

# 7.4

## **LOTHIAN NHS BOARD**

Board Meeting  
24 January 2007

Director of Public Health & Health Policy

### **HEALTHCARE ASSOCIATED INFECTION**

#### **1 Purpose of the Report**

The purpose of this report is to update the Board on the work to reduce Healthcare Associated Infection across NHS Lothian.

Inform the Board of the steady progress being made across NHS Lothian to reduce the risk of Healthcare Associated Infection to patients, visitors and staff.

Inform the Board of evolving topics related to Healthcare Associated Infection.

#### **2 Recommendations**

The Board is recommended to:

Acknowledge the work required to deliver the Healthcare Associated Infection agenda, which will ensure:

- Compliance with Scottish Executive Health Department guidance and recommendations;
- The risk of infection to patients, visitors and staff is minimised;
- Continuing improvement in the quality and timeliness of routine surveillance and measurement of the effectiveness of specific efforts to reduce healthcare associated infection;
- Widespread uptake of the theoretical principles and practical lessons learned from the Board's investment in staff through the GE Healthcare initiative;
- Support for staff implementing changes to clinical practice in line with best evidence.

#### **3 Summary of the Issues**

This update reports current activity across NHS Lothian.

## **3.1 Education and Training**

### **3.1.1 Healthcare Associated Infection Education Strategy**

The University Hospitals Division and Primary Care Organisation & Community Health Partnerships have reviewed the draft Healthcare Associated Infection education strategy. It has been revised and now reflects the education needs for all staff pan-Lothian and is in line with national requirements. A detailed Action Plan has been developed for the implementation of the strategy.

The Head of Training and Development is currently reviewing the strategy prior to it being formally agreed at the next meeting of the Lothian Infection Control Advisory Committee (February 2007).

### **3.1.2 Cleanliness Champions Programme**

The Cleanliness Champions Programme continues to be actively promoted amongst all disciplines of staff. A total of 385 staff have completed the course, this is an increase of 45 staff in the past two months.

A continual professional development programme for qualified Cleanliness Champions to provide ongoing support and education has been implemented across NHS Lothian, this includes the provision of two study days planned for May and November 2007. The programme focuses on key topics, for example the prevention and control of *Clostridium difficile* and emerging infection control issues.

Dr Jayshree Dave, Consultant Microbiologist, University Hospitals Division and Dr Rob Carlson, Senior Lecturer, University of Edinburgh has assessed the requirements to enable the Champions Programme to be included in the medical student's curriculum. They are currently developing an action plan on the implementation of the programme in to the curriculum.

Dr Jorge Cepeda, Consultant Microbiologist who is the NHS Lothian Clinical Lead for Infection Control and Dr Karen McSween, Consultant Microbiologist, who is the lead for antimicrobials are undertaking the Champions Programme in February 2007.

### **3.1.3 National Hand Hygiene Campaign**

The national hand hygiene campaign announced by the Minister for Health and Community Care in November 2006 will be launched on 15<sup>th</sup> January 2007. The campaign will be taken forward in two phases:

Phase 1 – A public media campaign which will run for 4-6 weeks. This will include radio and television advertisements and information leaflets for the public.

Phase 2 – An awareness-raising campaign aimed at NHS staff, patients and visitors to NHS healthcare settings will be launched alongside the public campaign and will run until March 2008. This will include displays of hand hygiene posters in all healthcare settings and information leaflets aimed at staff and patients. A programme of hand hygiene audits will also be carried out using a national audit tool, which will be provided by Health Protection Scotland on behalf of the Scottish Executive Health Department.

The Board is in the process of appointing a Health Board Co-ordinator to oversee Phase 2 of the campaign. The appointment will be made by end January 2007. This post has been requested and is funded by the Scottish Executive Health Department.

### **3.2 Code of Practice for the Local Management of Hygiene and Healthcare Associated Infection**

The Code of Practice for the Local Management of Hygiene and Healthcare Associated Infection continues to be implemented through the Infection Control work programmes. Progress is reviewed monthly and is monitored by the University Hospitals Division and Primary Care Organisation & Community Health Partnerships Infection Control Committees.

The Healthcare Associated Infection risk assessment tool for assessing patients' risk of developing a Healthcare Associated Infection and patient care plan have been piloted. The outcome of the pilot will be reported to the Lothian Infection Control Advisory Committee on 12<sup>th</sup> February 2007. It is anticipated that the risk assessment tool and care plan will be ratified by the committee and implementation plan agreed.

The Code of Practice for the Local Management of Hygiene and Healthcare Associated Infection compliance framework audit tool developed by the Primary Care Organisation & Community Health Partnerships will be discussed at the Lothian Infection Control Advisory Committee on 12<sup>th</sup> February 2007.

### **3.3 Cleaning Services**

The second national quarterly report (July - September 2006) on the monitoring of cleaning services against the NHS Scotland National Cleaning Services Specification was published in November 2006. The report highlighted significant improvement with compliance with the

specification in the Royal Infirmary of Edinburgh, with compliance increasing from 81.6% in the first quarter to 89.1% in the 2<sup>nd</sup> quarter. Standards have further improved with compliance being consistently above 90% since October 2006.

### **3.4 Decontamination**

Progress against the action plans developed under the auspices of the NHS Lothian Strategic Decontamination group continues to be monitored monthly.

#### **3.4.1 Primary Care Audit Tool**

The audit of all decontamination facilities in Primary Care settings (General Dental and Medical Practices, Podiatry, Family Planning and Optometrists), including directly managed services, contractors and independent practitioners continues to be progressed. This requirement forms part of the Scottish Executive approach to implementation of the recommendations of the Glennie report (HDL (2001) 66), which set the technical standards and approach to be applied to decontamination in health services.

All directly managed services have been audited. The audits are now being carried out in General Practices. To date 11 out of the 115 General Practices have been audited. Audits of these premises will be completed by May 2007.

The issues regarding access to General Dental Practices are in the process of being resolved. The Chief Dental Officer, Scottish Executive Health Department has agreed to provide funding to be used to compensate Dental Practices for the loss of clinic time.

The NHS Lothian Decontamination Audit Team continue to review the audit results in line with HDL(2006)40 to assess actions required and projected timescales. A report on the outcome of the audits will be submitted to the NHS Lothian Executive Management Team prior to submission to Health Protection Scotland and the Scottish Executive Health Department.

The secondments of three of the five existing Primary Care Audit Tool Audit Team have been extended to May 2007. In addition to this an auditor from Forth Valley NHS Board is assisting on a part-time basis. This will ensure resources are available to complete the audits in General Medical Practices within the agreed timescale. However, a further extension of the secondments will be required to complete the audits within General Dental Practices.

#### 3.4.2 Endoscopy

The NHS Lothian Decontamination Co-ordinator presented a discussion paper regarding compliance with current endoscopy guidance, to the NHS Lothian Strategic Decontamination Steering Group in December 2006. It has been agreed that a short-life working group will be established to carry out a risk assessment of the requirements and develop an option appraisal. This will ensure compliance is achieved following a risk management matrix.

The tender process for the purchase of High Efficiency Particulate Air filtered endoscope storage cabinets has commenced. The cabinets should result in a significant reduction in 'start of the day' reprocessing procedures, saving not only time and services required for reprocessing but will help to extend the life of the endoscope.

#### 3.4.3 University Hospitals Division

The University Hospitals Division Operational Decontamination Group continues to monitor progress with the agreed decontamination action plan on a monthly basis. Steady progress has been made. The NHS Lothian Strategic Decontamination Steering Group continues to maintain an overview.

#### 3.4.4 Primary Care Organisation & Community Health Partnerships

The Primary Care Organisation & Community Health Partnerships and Dental Decontamination Steering Groups continue to monitor progress with the agreed decontamination plans in primary care settings. The requirements for Roodlands Hospital and Leith Community Treatment Centre endoscopy units to meet the requirements of HTM 2030 are making good progress. Local decontamination protocols have been developed and have been submitted to the NHS Lothian Strategic Decontamination Steering Group for approval.

### 3.5 Single System Working

The structure of the Infection Control Service under single system working has been agreed. The University Hospitals Division will host the Service. The recruitment process to appoint the Head of Service Infection Control and Nurse Consultant HAI has commenced. It is anticipated both positions will be appointed by Spring 2007.

### **3.6 Quality Improvement Scotland Healthcare Associated Infection Control Standards**

An audit of compliance with the Quality Improvement Scotland Healthcare Associated Infection Control Standards was carried out by Internal Audit November 2006. The final report is awaited, however it is anticipated that full compliance has been achieved.

### **3.7 Outbreaks and Incidents**

There have been no significant outbreaks of healthcare associated infection since the previous Board brief.

### **3.8 Surveillance**

#### **3.8.1 Surveillance Programme**

The NHS Lothian surveillance programme which includes mandatory and non-mandatory surveillance continues to be complied with across Lothian, with the requirements of HDL(2006)38 being met. In addition, a programme of non-mandatory surveillance continues.

#### **3.8.2 Meticillin Resistant Staphylococcus aureus (MRSA)**

The number of episodes of MRSA bacteraemia continue to be collated monthly from the general laboratory data systems. The information is circulated to clinical directors and senior managers in the University Hospitals Division, the Primary Care Organisation & Community Health Partnerships and the Health Protection Team. This data is in addition to and enhances the national Health Protection Scotland surveillance programme, which NHS Lothian complies with.

The MRSA data for January 2005 - December 2006 (appendix 1) demonstrates that there has been a small reduction in the number of MRSA bacteraemias over the two year period. The variation in distribution continues to reflect susceptibility of patients and use of invasive devices.

#### **3.8.3 Clostridium difficile (C.dif)**

The number of episodes of C.dif continue to be collated monthly from the general laboratory data systems. The information is circulated to clinical directors and senior managers in the University Hospitals Division, the Primary Care Organisation & Community Health Partnerships and the Health Protection Team. This data is in addition to and enhances the national Health Protection Scotland surveillance programme, which NHS Lothian complies with.

The C.dif data for January 2005 - December 2006 (appendix2) demonstrates that there is an encouraging downward trend of the number of cases of C.dif.

#### 3.8.4 Enhancement of MRSA and C.dif Data Reporting

The data collection and reporting systems for MRSA and C.dif are currently being reviewed to develop a reporting system that will provide more detailed analysis of the episodes of MRSA and C.dif. This will enabled a targeted approach to prevent and control the incidence of infection on a risk management basis.

### 3.9 Healthcare Associated Infection Development and Implementation Fund

The monies received from the Scottish Executive Health Department's Healthcare Associated Infection Development and Implementation Fund (2006/07 - 2007/08) have been used to provide additional staff to support the ongoing work to meet the needs of the national requirements related to Healthcare Associated Infection. The principal positions are two Biomedical Scientists, one Infection Control Nurse and a Cleanliness Champions Programme administrator.

## 4 Evolving Issues: PVL *Staphylococcus aureus*

### ***Staphylococcus aureus***

*Staphylococcus aureus* (*staph aureus*) is a common cause of infection from minor skin lesions such as boils to septicaemia. It is transmitted from person to person by close contact. An estimated 30% of the general population are colonised with *staph aureus* and it occurs in community and hospital settings.

### **Antibiotic resistance**

There are many different strains of *staph aureus* with variable resistance to common antibiotics. Over 80% of *staph aureus* is resistant to penicillin. Strains with resistance to flucloxacillin and other antibiotics, known as MRSA, emerged in the 1980s, mostly in the hospital setting. The level of MRSA in hospitals has risen since the 1980s to become a major public health concern.

### **Community acquired MRSA**

MRSA also occurs in the community setting, that is, among individuals who had no previous hospitalisation or prolonged antibiotic treatment. Community strains of MRSA are quite different from the hospital ones; in particular, they tend to be more sensitive to antibiotics. The prevalence of community acquired MRSA in the UK is low. It is more

common among other wise well young adults and children, particularly groups involved in close contact sporting activities, the military, the gay community, injecting drug users and those living in overcrowded conditions.

### **Toxin production**

In addition to antibiotic resistance, many strains of *staph aureus* produce toxins; for example, the organism which causes toxic shock syndrome produces toxic-shock syndrome toxin -1.

### **PVL toxin**

Recently *staph aureus* bacteria carrying PVL- Panton-Valentine Leucidin toxin- have emerged worldwide. As with other types of *staph aureus*, individuals can be colonised with PVL *staph aureus* without it causing infection. When infection occurs it causes purulent skin infections such as abscesses. Rarely, severe infections such as bacteraemia and necrotising pneumonia (a life threatening form of pneumonia) can result.

### **Prevalence of PVL *staph aureus***

The PVL toxin can be produced by both methicillin sensitive (MSSA) and methicillin resistant *staph aureus* (MRSA). In the UK, most *staph aureus* with PVL have been MSSA. Community associated MRSA are more likely to produce PVL than hospital associated MRSA.

The prevalence of PVL *staph aureus* is low in the UK; less than 2% of *staph aureus* isolates in the UK produce the toxin.

### **Clusters of PVL *staph aureus***

Clusters of PVL *staph aureus* have occurred worldwide, including in the UK.

The HPA has reported seven deaths associated with PVL producing strains of *staph aureus* in the last two years in England and Wales. While most of these have not been related to hospital care, recently there were two deaths due to hospital associated PVL *staph aureus*, which gained prominent media attention. These deaths occurred as part of a cluster of eight cases of PVL positive community associated MRSA (CA-MRSA) among individuals in a hospital and their close contacts. This was the first documented report of hospital transmission of PVL positive CA-MRSA in the United Kingdom.

In addition, there have been hospital outbreaks of PVL positive MSSA in hospitals in England. In December 2006 there was an outbreak of PVL positive MSSA in a neonatal unit; there were six babies affected, and one death.

## **Scotland**

Scotland has seen a small number of familial clusters of PVL *staph aureus* in recent years. These can be difficult to eradicate, as the organism can be passed back and forward among family members and can survive in the home environment.

## **NHS Lothian**

Currently, the NHS Lothian Health Protection Team is investigating managing a small familial cluster of PVL positive CA-MRSA in collaboration with primary care, infection control, microbiology in NHS Lothian, and with advice from HPS and HPA. All appropriate public health measures have been implemented and the situation continues to be monitored.

### **Prevention of PVL associated *staph aureus***

Maintaining good standards of basic hygiene, particularly hand washing is important. Minor wounds should be covered and personal items such as razors, towels and toothbrushes should not be shared.

### **Treatment of PVL *staph aureus***

Surgical draining of abscesses caused by PVL *staph aureus* is indicated. While, PVL MRSA is resistant to some antibiotics, antibiotics which can be used to treat PVL MSSA and MRSA are readily available. Individuals with the severe consequences of PVL *staph aureus* infection require admission to intensive care, aggressive antibiotic therapy and supportive measures.

## **5 Equality and Diversity Impact Assessment**

As with community acquired MRSA there is some evidence that those who acquire PVL experience other forms of disadvantage. The implications of this for surveillance and ways of monitoring will be considered at the next meeting of the Lothian Infection Control Advisory Committee in February 2007 and will be included in the presentation to the Healthcare Governance and Risk Management seminar in March 2007.

Carol Fraser  
Nurse Consultant in Health Protection  
18 January 2007

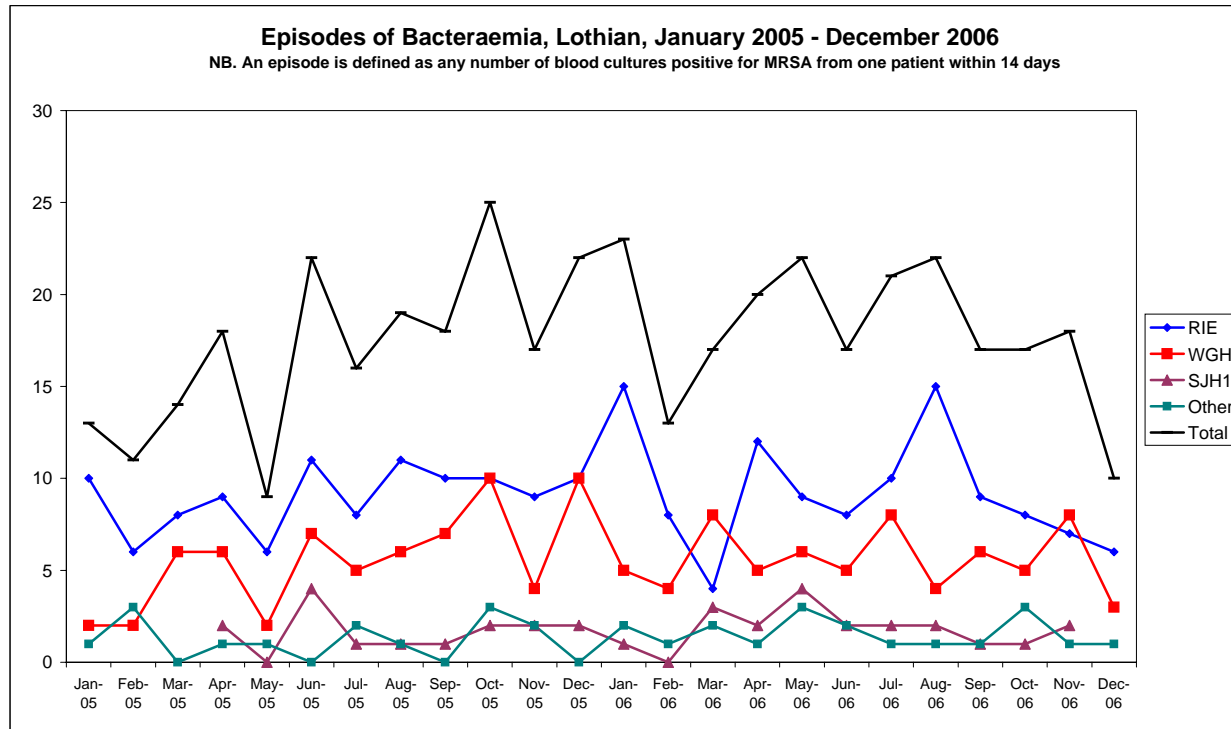
## **List of Appendices**

Appendix 1: Meticillin Resistant Staphylococcus aureus Bacteraemia January 2005 - December 2006

Appendix 2: Clostridium difficile January 2005 - December 2006

Episodes of Bacteraemia in NHS Lothian: January 2005 - December 2006

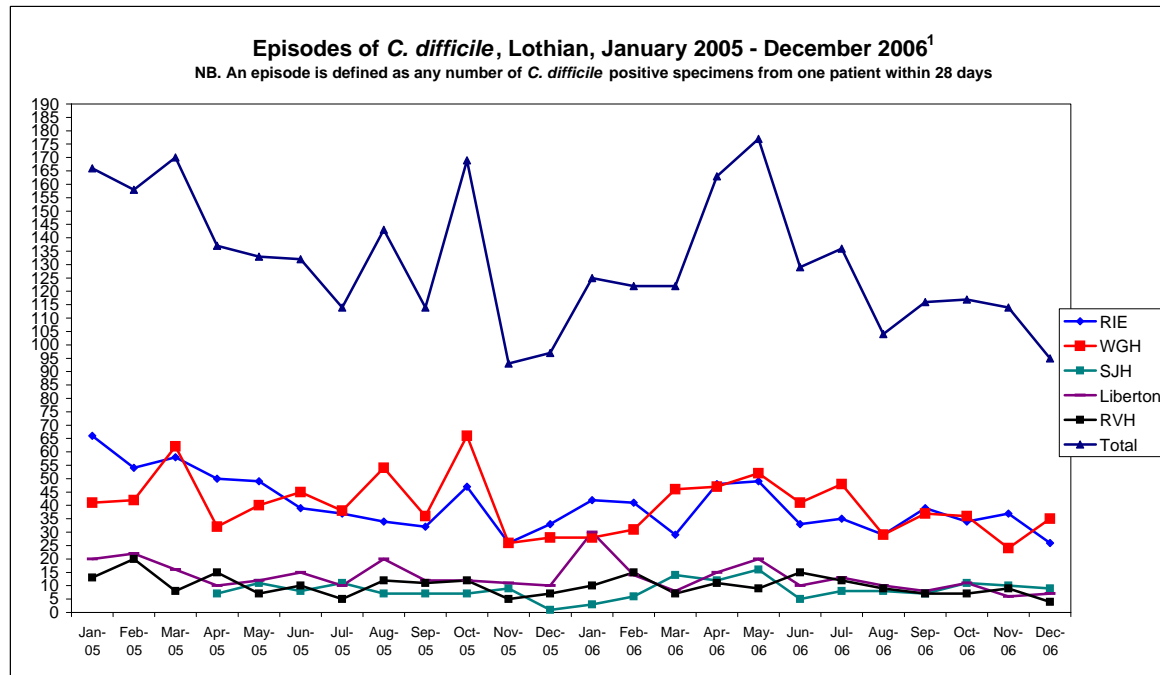
Site	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06
RIE	10	6	8	9	6	11	8	11	10	10	9	10	15	8	4	12	9	8	10	15	9	8	7	6
WGH	2	2	6	6	2	7	5	6	7	10	4	10	5	4	8	5	6	5	8	4	6	5	8	3
SJH <sup>1</sup>				2	0	4	1	1	1	2	2	2	1	0	3	2	4	2	2	2	1	1	2	
Other	1	3	0	1	1	0	2	1	0	3	2	0	2	1	2	1	3	2	1	1	1	3	1	1
<b>Total</b>	<b>13</b>	<b>11</b>	<b>14</b>	<b>18</b>	<b>9</b>	<b>22</b>	<b>16</b>	<b>19</b>	<b>18</b>	<b>25</b>	<b>17</b>	<b>22</b>	<b>23</b>	<b>13</b>	<b>17</b>	<b>20</b>	<b>22</b>	<b>17</b>	<b>21</b>	<b>22</b>	<b>17</b>	<b>17</b>	<b>18</b>	<b>10</b>



<sup>1</sup>St Johns data from April 2005

**Episodes of *C. difficile* in NHS Lothian: January 2005 - December 2006**

Site	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06
RIE	66	54	58	50	49	39	37	34	32	47	26	33	42	41	29	48	49	33	35	29	39	34	37	26
WGH	41	42	62	32	40	45	38	54	36	66	26	28	28	31	46	47	52	41	48	29	37	36	24	35
SJH				7	11	8	11	7	7	7	9	1	3	6	14	12	16	5	8	8	7	11	10	9
Liberton	20	22	16	10	12	15	10	20	12	12	11	10	30	14	8	15	20	10	13	10	8	11	6	7
RVH	13	20	8	15	7	10	5	12	11	12	5	7	10	15	7	11	9	15	12	9	7	7	9	4
AAH	4	2	2	6	1	1	2	2	1	3	2	4	3	3	2	6	6	3	4	2	2	3	5	1
RHSC	5	3	4	3	1	3	2	3	2	3	1	1	1	1	0	6	4	6	1	1	4	5	1	
Roodlands	3	4	8	6	5	3	3	1	4	2	4	3	2	2	8	2	8	3	3	1	2	1	2	1
GP	9	7	11	3	5	4	5	7	7	10	6	4	4	3	3	9	8	10	4	6	3	6	13	8
Other	5	4	1	5	2	4	1	3	2	7	3	6	2	6	5	7	5	3	8	9	7	3	6	3
Not Given																							1	1
<b>Total</b>	<b>166</b>	<b>158</b>	<b>170</b>	<b>137</b>	<b>133</b>	<b>132</b>	<b>114</b>	<b>143</b>	<b>114</b>	<b>169</b>	<b>93</b>	<b>97</b>	<b>125</b>	<b>122</b>	<b>122</b>	<b>163</b>	<b>177</b>	<b>129</b>	<b>136</b>	<b>104</b>	<b>116</b>	<b>117</b>	<b>114</b>	<b>95</b>



<sup>1</sup>St Johns data from April 2005  
 Produced by: Laboratories Directorate, NHS Lothian