audit took place and equipment was discussed it was highlighted that there are no national recommendations for staff dedicated to medical equipment cleaning in neonatal care; when clearly this is an integrated part of quality care, patient safety and infection control management.

Looking at this work load the following factors are important to consider:

- Complex devices can take a long time to clean and need to be stripped down and reassembled e.g.; incubators
- Ensuring a robust cleaning process with a very conscientious approach from staff is a key component of cleaning equipment, not cutting corners or rushing and missing vital components is essential

- Having a good comprehension of the role of the person who cleans equipment in the team is important for the MDT and forms part of neonatal good practice
- Being able to track equipment in a service is important if there is an infection issue with hospital spread
- Identifying that devices are safe and fit for purpose is part of this role

During the audit these factors then led to discussion of the importance of dedicated staff to support equipment cleaning and that although all nurses need to know how to clean kit, it is not good practice for nurses to be out of the clinical area and away from the patients cleaning complex devices for hours.
The national position with neonatal nurse shortages adds to this premise. It was also considered that if nurses are trying to clean kit in a rush to get back to their patients there is an increased risk of the job being completed in a suboptimal way and potential breakdown of good infection control practice. Therefore the number of staff dedicated to the role of cleaning equipment was considered as an essential recommendation from the audit.

**Whole time equivalent (WTE= 37.5 hours a week) posts in the ODN Neonatal Units - dedicated to cleaning devices**

It was identified that there is considerable variance across the network for this area of the neonatal workforce. The audit showed that WTE in services varied from 0.5 WTE to 5WTE, not all units had 24 /7 support and some units leads expressed concern about the support they had.
The number of cots in the unit is also important to consider in this context. The lead nurses and matron who took part in the audit have discussed this component and the table below shows their professional views and will form part of the recommendations the Subgroup will be making from this work.

| | |
|---|---|
| **Current average WTE in post in level / 2 units in ODN** | 0.72 WTE |
| **Current average WTE in post in level 3 units in ODN** | 4.2 WTE |
| **Range of WTE in post across the ODN** | 0.5 – 5.0 WTE |
| **Mean WTE in post for ODN** | 2.2 WTE |
| **Recommended WTE for**<br>**Level 1 and 2**<br>**Level 3** | <br>2.0 WTE<br>4.5 WTE |

**Areas for improvement identified:**

- Each unit should assess the WTE funding for dedicated equipment cleaning staff in their unit, use of nursing time for complex cleaning is not good practice.
- Having a dedicated room for equipment cleaning out of the direct clinical area is best practice
- Documentation of cleaning for individual piece of equipment supports tracking and monitoring of cleaning
- Each equipment cleaning area should have a hand washing sink that is separate to the equipment cleaning sink

**Best Practice points for shared learning:**

- One unit had a record book for all equipment that was cleaned; the proforma for this was shared with all the other units.
- All units were using a process and cleaning product that is recommended for neonatal care
- Some units had excellent WTE dedicated support for cleaning equipment

**Auditor's network comments:** Several units in the ODN were very appreciative of the information that was shared during their audit being undertaken, about other services provisions for cleaning and were proactive in starting the process to highlight and action this need in their service and organisation.

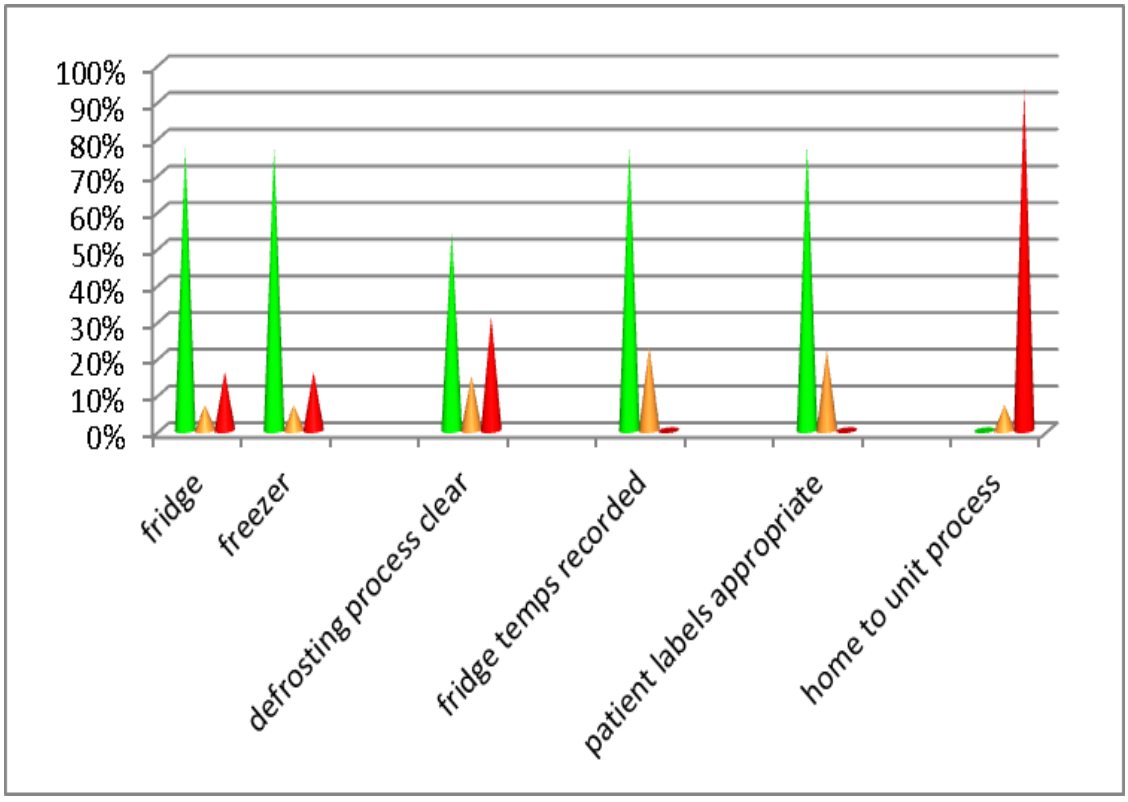
# Section 6: Milk Kitchen

Overall ODN compliance to audit points of all 13 units audited.

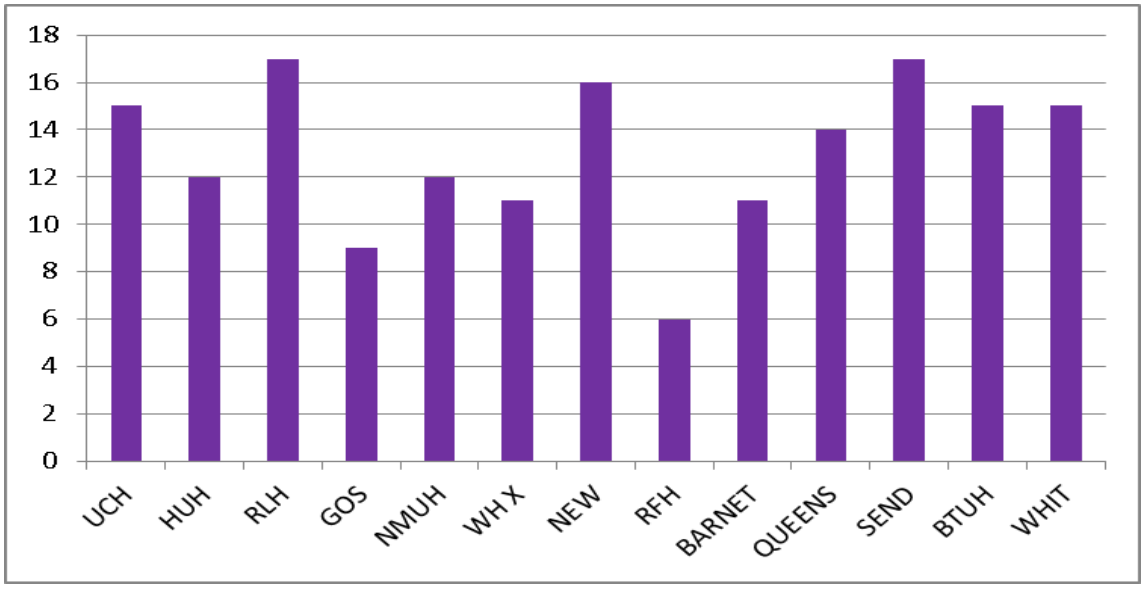
| Milk Kitchen | | | |
|---|---|---|---|
| storage of milk in separate patient labelled containers | | | |
| fridge | 77% | 7% | 16% |
| freezer | 77% | 7% | 16% |
| | | | |
| defrosting process clear | 54% | 15% | 31% |
| | | | |
| fridge temps recorded | 77% | 23% | 0 |
| | | | |
| patient labels appropriate | 78% | 22% | 0 |
| | | | |
| home to unit process | 0 | 7% | 93% |
| | | | |
| **TOTAL SCORE out of 18** | | | |

| | | |
|---|---|---|
| M | Met | 3 |
| PM | Partly met | 2 |
| NM | Not met | 0 |

## ODN Compliance to audit points in %



**Individual Unit scores as a total for section 6 of audit:** total available score for point = 18




**Overall Outcome section 6:** It was noted this part of the audit process clearly raised anxiety from many of the unit nurses who were supporting the walk round of their unit. The level of awareness of the importance of good practice in storage and safety for breast milk was very high.

**Areas for improvement identified:**

- All units need to assess the process of mothers bringing in bottles of EBM and how they are transferred to fridge and freezer storage in the units.
- Some units need to reassess separation of each babies milk within the fridges and freezers
- Some units need to tighten their monitoring of fridge and freezer temperatures to ensure these meet national standards

**Best Practice points for shared learning:**

- Labels used for EBM are of a good standard and support patient safety of the "right milk for the right baby"
- Many units had excellent storage of breast milk that promoted patient safety.

**Auditor's network comments:** Again the value of "new eyes" and comparative practice was clearly seen. It would be fair to say that some of the units lead nurse and matrons were disappointed in what was found during this audit point and the constant need for reiterating to nursing teams key practice points was highlighted by this.

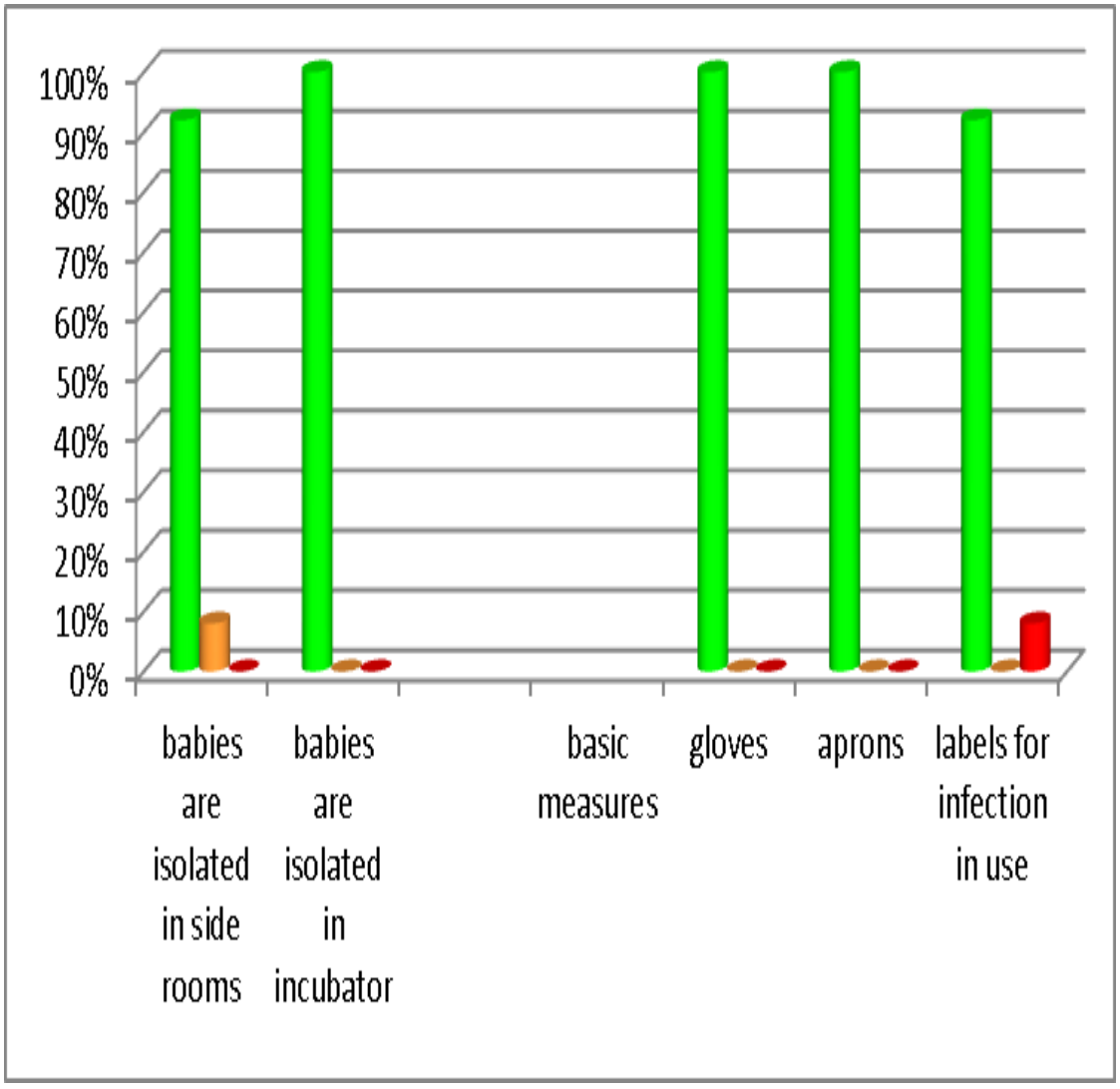
# Section 7: Isolation

## Overall ODN compliance to audit points of all 13 units audited.

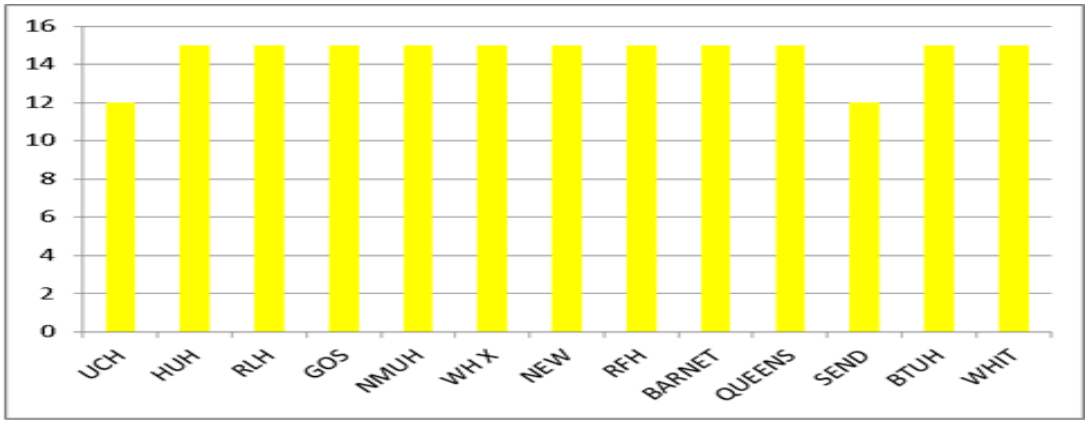
| Isolation practice | | | |
|---|---|---|---|
| babies are isolated in side rooms | 92% | 8% | 0 |
| babies are isolated in incubator | 100% | 0 | 0 |
| | | | |
| basic measures | | | |
| gloves | 100% | 0 | 0 |
| aprons | 100% | 0 | 0 |
| labels for infection in use | 92% | 0 | 8% |
| **TOTAL SCORE out of 15** | | | |

| | |
|---|---|
| M | Met |
| PM | Partly met |
| NM | Not met |

## ODN Compliance to audit points in %



**Individual Unit scores as a total for section 7 of audit:** total available score for audit point = 15




**Overall Outcome for section 7:** The premise of the audit points in regard to isolation practice in neonatal care focused around the need to balance cot capacity and patient safety. The practice of isolation within an incubator is now accepted as good, but side room isolation for high risk cases is still some times required; so the aim of audit was to assess the compliance with both measures to support infection control.

**Areas for improvement identified:**

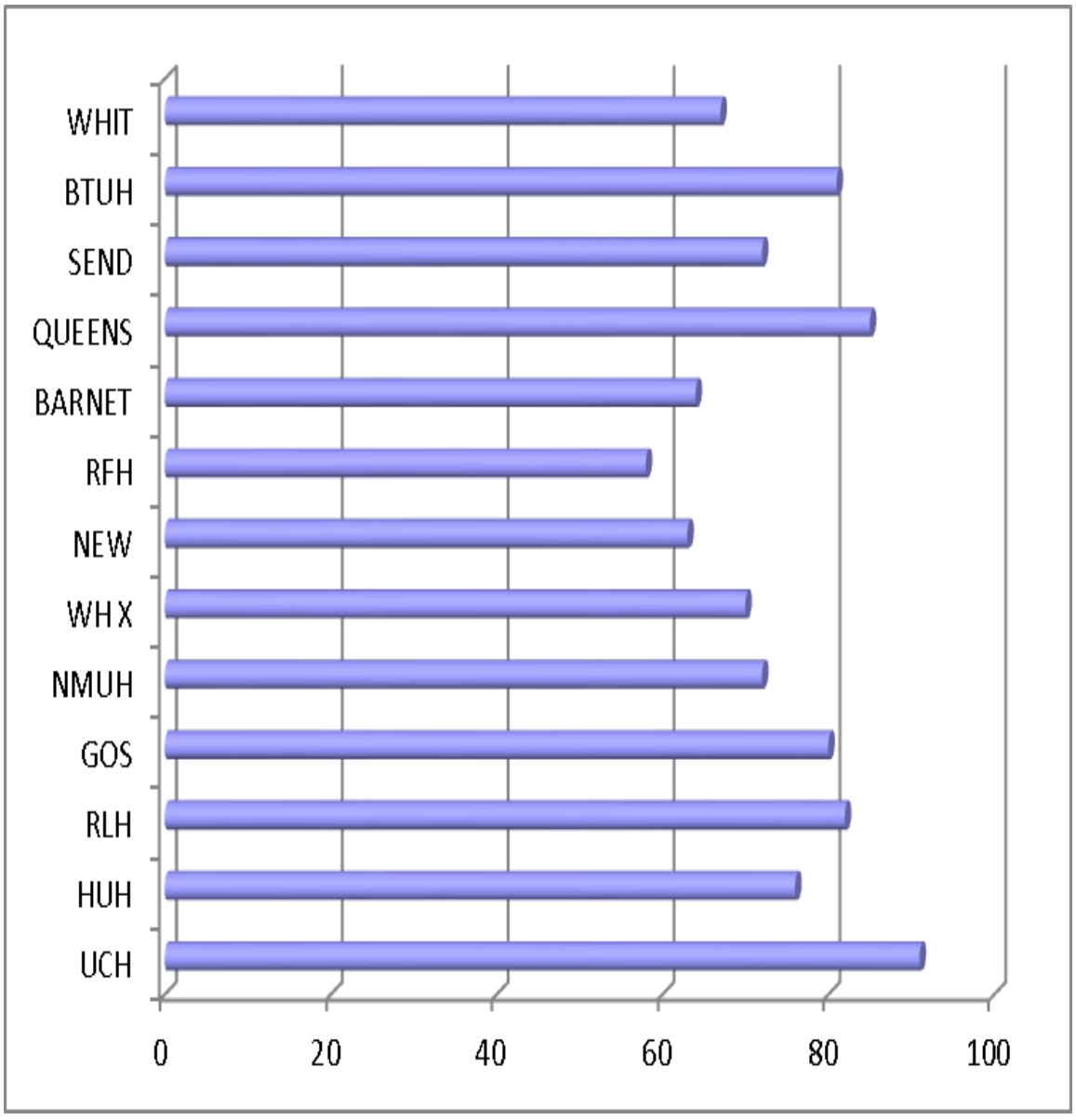
- Use of labels to support infected waste and linen are national practice and should be used in all units
- Provision of adequate side room or co-hort cot areas is important and should be taken into account when planning and designing new services

**Best Practice points for shared learning:**

- The results from the audit demonstrate strong isolation practices across the whole ODN.
- Practice has evolved well in recent years and isolation in incubators is now common therefore supporting capacity in all units and avoiding repatriation delays due to infection control management.

**Auditor's network comments:** During the audit all the unit teams expressed a clear comprehension of isolation practice and what enhance practices they would use in their service if there was an outbreak or concern regarding patterns of colonisation or infection or trends.

**Overall Network Compliance Scores for Audit:** In order to provide an overall score of compliance all the sections scores were worked into an overall audit percentage result. The graph below demonstrates the ODN position of all the units audited, scores are a percentage.
The mean % score for the network was 74%.



**Other audit information:** Following the audit walk around of units some general information was then considered with the intention of looking at approaches and practices.

The table below shows the outcomes of these supplementary questions.

| Screening | Examples of feed back |
|---|---|
| O/A screens for all babies | Swabs of;<br>Nose 1<br>Throat 1<br>Umbilicus 1 |
| Weekly Screens | Twice weekly N/T/U 1 |
| MRS/ESBL Trust reporting back to units | Excellent at getting feed back 1 |
| Does your service raise an incident report if there is an trend in infection reports/colonisations | ICT do the report 1 |
| How many cases would your service view as an outbreak | 2<br>3<br>4 x1 |
| **Communication of infection issues or results** | |
| Within the Trust for each unit | Good 1 |
| At point transfer of babies into your unit | Satisfactory 1 |
| Do your PC's that are in the clinical area have wipeable keyboards | No 1 |
| **Off rota NICU roles in units** | |
| Does your unit have dedicated off rota time for infection control? | Yes<br>Partly<br>no |
| Does your unit have IC nursing roles at a variety of bands? | 8a 1<br>7 1<br>6 1<br>5 1 |
| **Local guidelines: does your unit have guides covering the following processes** | |
| Equipment cleaning | Y 1<br>N |
| Cot space cleaning | Y 1<br>N |
| Co-hort cleaning | Y 1<br>N |
| Toy Policy and cleaning | Y |

| | |
|---|---|
| | N 1 |
| Pseudomonas Policy | Y 1<br>N |
| Neonatal Screening | Y 1<br>N |
| Inter-health network forms | pending |
| Single use device guide | Y 1<br>N |
| Line & label changes | Y 1<br>N |

**New Publications:** During the time the audit was being undertaken a publication regarding outbreaks in neonatal units of gram negative infections was highlighted to the network nurses, Anthony et al (2013) [1].
This article is very supportive for neonatal teams who identify a trend in screening or clinical sample results and the advice within the article reflects many of the audit points for prevention.

One of the key features within this publication, in both avoiding and containing infection spread within services, pertains to the physical spaces between each cot. National recommendations for this space come from NHS building / estates specifications, but the need for careful planning of unit designs is paramount. The isolation recommendations also concur to use of incubators for this purpose rather than side room use.

The recent Health Protection Publication [4], highlighting carbapenemase-producing enterobacteria (CPE) cases, which includes a toolkit for Trusts to utilise in their organisations, is also important for the NICU environment. Confirmed or suspected cases are one of the patient groups that would require side room isolation and support, due to the very high risks of the CPE and the implications of spread and containment. Some organisations are taking the approach that any baby who is admitted to an NICU, who was born outside of the UK or transferred into the UK, should be screened for CPE.

## Data and Infection Control Performance:

Outcomes in neonatal care are monitored in a variety of ways. The use of care bundles and systems for enhancing infection control management is clearly highlighted as a valuable resource for allowing comparative over views and improvements within neonatal care.

National data collection for outcomes is collected via the Neonatal National Audit Program (NNAP) [5] supported by the Royal College of Paediatric and Child Health (RCPCH) and this data should be included in services reviews and improvements in collaboration with other national data. The developing

national dashboards for neonatal care will also be supportive of growth in quality and standards.

**Summary:** Within this report for each audit point areas for improvement, best practice examples and comments are included. Each unit in the network can utilise this information to support improvements and growth in infection control management.

The high volume of information that has been shared across the 13 units also supports recommendations from this work, which are detailed in the section below. The network lead nurses would encourage their unit colleagues to use these recommendations within their business and service planning for the coming year with the agenda of patient safety and quality improvements.

## Recommendations from the Audit Results:

The table below summaries the recommendations that have been identified from the pan network audit. These recommendations are defined by collaborative working of the network lead nurses and PDN's and as such are endorsed by this network subgroup.

| | |
|---|---|
| **1** | The audit tool and process should be shared with other neonatal ODNs in the UK |
| **2** | Individual neonatal units in the ODN should review and assess their services practices again, looking at the improvement and shared learning points in this enhanced audit report |
| **3** | Expansion of "new eyes" approaches for areas of care across the ODN should be proactively encouraged and include peer reviews and collaborative working to uplift standards and outcomes for neonatal care. |
| **4** | Monitoring of incorporation of national policy for infection control in the NICU should be part of the unit's infection control leads |
| **5** | Dedicated staffing for cleaning of equipment in all NICUs should be included in the units staffing establishment to support patient safety in the service. This audit identifies the following WTE allocations recommend by the ODN subgroup;<br>Local and special care units = 2.0 WTE<br>NICU = 4.5 WTE |
| **6** | Development of a neonatal breast milk storage and checking care bundle for use pan network during 2015 |

**Evaluation of the Audit:** During subgroup meetings verbal feed back was provided from the lead nurses and PDN's which gave a network quorum of 65 – 75% of units. In order to support a wider feed back a proforma was designed and circulated to all the units; the return of this form was poor, this appears to be due to the verbal feed back having been given already and also time constraints of the senior nurses in services

**Conclusion:** The audit has provided a very valuable resource for the NC and NE London Neonatal ODN. The work that has taken place has enhanced collaboration between the units, uplifted and supported openness and interactions and provided a vehicle for the work plans of the lead nurses for the network.

The resources to undertaken the audit and subsequent written work have been incorporated into the network lead nurses work time which has been challenging and both nurses have used their own time to allow completion of the work. The benefit and value of this work is clear and dedicated funding for further audits of this kind would be advantageous for quality improvements and patient safety. This funding could potentially be sourced from national innovation or patient safety sources.

**Thank you to all the units in the network for supporting this work and the time needed for the audit. Your positive and welcoming attitudes have really shown what networks are all about and how effectively the teams are working in the North and Central areas of London.**

**Thanks also to Sarah Rattigan, Director and Lead Nurse of the EOE Neonatal ODN for her supporting and enthusiasm in the trial of the audit tool**

# Report References:


1. Antony et al. (2013) *Managing and Preventing Outbreaks of Gram-negative Infections in UK Neonatal Units*. Archives of Disease in Children: fetal/neonatal ed. 90:F549-F553.doi:10.1136

2. DH (2012) "Best practice for hand wash stations to minimise the risk of Pseudomonas aeruginosa contamination"

3. DH (2012) Best practice for assessing and managing the risks in augmented care units to minimise the risk of Pseudomonas aeruginosa contamination, 7/02/ 2012.

4. DH (2012) CMO letter, 7 February 2012. Pseudomonas aeruginosa bacteria - preventing and controlling contamination.

5. Neonatal National Audit Program (2014) at: http://www.rcpch.ac.uk/improving-child-health/quality-improvement-and-clinical-audit/national-neonatal-audit-programme-nnap

6. Public Health England (2013) Carbapenemase-producing Enterobacteria at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/329227/Acute_trust_toolkit_for_the_early_detection.pdf

# Appendices

## Appendix 1: Audit tool proforma, including best practice standards.

| Lead Nurses and Education Subgroup | |
|---|---|
| **Enhanced Infection Control Audit** | |
| | |
| **Entrance to NICU** | |
| **Audit point** | **Standard: best practice see reference list and national standards** |
| Hand gel at the door to the unit | hand gel should be wall mounted by each entrance into a new clinical area |
| | |
| Sink for hand washing close to the entrance | hand washing sink as close to the entrance to the unit as possible |
| posters and notices encouraging hand washing | national campaign, NPSA, local notices to promote hand washing |
| | |
| notices to use alcohol gel after drying hands | specific to DH pseudomonas plan |
| | |
| secure area for parents to leave outdoor coats & bags | prevent "outside" objects being brought into the unit enviroment.eg; coats |
| | |
| **TOTAL SCORE** | |

| Entrance to nurseries and side rooms | Standard: best practice see reference list and national standards |
|---|---|
| hand gel at the entry point | NPSA saving lives / DH water plan |
| | |
| notices to wash/gel hands | robust communication to staff and public |
| | |
| **TOTAL SCORE** | |

| In nurseries / side rooms | Standard: best practice see reference list and national standards |
|---|---|
| soap at each sink | support hand washing |
| | |
| soap wall mounted to side of sink | best practice as per national guidance |
| | |
| hand gel at each sink wall mounted | NPSA saving lives / DH water plan |
| | |
| paper towels at each sink | NPSA saving lives / DH water plan |
| | |
| any times on side or in sink | poor practice encourages bacterial growth |
| | |
| cot side hand gel for each cot | NPSA saving lives / DH water plan |
| | |
| cot space cleaning record for each cot | support robust practice, network standards bench mark |
| | |
| fixed kit cleaning record | support robust practice, network standards bench mark |
| | |
| incubator change record ?changed weekly | support robust practice, network standards bench mark |
| | |
| vent circuits change record | support robust practice, network standards bench mark |
| | |
| humidification change record | support robust practice, network standards bench mark |
| | |
| green clean labels in use | NPSA saving lives / DH water plan |
| | |
| individual patient daily clean record in place | support robust practice, network standards bench mark |
| | |
| curtains: changed 3 monthly | NPSA saving lives / DH water plan |
| | |
| incubator covers changes | support robust practice, network standards bench mark |
| | |
| **TOTAL SCORE** | |

| Baby Hygiene | Standard: best practice see reference list and national standards |
|---|---|
| single use vessels for nappy changes / top and tail | NPSA saving lives / DH water plan |
| | |
| waste water disposed out of clinical area | NPSA saving lives / DH water plan |
| | |
| sterile water used for nappy care | NPSA saving lives / DH water plan |
| | |
| sterile water warmed? | support robust practice, network standards bench mark |
| | |
| baby bathing via filter tap | support robust practice, network standards bench mark |
| | |
| body fluids disposed of in sluice sink | NPSA saving lives / DH water plan |
| | |
| **TOTAL SCORE** | |

| Equipment cleaning | Standard: best practice see reference list and national standards |
|---|---|
| dedicated cleaning area | NPSA saving lives / DH water plan |
| | |
| dedicated sink separate to hand washing sink | NPSA saving lives / DH water plan |
| | |
| record of each item cleaned | support robust practice, network standards bench mark |
| | |
| comments: cleaning fluids used | |
| | |
| **TOTAL SCORE** | |

| Milk Kitchen | Standard: best practice see reference list and national standards |
|---|---|
| storage of milk in separate patient labelled containers | |
| fridge | food standards agency / WHO/ BFI |
| freezer | food standards agency / WHO/BFI |
| | |
| defrosting process clear | food standards agency / WHO/ BFI |
| | |
| fridge temps recorded | food standards agency / WHO/ BFI |
| | |
| patient labels appropriate | support robust practice, network standards bench mark |
| | |
| home to unit process | food standards agency / WHO/ BFI/ LOCAL NETWORK |
| | |
| **TOTAL SCORE** | |

| Isolation practice | Standard: best practice see reference list and national standards |
|---|---|
| babies are isolated in side rooms | "gold" standard where staffing and room provision exist, may impact on network capacity |
| babies are isolated in incubator | baseline/bench mark standard to support capacity and patient safety |
| | |
| basic measures | as per local policy from national standards NPSA saving lives |
| gloves | as per local policy from national standards NPSA saving lives |
| aprons | as per local policy from national standards NPSA saving lives |
| labels for infection in use | robust communication |
| **TOTAL SCORE** | |
| enhanced measures: comments | |

# Appendix 2: Audit Reference Base

## References: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Food standards agency

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( 2004). Department of Health

**NHS London SCG** (2012) Contract Service Specification.

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**RCPCH**
Royal College of Paediatric & Child Health. www.rcpch.ac.uk.

**Toolkit for High Quality Neonatal Services**. October
2009 Department of Health.

World Health Orgnaisation at:
www.who.int/search?q=storage+of+breast+milk&spell=1&ie=utf8&site=who&client=_en&proxystylesheet=_en&output=xml_no_dtd&access=p&lr=lang_en

http://www.unicef.org.uk/BabyFriendly/News-and-Research

# Appendix 3: Unit Codes

| Code | Unit | network | level of unit |
|---|---|---|---|
| UCH | University College Hospital | NC | NICU / Level 3 |
| HUH | Homerton University Hospital | NE | NICU/Level 3 |
| RLH | Royal London Hospital/ Barts Health | NE | NICU/Level 3 |
| GOS | Great Ormond Street NICU | NC | NICU/Level 3 |
| NMUH | North Middlesex University hospital | NE | Local NICU/Level 2 |
| WH X | Whips Cross Hospital / Barts Health | NE | Local NICU/Level 2 |
| NEW | Newham Hospital / Barts Health | NE | Local NICU/Level 2 |
| RFH | Royal Free Hospital | NC | SCBU/Level 1 |
| BARNET | Barnet Hospital | NC | Local NICU/Level 2 |
| QUEENS | Queens Hospital | NE | Local NICU/Level 2 |
| SEND | Southend Hospital | NE | Local NICU/Level 2 |
| BTUH | Basildon Hospital | NE | Local NICU/Level 2 |
| WHIT | Whittington Hospital | NC | Local NICU/Level 2 |