

SNBTS Infection Control Annual Report

1. Author(s) of Paper

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2. Purpose of Paper

To provide the Board with information on infection control over the period April 2009 to March 2010

This report provides information on issues relating to infection control within SNBTS during the reporting period.

During this time there have been a number of significant developments in policy development, training, monitoring of general cleanliness and hand hygiene and requirements of the SGHD healthcare acquired infection (HAI) programme.

Note: this paper has been reviewed by SNBTS Clinical Governance and Safety Committee and by SNBTS Management Board.

3. Service Implications

The key service implication is that there needs to be measurable hygiene standards to ensure that SNBTS blood and tissue components are manufactured to the required standards of hygiene. There are a large number of measures taken by SNBTS to ensure that the levels of hygiene required for the collection and processing of our components and tissues meet the standards expected by relevant regulatory bodies, such as MHRA and HTA. This is a fundamental requirement of the Good Manufacturing Practices demanded of SNBTS by law.

The key finding in the report was that there were no known cases of infection transmitted by any SNBTS blood or tissue components during the financial year 2009/10.

4. Other Key Issues

There was an instance during the period of this report where data from the cleanliness monitoring programme showed that the SGHD target had not been met. This data was forwarded to SGHD without effective prior review and explanatory text. Part of the report lists the corrective actions which have been taken to prevent repetition.

5. Resource Implications

No resource implications relating to this report, although it is noted in the text that funding was received from SGHD to provide mobile hand wash equipment.

6. Contracts

No new contractual issues are specified within this report.

7. Risk Implications

Staff:

No specific risks to staff are identified in the report. However, the hand cleansing programme and arm preparation product have both resulted in rare cases of Occupational Health problems which are being dealt with on a case by case basis.

Organisational:

SNBTS are a highly regulated organisation and strive to ensure that adequate standards are in place at all times. In the event of non compliance with the relevant HAI standards we would need to assess the implications, but would inevitably require a review of how the activities are carried out. This could have implications for existing NSS contracts.

Reputational:

There are potential risks to reputation if any SNBTS premises are perceived to have unsatisfactory levels of cleanliness.

Business:

Ineffective systems and processes ensuring cleanliness may expose NSS to liabilities in the event of contaminated components being manufactured.

Clinical

Failures of infection control could result in an increased risk of manufacturing a blood or tissue component which is contaminated with microorganisms. At its most extreme, contamination of these components could result in death if this went undetected. Such deaths are reported from blood transfusion from time to time throughout the world.

8. Equality & Diversity Implications

There are no Equality & Diversity implications associated with the paper.

9. Partnership Working

No specific partnership issues related to this report.



SNBTS ANNUAL INFECTION CONTROL REPORT

APRIL 2009 – MARCH 2010

MAY 2010

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1. INTRODUCTION

SNBTS mission is to be the specialist provider of transfusion medicine in Scotland, supplying high quality blood and tissue products. In addition, to compliance with Quality Improvement Scotland HAI Standards (2008) SNBTS must meet the requirements of regulatory bodies such as the Medicines Healthcare products Regulatory Agency (MHRA) and Human Tissue Authority (HTA).

The overall strategy of the Infection Control Service and programme is to encourage and develop devolved responsibility for infection prevention and control to the Supply Chain, Tissue Services and Clinical Directorates with guidance and assistance from the Senior Nurse Infection Control.

The Infection Control Committee has responsibility for reviewing overall compliance within SNBTS with all relevant infection control requirements. The Infection Control Committee provides regular reports to SNBTS Clinical Governance and Safety Committee, for onward transmission to the SNBTS Management Board and the NSS Board.

There has been no reports of confirmed transfusion-transmitted infection through the use of SNBTS blood or blood components in the past year.

2. INFECTION CONTROL POLICY DEVELOPMENT

It had previously been agreed by the SNBTS Infection Control Committee (ICC) that the Health Protection Scotland Model Policies for Standard Infection Control Precautions would be adopted and adapted for use by SNBTS. SNBTS ICC works closely with the Health and Safety Committee to ensure consistency of policy and practice.

The following policies were ratified in April 2009:

- Management of Care Equipment
- Occupational Exposures Management, including Sharps Policy
- Personal Protective Equipment Policy
- Providing Care in the Most Appropriate Place Policy

The following policy is out for consultation and is expected to be ratified at SNBTS Management meeting April 2010:

- Management of blood and Other Body Fluid Spillages Policy

The following policy is under development in conjunction with NSS Facilities:

- Safe Disposal of Waste Policy

SNBTS is working towards dissemination of the Prevention and Control of Infection Policies to accompany Standard Operating Procedures in all areas.

3. EDUCATION AND TRAINING

SNBTS in line with Quality Improvement Scotland (QIS) Healthcare Associated Infection (HAI) Standard 5: Education (QIS 2008), has undertaken a significant

amount of in service education throughout the organisation. Personal Development Plans for relevant staff include annual infection control education.

In addition to ad hoc training sessions by Band 7 nurses, Hand hygiene awareness sessions are provided by the Senior Nurse Infection Control (SNIC). A Hand Hygiene Self Directed Unit in CD format is undertaken as part of induction training.

All managers were advised that staff should undertake hand hygiene awareness training and regular audits of staff compliance are conducted in all clinical areas (see section 5). Training has been delivered by the SNIC on the request of the local manager as follows:

- Standard Precautions including hand hygiene awareness sessions have been attended by 164 donor services staff.
- Hand Hygiene Awareness sessions have been attended 11 laboratory staff.

In addition there have been hand hygiene awareness training sessions provided locally by SNBTS training officers (Table 1) and staff have complete the self directed learning unit on hand hygiene (Table 2).

One staff member has undertaken the Master Module on HAI and Quality Improvement at Dundee University.

Table 1 Hand Hygiene Awareness Sessions

| Area | Number of staff |
|----------------|-----------------|
| Laboratory | 30 |
| Donor services | 46 |
| Total | 76 |

Table 2 Self Directed Learning Unit on Hand Hygiene

| Area | Number of staff |
|----------------|-----------------|
| Laboratory | 24 |
| Donor Services | 81 |
| Total | 105 |

4. **CLEANLINESS CHAMPIONS PROGRAMME** (National Education for Scotland)

SNBTS is committed to supporting Band 7 nursing staff and any other staff members who show an interest in infection prevention and control to undertake and successfully complete the programme.

SNBTS progress to date is as follows:

- 30 staff completed (26 band 7 nurses, 4 other)
- 20 staff in progress (7 band 7 nurses, 13 other)

Please note: some staff have left the organisation since completing the programme.

The SNIC has provided support and mentoring for all staff undertaking the programme and has reviewed staff's progress throughout.

5. AUDIT (National Hand Hygiene Campaign)

Scotland's National Hand Hygiene Campaign, 'Germs, wash your hands of them' was launched in January 2007. In addition to raising awareness of the importance of hand hygiene amongst NHS staff, patients and visitors, all operational NHS Boards have been taking part in monitoring compliance with hand hygiene. A national programme of hand hygiene compliance auditing continues following the Zero tolerance initiative introduced in January 2009. The overall result for national hand hygiene compliance during the audit period 25th January to 5th February 2010 was 94%. Compliance percentages within NHS Boards ranged from 91% to 98% (Health Protection Scotland 2010).

Hand hygiene audits have been undertaken by SNIC within donor services at donor collection sessions where 40-50 opportunities for hand hygiene are audited.

SNIC observes the following key moments (opportunities) for performing hand hygiene;

- before session,
- before venepuncture,
- after haemoglobin test,
- between donors,
- after removal of the needle,
- after tray taken to sealing,
- after plaster applied,
- after contamination

The results are reported to the managers and shared with all staff within the Donor Teams to encourage and improve compliance. Audits of staff have been undertaken in all areas. The results of the audits undertaken this year are summarised in Table 3. As Dundee audit was 88% a further audit has been scheduled.

Table 3

| | NUMBER OF AUDITS | MEAN COMPLIANCE 2009/10 (%) | MEAN COMPLIANCE (%) 2008-2009 |
|------------------|------------------|-----------------------------|-------------------------------|
| Aberdeen | 1 | 90 | 94 |
| Edinburgh | 2 | 98 | 94 |
| Glasgow | 3 | 91 | 83 |
| Dundee | 1 | 88 | 95 |
| Inverness | 1 | 98 | NA |
| Beatson | 1 | 90 | NA |

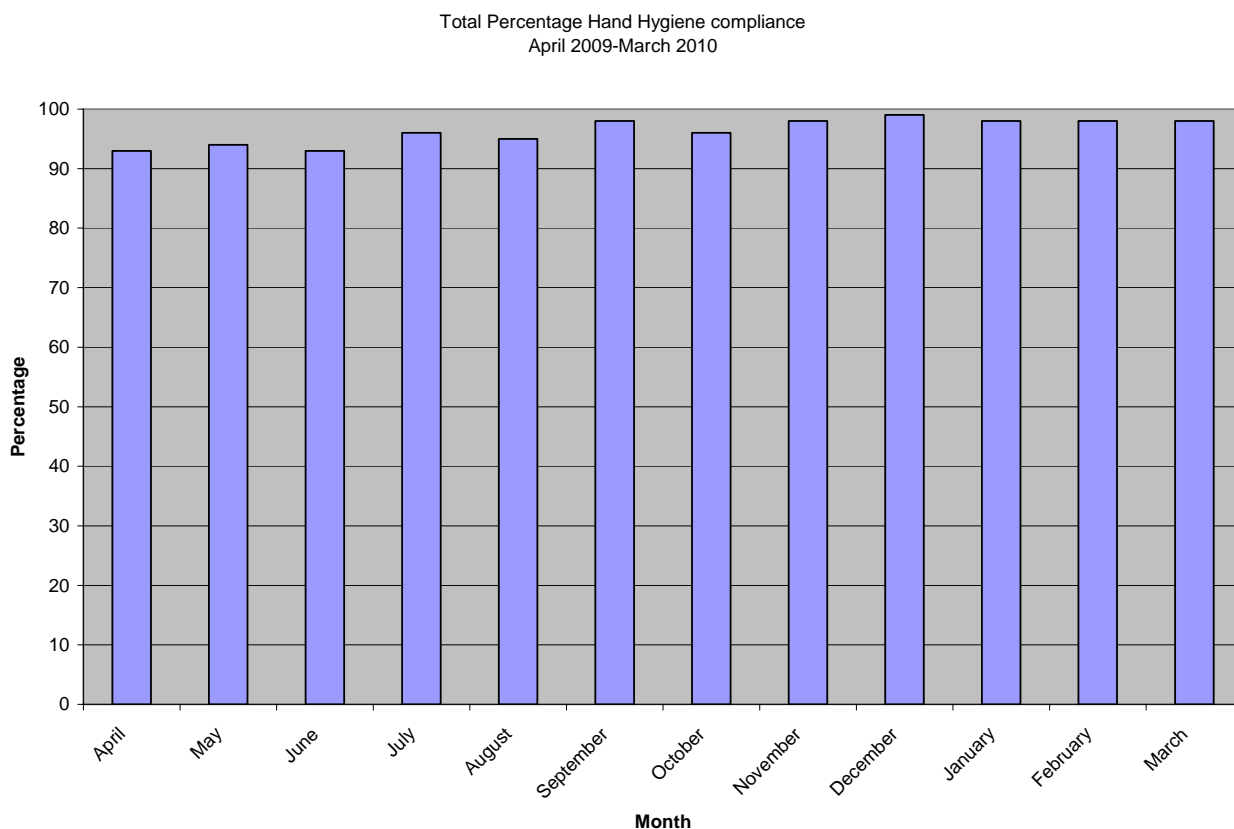
In addition, to the formal audits carried out by the SNIC, local managers within Donor Services carry out self audits once per month of 10 opportunities at a session. Edinburgh and Glasgow clinical apheresis units also undertake self hand hygiene audits monthly.

The lowest results of 93% were in April, May, and June 2009. Since then continual awareness raising by Team Managers has been undertaken. Hand hygiene audit results show an improvement in compliance from 93% to 98%, which is reported through HAI reporting template to NSS Board.

Table 4 Self Audit Results

| | Number of audits | Mean compliance (%) |
|--------------------------------------------------|-------------------------|----------------------------|
| Glasgow | 80 | 83 |
| Edinburgh | 47 | 98 |
| Dundee | 36 | 99 |
| Aberdeen | 44 | 97 |
| Inverness | 16 | 98 |
| Glasgow Clinical Apheresis (from October 2009) | 6 | 97 |
| Edinburgh Clinical Apheresis (from October 2009) | 6 | 100 |

The graph below shows the total percentage compliance with hand hygiene in SNBTS from April 2009-March 2010.



Funding for Local Health Board Coordinators (LHBC) for Hand Hygiene

A business case was prepared for two part-time LHBC posts to cover the central regions and northern regions. This was presented to SGHD HAI Policy Unit and funding was secured and is to be available from 1st April 2010 until March 2011.

6. CAPITAL PROJECTS

Infection Control issues are considered when major building projects are being developed within SNBTS premises. This is a key issue for any manufacturing area and pharmaceutical levels of cleanliness must be achieved. Infection Control and GMP issues are being taken into consideration in the specification requirements for a new Mobile Donating Centre for Edinburgh and will be a significant element of the design for the new manufacturing facility. This is an ongoing requirement and there will be a need to provide prevention and control of infection expertise in future building exercises.

7. FUNDING

Funding was allocated by SGHD to support the national Hand Hygiene campaign. This funding has been used to purchase 10 portable wash hand basins for community Donor Collection sessions at a cost of £7298.28.

8. ADVISORY SERVICE

The SNIC provides an advisory service for all SNBTS staff,

The following enquiries are worthy of note:

- Liaison with Donor Services Manager, Occupational Health and Senior Nurses with regard to the problems experienced by staff with regard to the use of Chloroprep.
- Implementation of the Hand Hygiene Policy has raised significant issues for Donor Services staff in relation to skin irritation/complaints and this is being taken forward by SNBTS management with a risk assessment being undertaken.

9. SURVEILLANCE

The Quality Directorate undertake surveillance of all venepuncturists on a twice yearly programme. This programme is principally intended to demonstrate that arm cleansing is carried out effectively and is a requirement of the MHRA. In addition, "finger dab" samples are taken from each of the venepuncturists to assess how effective the hand cleansing has been in removing bacterial contamination from the finger tips (this is important to ensure that the donor's arm is not contaminated at the time of vein palpation). The target for arm cleansing samples is to obtain no colonies on an agar contact plate, with an action limit of 10 colony forming units. There is no formal limit for the finger dab samples, but a suggested action limit of 75 Colony forming units from a finger dab of all 5 fingers of each hand has been proposed. The findings from these studies are reported quarterly and are summarised in Table 3. These data are reviewed regularly at MHRA Inspections and no adverse comments have been received. The data clearly show that the arm cleansing activities are highly effective in ensuring low levels of contamination at the

venepuncture site. The data on finger dabs show more variability nevertheless, 95.1% met the specified limit.

Table 5

| SAMPLE TYPE | NUMBER OF SAMPLES TAKEN | NUMBER WITH ZERO COUNTS | NUMBER WHICH MEET SPECIFIED LIMITS |
|-------------------|-------------------------|-------------------------|------------------------------------|
| Arm contact plate | 714 | 709 | 714 |
| Finger dab plates | 468 | 159 | 445 |

In addition to the surveillance of venepuncture related data, an extensive range of microbiological monitoring is carried out on various areas of our manufacturing processing laboratories, including blood processing areas and clean rooms. These data are reviewed regularly for compliance with set limits and demonstrate that these areas are cleaned to standards set in relevant regulatory documentation (contained in the EC Guide to Good Manufacturing Practice)

10. MONITORING OF COMPONENT MICROBIOLOGY DATA

A number of processes are used by SNBTS to minimise the risk of bacterial contamination of components. These include the following

- Detailed health check questionnaire to exclude donors with know infection risks
- Effective cleansing of the Donor's arm to minimize risk of component contamination
- Use of sterile collection packs
- Diversion of first 15 mls of donation into a sample pouch. This diverts the part of the donation at most risk of having skin contaminants
- Use of sterile processing procedures, in an environment which is controlled to minimise contamination risks.

Despite use of these risk reduction procedures, there is still a risk of contamination in the components prepared by services throughout the world. The greatest risk is with platelets and SNBTS have been testing platelets for contamination using a microbial detection system called BactAlert. This system can detect low levels of bacteria and in the period in question, a total of 4 units were found with detectable contamination. Each of these findings is followed up very formally and a root cause is sought. Two of the cases were from the same donor and it was concluded that this donor had a low level persistent infection. This donor has been put off service and advised of the need to seek suitable medical advice.

Although the BactAlert testing programme described above has proved very effective, improvements were made in our testing policy and these were implemented from March 2010.

11. **HAI**

HAI Guidance Letter

As a result of a letter sent to Chief Executives regarding Roles and Responsibilities for HAI in June 2008 and following a HAI Policy Unit SGHD visit in April 2009, information regarding all NSS divisions was collated regarding guidance in relation HAI. SNBTS met the SHGD guidance and where further actions are required this is identified in the planned work for 2010/2011.

HAI Policy Unit Meetings

Representatives from the SNBTS ICC, SNBTS Management Team and NSS Nurse Director met with SGHD HAI Policy Unit Representatives on 9th April 2009 and again on 27th July 2009. The service delivery of SNBTS, the prevention and control of infection programme and challenges relating to SNBTS in relation to national HAI initiatives were discussed.

A subsequent meeting was held 8th February 2010 where SNBTS Annual Report, HAIRT, SNBTS LHBC post(s) and QIS standards were discussed.

HAI Reporting Template

In line with the other NHS Boards in Scotland, SNBTS complete the SGHD HAI Reporting Template with regards to hand hygiene and cleaning monitoring bi-monthly until December 2009, quarterly thereafter as agreed with SGHD Policy Unit. Data is reported to the NSS Board using this template.

Leading Better Care

Two events for Donor Services Team managers have been developed where the focus was/is on prevention and control of infection and the implementation of prevention and control of infection policies. These events have been as a result of funding provided to support the Leading Better Care initiative with the key outcomes focusing on HAI roles and responsibilities.

Uniform/Dress Code Policy

The uniform/dress code is being discussed in partnership to develop uniform/dress code guidance.

It is anticipated that the new national uniforms will be implemented in SNBTS by the end of May 2010.

12. **INVESTIGATION OF SNBTS NHSSCOTLAND NATIONAL CLEANING SERVICE SPECIFICATION: QUARTERLY COMPLIANCE RESULTS APRIL-JUNE 2009**

SNBTS results in the NHSScotland National Cleaning Service Specification: Quarterly Compliance Report Results April-June 2009 dropped from 95.1% in the previous quarter to 90.9%. The previous annual total pass % was 98%. There was

no explanation within the report to explain the reduction in the results which was as a result of a failure in the cleaning monitoring of the Edinburgh Mobile Donating Centre. An internal review was thought necessary to clarify systems, processes and mechanisms for communication.

Recommendations

- NSS Facilities require to introduce internal processes to address reductions within the Green status i.e. above 90%. **This has been addressed with the NSS Facilities Strategic Objectives where the compliance KPI for domestic monitoring is now 97%.**
- NSS Facilities require to review their reporting systems both internally and externally with SNBTS to ensure the relevant personnel are timeously informed of results and any rectifications that may be required. **This is now being addressed within the NSS Facilities action plan where a system has been identified.**
- NSS Facilities require to review the procedures for undertaking cleaning monitoring to align with HFS guidance. **This has now been addressed within the NSS Facilities action plan by a system identifying staff members designated to countersign audits and a peer review audit programme being identified.**
- NSS Facilities require to reconsider their current review processes for submitting data for National Reporting. **This has now been addressed within the NSS Facilities action plan where a system has been identified where NSS Facilities Director, SNBTS National Director, Executive Nurse Director and SNBTS Infection Control Nurse will be informed of audit results below 90%.**
- A clear system for dissemination of the embargoed NHSScotland National Cleaning Service Specification: Quarterly Compliance Report to SNBTS for their review is required. **This has been addressed within NSS Facilities action plan where a system has been identified where NSS Facilities Director, SNBTS National Director, Executive Nurse Director and SNBTS Infection Control Nurse will be provided with a copy to review.**

13. CLEANING MONITORING

As part of NHSScotland National Cleaning Specification Framework NHS NSS monitor SNBTS clinical sites.

Cleanliness is assessed using observational process in accordance with National Cleaning Specifications. The requirements vary depending on the type of area being assessed and the scores are weighted to reflect the risk. Areas to be monitored are selected at random in accordance with the Monitoring Framework guidance. NHS NSS report their results to Health Facilities Scotland on a monthly basis which is collated on a quarterly basis with a report being forwarded to the Scottish Health Directorate for publication. The results for 2009-2010 are summarized in Table 6.

Table 6

| Quarter (09-10) | Percentage |
|------------------------|-------------------|
| April – June | 90.9% |
| July – September | 95.7% |
| October – December | 97.8% |
| January – March | 95.2% (projected) |

Although the quarterly result for April to June 2009 is only 90.9%, it remains above the national pass rate of 90%. An investigation was undertaken regarding the drop in percentage (see section 11) and there has been a continuous improvement thereafter. The NHS NSS annual target is 97%; however, it is projected that the annual outcome will be around 95% for 2009-2010.

13. PLANNED ACTIONS

The prevention and control of infection programme for 2010/2011 will continue to encourage devolved responsibility for prevention and control of infection in the Supply Chain, Tissue Services and Clinical Directorates with support from SNIC.

The programme for this year will include:-

- Review of Hand Hygiene Policy
- Completion of Waste Policy in conjunction with NSS Facilities
- Development of infection control audit tool for Donor Collection Areas
- Provision of education and training as required
- Continuation of the Cleanliness Champions programme
- Hand Hygiene Audit Programme continues
- Advisory service will continue
- Surveillance

14. REFERENCES

Health Protection Scotland (HPS) (February 2010) National Hand Hygiene NHSScotland Campaign Compliance with Hand Hygiene - Audit Report Health Protection Scotland (Report): Glasgow