

Health & Social Services Committee

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Title: Hospital Acquired Infection - Evidence from Gwent Healthcare NHS Trust



Gwent Healthcare NHS Trust

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**Health & Social Services Committee
5th October 2005**

INFECTION CONTROL REPORT

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1. BACKGROUND

Reducing the burden of healthcare associated infection (HCAI) is one of the major challenges that face those providing healthcare today. It is the focus of increasing public concern and receives regular media coverage.

HCAI is not a new problem, but there are an increasing number of organisms that are resistant to commonly used antibiotics. The advancement of medical science means patients are receiving treatment that would not have been available a decade ago. Pioneering treatments can result in an increased number of patients being more vulnerable to infection.

In 2000 the National Audit Office (NAO) reported that 9% of patients in hospital were affected by healthcare associated infection. It is estimated that Healthcare associated infection is responsible for 5000 deaths annually in England and it is suggested that it is a contributing factor in a further 15,000 deaths per year. A follow up progress report conducted by the NAO and published in July 2004 showed that in spite of on-going work, little had improved since the previous report. It is recognised that not all healthcare associated infections are preventable, however up to 30% may be prevented through effective infection control measures.

2. CURRENT CONTEXT

2.1 Gwent Healthcare NHS Trust

Gwent Healthcare NHS Trust is one of the busiest and largest Trusts in the UK serving a population of over 600,000. The Trust has microbiology laboratories on three sites which in total processed 700,458 samples. A total of 135,274 were MRSA screening swabs, which is 26% higher than the previous year.

In the last twelve months, the Trust received and provided treatment to:

- 68,300 emergency admissions
- 15,000 non emergency admissions
- 49,400 day cases
- 9,000 obstetric admissions

Accident & Emergency and Minor Casualty departments dealt with:

- 159,000 referrals
- 115,000 new outpatient cases
- 277,000 follow up out-patients

These figures do not include patients treated in the community setting.

2.2 Infection Control Strategy

The publication of the strategy document "Healthcare associated infections - A Strategy for Hospitals in Wales" outlined key strategic objectives for the prevention and reduction of infections within healthcare Trusts. Trusts were required to develop action plans across each directorate/division. Organisational action plans were submitted to NHS Regional offices in April 2005. Funding of up to £20k was made available for each Trust in Wales to aid implementation of the strategy. Gwent Healthcare NHS used this funding to appoint a surveillance nurse for 6 months. Hand held computers were purchased to provide the Infection Control Team with a more efficient system of audit data collection.

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3. SURVEILLANCE AND AUDIT

Surveillance and clinical audit are an essential component of any strategy to reduce healthcare associated infection. The Welsh Assembly Government's strategy "Healthcare associated infections – A Strategy for hospitals in Wales" expects Trusts to participate in national surveillance programmes. The data collected from these comprehensive surveillance systems allow comparisons to be made across Wales and internationally. Clinical audit provides a tool to monitor compliance with infection control policy and can be used to investigate problems identified through surveillance programmes.

3.1. Surveillance and audit within Gwent Healthcare

Gwent Healthcare NHS Trust has developed a surveillance programme in line with mandatory surveillance requirements and local needs. The surveillance programme in Gwent Healthcare NHS Trust identifies the extent of healthcare associated infection due to MRSA and other alert organisms and conditions. This includes resistant micro-organisms of any type, Clostridium difficile associated diarrhoea, rotavirus, diarrhoea and/or vomiting, etc.

Results from surveillance guides Infection Control Programmes and the Infection Control Team's daily activity. The Infection Control Team investigates all alert organisms and conditions and the numbers have remained relatively stable over the past two years. The Infection Control Team reports all outbreaks of Alert Organisms to the National Public Health Service.

The Infection Control Team within the Gwent Healthcare NHS Trust works within a defined rolling programme of audit. Infection control practice is audited annually in high-risk areas such as critical care, theatres and A&E, also the surgical and acute medical wards with an audit undertaken every three years in lower risk areas such as rehabilitation wards and community hospitals.

4. PRESENT POSITION BASED ON SURVEILLANCE AND AUDIT DATA

4.1 MRSA Bacteraemia Data

The Trust has been participating in the national surveillance programme for MRSA Bacteraemia since 1996. Data from this programme indicates that the extent of healthcare associated MRSA bacteraemia infections is under control. There have been reductions in the number of cases of MRSA bacteraemia in Gwent.

In the 12 months up to June 2005 Gwent Healthcare NHS Trust had a total of 49 blood culture MRSA cases. This is down from 60 cases in the same period in the two previous years and from 65 cases three years ago. Gwent remains under $\frac{3}{4}$ of the Welsh average with 69 cases per million bed days (see appendix 1 and 2)

The risk of getting MRSA blood poisoning in Gwent Healthcare NHS Trust averages 1 in 14,500 per day Appendix 1 provides further information on MRSA data across Wales.

4.2 Alert Organisms - New MRSA Positive Results

The prevalence of MRSA in the general population is not known, however, research recently carried out in Oxford indicates that approximately 8% of patients admitted to hospital are known to have had previous MRSA isolated, a figure that had trebled over 6-years. The Oxford rate is the same as that found in a published study of surgical admissions carried out at Nevill Hall Hospital in 2001. There is no reason to believe that the general conclusions of the Oxford study are not applicable to the Trust.

The Infection Control Team is proactive in the monitoring of positive MRSA results. Each result including positive results from GP practices is followed up to determine whether the MRSA could have been acquired at one of the Trust's hospitals. This rigorous follow up of all new MRSA results and rapid intervention has been important in managing MRSA in this Trust.

Surveillance of MRSA serves as a key performance indicator. Gwent Healthcare NHS Trust uses the MRSA surveillance data as a means of measuring compliance with infection control policy at ward and department level. All wards and departments have MRSA data recorded on a weekly basis and increases are promptly recognised and feedback to the ward manager, clinician and senior nurse for the area. If remedial action is necessary this is monitored by the infection control team.

4.3 Alert Organisms - Rotavirus

Rotavirus is an alert organism and all cases are closely monitored particularly on the Paediatric wards. Children admitted with diarrhoea due to this organism are a common occurrence during winter months. Stringent compliance with infection control precautions on the paediatric wards has resulted in no outbreaks due to this organism over the past two years.

4.4 Alert Conditions - Clostridium Difficile Associated Diarrhoea

All individual cases of Clostridium difficile associated diarrhoea are followed up. As a Trust there have been no outbreaks of Clostridium difficile infection for 2003 and 2004. Since January 2005 all individual cases are reported to the National Public Health Service under a new surveillance scheme where stool samples sent to the laboratory from in-patients over the age of 65 are tested for the presence of Clostridium difficile toxin. The Trust is awaiting the data to benchmark with Trusts across Wales. There has been an increase in the numbers of individual cases of Clostridium difficile diarrhoea for 2004 compared with 2003. The all Wales data will assist the Trust in interpreting and understanding this rise.

4.5 Mandatory Orthopaedic Surgical Site Infection Surveillance

The Trust is actively managing the surveillance of orthopaedic surgical site infection. A recent review of current compliance rates with this mandatory surveillance scheme indicates that compliance is patchy across the Trust. The Trust has identified that surveillance of surgical site infection requires increased resources to achieve full compliance, particularly in relation to post discharge surveillance.

A Surveillance Nurse has been appointed within the Trust to improve compliance and to set up systems that will maintain compliance with reporting.

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The limited data available to date suggest that surgical site infection in this area is not a problem; further exploration will be undertaken when compliance in reporting in this area has been improved.

4.6 Infection Reduction Programmes

The Trust is embarking on an infection reduction programme for Caesarean section surgical site infection. The programme has been set up and baseline data collection will commence on 10th October 2005 facilitated by the surveillance nurse. A review following three months data collection will be carried out and interventions to reduce rates will be instigated. Caesarean section surgical site infection surveillance will be mandatory from January 2006

4.7 Outbreak reporting

The Trust reports all outbreaks of diarrhoea and or vomiting to Communicable Disease Surveillance Centre Wales. The numbers of reports of outbreaks other than gastro-enteritis are small and it is too early to draw conclusions from available data.

4.8 Audit programme

In addition to the Trust's rolling programme of infection control practice audits. The Infection Control Team works in collaboration with the clinical audit department and clinical governance leads across multiple sites to carry out audits of compliance with staff hand hygiene.

An audit of the management of intravenous infusion with a focus on infection control has also been conducted. This information has been used by the Intravenous Infusions Group to identify educational needs and policy development in relation to this aspect of patient care.

As part of the strategy to reduce healthcare associated infections, further work is planned to set targets and ensure audit reports are fed into each division in a systematic way. The new Infection Control Audit tool developed by the Infection Control Nurses Association and Department of Health has a detailed scoring system and this will allow feedback on qualitative compliance scores with infection control policy. This will assist target setting and performance monitoring.

5. HAND HYGIENE

Staff compliance with hand decontamination is the single most important method of reducing HCAI. Hand hygiene baseline compliance rates of below 50% are reported in the national and international literature. This was reported by the National Patient Safety Agency from data in their pilot of the Cleanyourhands campaign. The Trust undertook an audit to identify baseline compliance rates for hand hygiene. The Lewisham Hand Hygiene Observation tool was used as the standard to collect this data. The audit has been repeated again this year.

In 2004 the overall hand hygiene compliance rate within the areas audited was 39%. This year the compliance rate is 42%. This compliance is for all hand hygiene opportunities, which includes use of alcohol hand gel on entering and leaving the ward. On review of the data there has been a significant increase in the compliance of certain staff groups and particularly the compliance with hand hygiene "at the point of care".

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Staff groups identified with low compliance have been and will continue to be targeted with education. Feed back of audit results will also be provided. A re-audit of the wards with the lowest compliance rates is planned.

6. USE OF ANTIBIOTICS

Antibiotic resistance is recognised as a major implication and threat to public health. Within Gwent a joint formulary had been developed between the Trust and Local Health Boards as an integrated approach to the management of medicines. The formulary includes an antibiotic policy that gives guidelines to encourage judicious use of antimicrobials at all times to maintain high standards in prescribing.

The pharmacy department currently undertakes ad-hoc audits on the use of various antibiotics in terms of compliance. Following the audits the results are reviewed via the Trusts Audit Committee and protocols of good practice are developed. The microbiology laboratory reports only a limited number of antibiotic options rather than a full list of antibiotics reported as sensitive. This controls the use and prescription of antibiotics at local level.

7. CURRENT MEASURES TO ADDRESS HEALTHCARE ASSOCIATED INFECTIONS

7.1 Infection Control Team

Gwent Healthcare NHS Trust has invested in infection prevention and control and has the largest Infection Control Team in Wales with dedicated administrative support. The Infection Control Team has responsibility for all aspects of surveillance, prevention & control of infection within the Gwent Healthcare NHS Trust, with clear lines of accountability via the Trust Quality and Clinical Governance Committee to the Trust Board. (See appendix 3)

The Infection Control Team delivers an Infection Control Service across all 84 sites within the Trust, linking in with other service providers both internally and externally to ensure appropriate patient management.

Essential activities such as surveillance, teaching, policy development, audit and the provision of advice to staff, visitors and patients on all aspects of infection prevention and control are undertaken.

Each Infection Control Nurse links with a specific clinical division in order to ensure good working relationships and continuity of service. Infection Control Nurses linked with individual divisions have worked with the designated infection control leads in each division to facilitate the development of divisional action plans in response to the Welsh Assembly strategy on HCAI.

A Surveillance Nurse has joined the Infection Control Team to increase compliance with Orthopaedic surgical site infection surveillance and also to set up the surveillance of surgical site infection in patients who have undergone Caesarean section.

7.2 Education and Training

Gwent Healthcare NHS Trust provides training on infection control for staff across the organisation. Infection Control is incorporated into all staff and junior doctor induction. Training is divided into two parts. Level one training covers basic infection control and has been developed for all staff.

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Level two has been developed for staff that have patient contact and these staff attend both levels. Extra training is provided for groups of staff if training needs are identified through surveillance and audit programmes.

The Trust will welcome the infection control e learning package being developed by the Welsh Assembly Government and this will greatly enhance our current teaching programme.

7.3 Research & Development

The Trust is participating in the CHART Project which is a collaboration between Thames Valley University and the Richard Wells Institute. This is a UK wide research project. Three wards are involved in this research looking at how feedback is given to ward areas regarding incidents of ward acquired MRSA. The aim is to reduce the incidence of infection by improving the quality of data and method of feedback. If this work has an impact on infection rates it will be utilised throughout the Trust.

7.4 Introduction of the Cleanyourhands campaign

In order to increase compliance rates in hand hygiene the Trust registered with the National Patient Safety Agency to become a Clean Hands Partner and receive resources to implement the campaign within the Trust. The cleanyourhands campaign was launched on 14th March 2005 in acute hospitals with a roll out of the campaign to community hospitals in July 2005.

As another means of measuring the effect of the Cleanyourhands campaign, measurements of alcohol hand rub usage pre and post campaign have been obtained. Use of alcohol hand rub has increased in volume by 74% across all acute sites. At The Royal Gwent Hospital the largest of the acute hospital sites, usage has more than doubled.

7.5 Pre-admission MRSA screening for elective surgical patients

The Orthopaedic and vascular pre-admission screening for MRSA has identified those carrying MRSA before admission for elective operative procedures. This has reduced the potential risk of post-operative MRSA infection to those carriers of the organism through the prescribing of decolonisation regimes prior to surgery, and also minimised the risk of MRSA transmission on the elective Orthopaedic Wards. This is reflected in our MRSA data for these wards. Due to the success of this pre-admission screening MRSA pre-admission screening is being extended to include patients undergoing elective surgery in other surgical specialities.

7.6 Patient Perception

Patient/public perception of HCAI in Gwent Healthcare NHS Trust is a key part of the Trust approach to management of infection control. Patients and public are continually exposed to news reports and information on HCAI and this can affect patient confidence. The Infection Control Team receives an increasing number of calls from concerned patients and relatives on HCAI. The Trust MRSA bacteraemia data highlights to patients and the public Trust rates and how this compares with other organisations. The Infection Control Team regularly updates members of the Patient Panel on infection control issues, and involves them in new initiatives.

For example, the Clean~~your~~hands campaign and Infection Control Awareness week. Feedback from patient panel members has been a source of information to the Infection Control Team in relation to patient perception on HCAI. A member of the Community Health Council is also a member of our Infection Control Committee.

Every year there is an Infection Control Awareness week which the Infection Control Team uses to convey key messages on infection control. This year the Infection Control Team has engaged support from members of the Patient Panel who have an interest in infection control. The initiative this year has a broad remit with emphasis on HCAI and cleanliness.

7.7 Decontamination

Acknowledging the importance of decontamination in protecting the public and the need to comply with HTM Standards the Trust invested in a part-time post for decontamination in May 2004. Based on progress to date and action in-line with risk assessments and risk profiles this has now been increased to a full-time post and sits within the Risk Management function. The Risk Management Support Team is progressing work around decontamination to ensure equipment is decontaminated in accordance with current standards.

The Trust has a management system in place that ensures as far as reasonably practicable, that risks associated with decontamination are managed effectively. There are clearly defined lines of accountability, with established policies, procedures, record keeping, training and facilities in-line with current legislation and guidance. A key component to all the above is that decontamination remains high on the Trust agenda. Additional resources are required for replacement programmes and increased use of central sterilisation for decontamination with single use equipment used wherever possible.

A project to review current systems of bed cleaning is currently underway. This will incorporate other equipment such as patient lockers and bed tables to ensure the highest standards of cleaning for these items.

7.8 Cleanliness standards

Gwent Healthcare NHS Trust is proactively managing the implementation of the National Standards of cleanliness. A review of current cleaning services has been undertaken to determine the Trust's position in relation to these standards. Using the "Best Value" model, extensive data has been collected and will be presented together with recommendations in a report to the Quality and Clinical Governance Committee. The report will identify areas where cleaning, housekeeping and maintenance services need to focus on standards of cleanliness and identify if there is a shortfall in terms of resources available to achieve the required standards.

7.9 Performance management

Welsh Risk Management Standards (WRMS) Standard 14 Infection Control is audited twice yearly through internal audit and Welsh Risk Pool. The score against the WRMS undertaken by the Welsh Risk Pool was 95% for 2004/05 showing an increase from 93% in 2003/04. To achieve full compliance next year the Trust is progressing the following:

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- Formalising arrangements between Works & Estates Department and the Infection Control Team to incorporate infection control advice on new builds and refurbishments
- Incorporating infection control into divisional business plans.
- Improving feedback of surveillance and audit data at all levels of the organisation.

An Internal Audit of the Infection Control Service is conducted annually. For the past two years this has been undertaken by Bentley & Jennison external auditors.

The Trust Board receives an Annual Report on Trust performance regarding Infection Control. There are regular reviews of trend analysis at the Risk Management Committee. The Formal Executive Team receives regular reports on infection prevention and control within the Trust. The Quality & Clinical Governance Committee chaired by the Chairman and attended by four Non Executive Directors, the Chief Executive and five Directors of the Trust receives the Infection Control Annual Report and monitors progress against Internal Audit report.

8. WHAT MORE NEEDS TO BE DONE LOCALLY TO MINIMISE THE SPREAD OF INFECTION

Although a number of steps have been taken to reduce HCAI within the Trust, it is acknowledged that continued improvement must be made. The Trust has plans to develop the areas detailed below:

8.1 Patient and public information

Increased information for patients and public in infection prevention and the role they can play in reducing their risk of acquiring an infection during their hospital stay will be developed. This will include clear guidance on responsibilities of patients, visitors and relatives in reducing and preventing infection. Simple measures such as advising patients to shower or bath before coming into hospital, having relatives bring clean nightwear, limiting visitors to two at a time and not allowing visitors to sit on the beds can have a major impact. These issues on advising patients on the importance of personal hygiene and advising they ask their visitors and staff to clean their hands will be included in patient information leaflets, which are currently being developed.

8.2 Review of Management Arrangements

Review of infrastructure and reporting arrangements for infection control will be undertaken in-line with the implementation of the strategy and progression with local action plans this will ensure that the infection control team continue to provide relevant support at all levels. The key to long-term success in terms of infection control is ownership at a local level.

Ownership of infection control at all levels of the organisation is being promoted and a framework that clearly demonstrates accountability is being developed to ensure compliance. This will raise the profile of infection control through increasing cultural awareness on the importance of infection control and engender change across the organisation.

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This approach will be extremely important in ensuring improved compliance at a local level in areas such as hand hygiene.

8.3 Antibiotic use

For the future audits related to antibiotic use and compliance with the prescribing policy will be undertaken within the clinical environment. A closer liaison between the microbiology team and pharmacy will be developed to ensure an effective and more integrated use of antibiotics. The Trust would also welcome a dedicated pharmacist whose role would be to systematically review and control the use of antibiotics as recently developed and implemented in England.

8.4 Review of Building Infrastructure

Adequate resources in terms of building infrastructure and services are essential in reducing HCAI. Gwent Healthcare NHS Trust within the Clinical Futures project is looking at reviewing service provision. Appropriate infection control requirements in terms of ventilation; flow of people, supplies; waste; adequate storage; numbers and location of clinical hand wash basins; ward layout and isolation facilities will be an important feature of estate planning within this model.

The Trust currently has 2000 beds, of these 1325 are acute beds. The demands for isolation rooms are greatest within acute sites and there are currently 283 single rooms available in this area. However, the Trust does not have purpose built isolation facilities and is currently reviewing the provision of isolation facilities with a view to improve facilities for the short and long term. As part of the clinical futures project the Trust is considering models of 50 - 100% single room wards. Purpose built isolation rooms with negative pressure ventilation that meets current standards and patient requirements will also be incorporated into plans. This work needs ongoing support at a national level.

9. WHAT MORE NEEDS TO BE DONE NATIONALLY TO MINIMISE THE SPREAD OF INFECTION

9.1 Infrastructure

Despite the Trust's lower figures for MRSA it is increasingly difficult to accommodate patients with MRSA into side wards when segregation is required. As a means of monitoring the extent of the problem around availability of single rooms for isolation, adverse incident forms are completed if patients cannot be isolated and these are reported via the Trust's incident reporting system.

In addition to MRSA the Infection Control Team are dealing with a relatively small but increasing number of other resistant micro-organisms such as resistant coliforms (ESBL's), Vancomycin resistant enterococci, TB, and this has an impact upon the already limited resources available to isolate patients.

The issues around infrastructure are not limited to numbers of available isolation rooms but also to the increasing demands on the service with increasing numbers of clinical procedures being carried out in rooms that were not designed for such procedures - for example, conversion of offices into diagnostic and treatment facilities such as for amniocentesis.

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The Trust would welcome more formal guidance on isolation facilities in particular negative pressure isolation rooms.

9.2 Increased National bench mark data and sharing of information

At a national level more information on the extent of HCAI and how this compares with Trusts across Wales would be useful for patients, public, staff and Infection Control Teams. This surveillance would require a significant input of resources across Wales.

Mechanisms for highlighting best practice to allow sharing and learning will assist Trusts to continuously improve performance in the reduction of HCAI. This needs to be developed on a national and international level.

The Trust is eager to participate in the HCAI prevalence study that is planned for next year, as this will provide a snap shot of the extent of HCAI within Gwent Healthcare NHS Trust. The data will be evaluated and used to direct the Infection Control Programme.

10. CONCLUSION

Reducing the burden of Healthcare associated infection will continue to require resources to monitor, prevent and control spread. A number of local actions such as:

- controls on antibiotic usage;
- improving environmental cleanliness;
- increasing staff compliance with hand hygiene;
- ongoing development of robust decontamination of equipment;
- outlining patient responsibilities;
- ensuring ownership of infection control exists at all levels of the organisation
- will support continuous improvements in reducing HCAI

At a national level, further guidance for example on negative pressure facilities, targets for specific infection reduction and national and international benchmark data could also support and augment local initiatives.

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11. REFERENCES

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APPENDIX 1

- ◆ MRSA in Gwent Healthcare NHS Trust
- ◆ Health Department of Welsh Assembly Government Surveillance Scheme for mandatory reporting of all MRSA bloodstream infections
- ◆ English Trusts: 160 per million bed-days (data to Mar 2005)
- ◆ Scottish Trusts: 190 per million bed-days (data to Dec 2004)
- ◆ Welsh average is 106 per million bed-days (data to Mar 2005)

Gwent:

- ◆ MRSA is found in 0.4% of all blood cultures, and represents 2.8% of all positive blood cultures
- ◆ 49 Blood culture MRSA cases in Gwent in the last 12 months to June 2005, down from 60 in same period in both the last 2 years and from 65 three years ago
- ◆ Gwent – 69 cases per million bed-days
- ◆ Gwent remains under $\frac{3}{4}$ of the Welsh average
- ◆ And under half of the English & Scottish averages

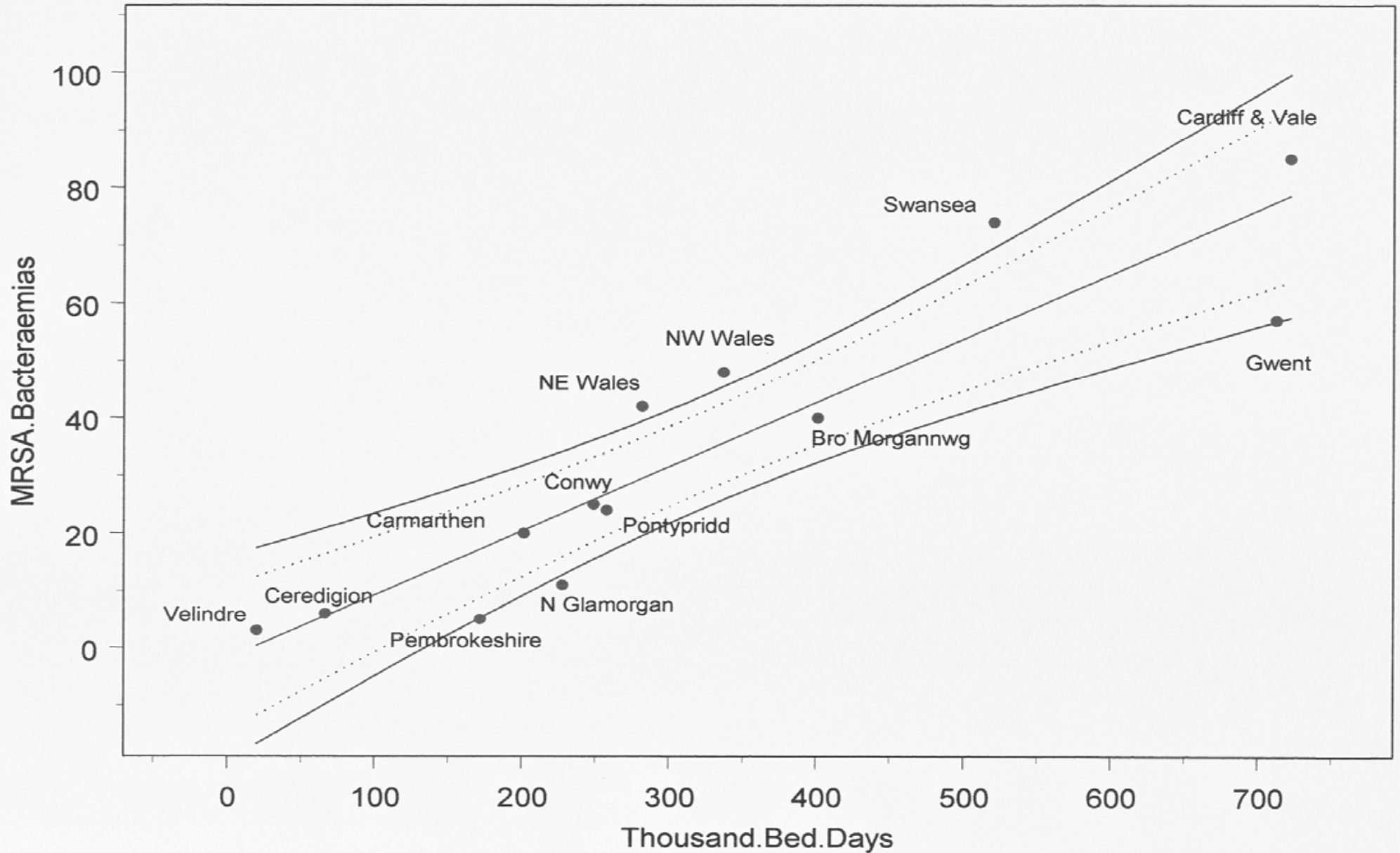
Risk of getting MRSA blood poisoning is 1 in 14,500 per day.

The first chart shows the rates of MRSA in the different Trusts in Wales.

Trusts are ranked by size on the horizontal axis.

The chart shows that while Gwent is one of the biggest trusts in Wales (ranked by bed days occupied), its MRSA rate is below the expectation for Welsh Trusts. The expected rate is indicated by the middle line. Trust that lie outside the outer 2 lines are significantly different from the average expectation.

MRSA Bacteraemias by Trust Size Apr 2004 - Mar 2005



APPENDIX 2

Gwent MRSA Bacteraemias by Quarter Year

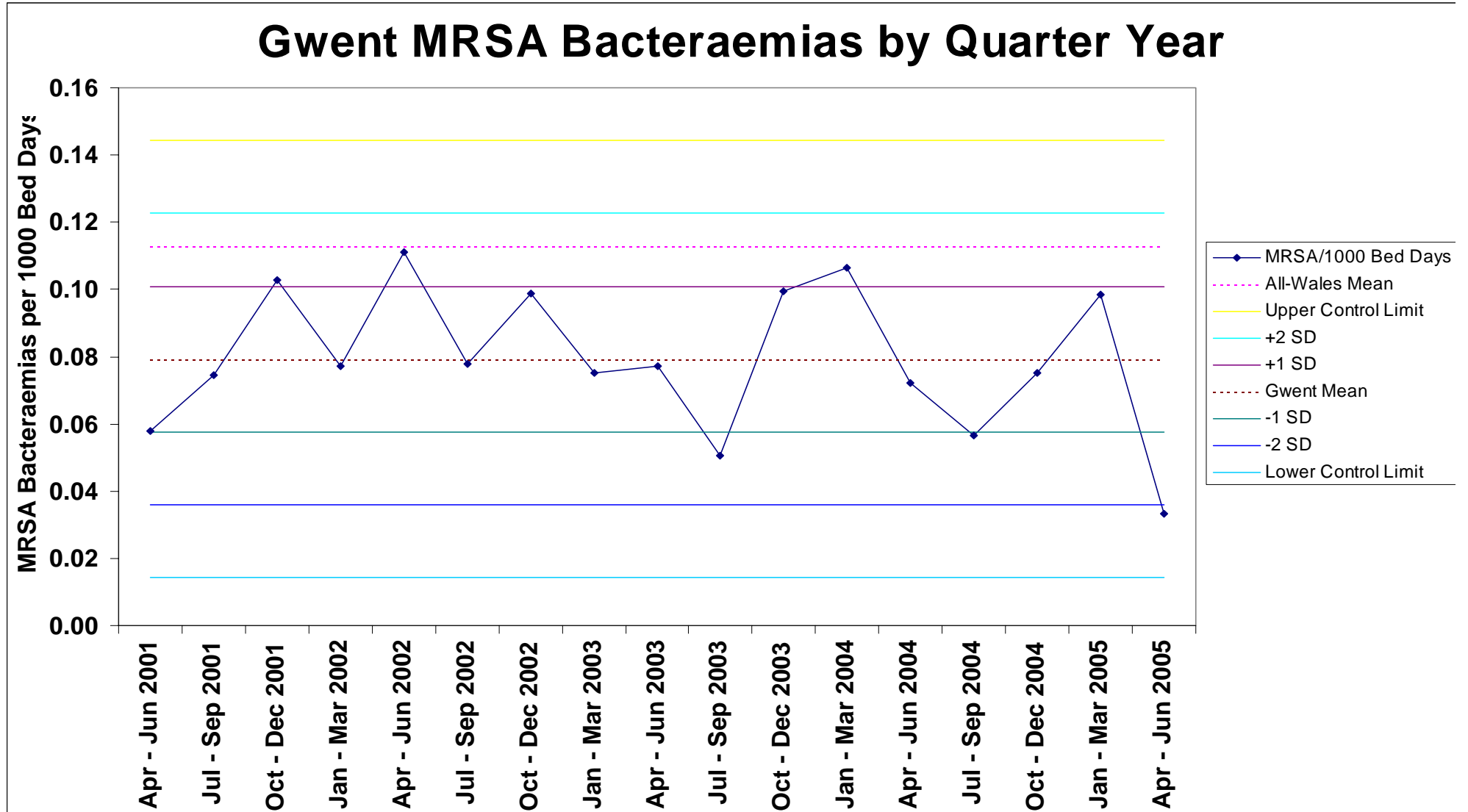
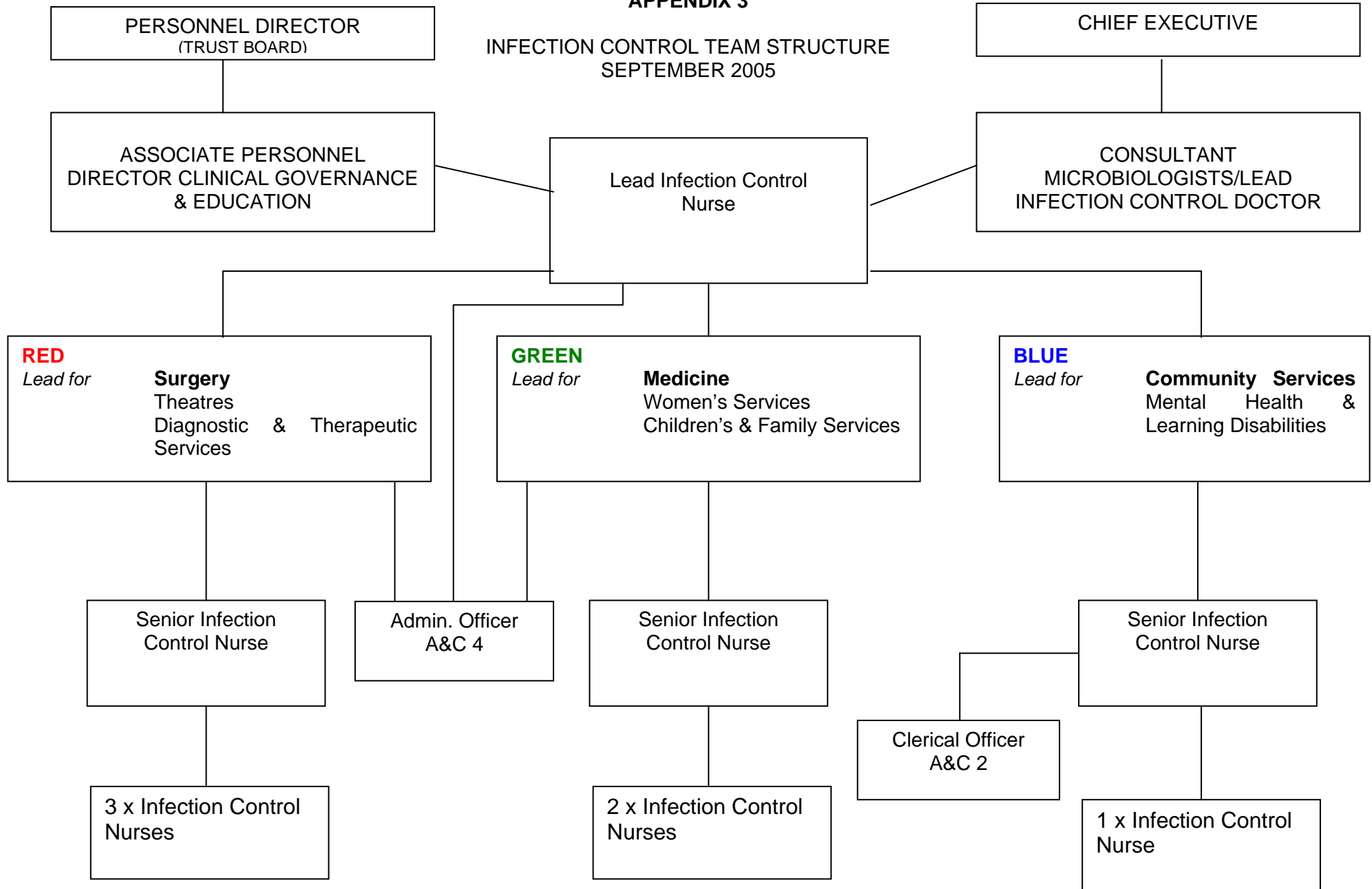


Chart shows the trend in the data for Gwent since the inception of this monitoring scheme in 2001. Gwent remains well within the statistical control levels of expected variation.

MANAGEMENT INFECTION CONTROL REPORTING ARRANGEMENTS

APPENDIX 3

INFECTION CONTROL TEAM STRUCTURE SEPTEMBER 2005



Appendix 4

Glossary

Alert Organisms or conditions – transmissible conditions that could spread and cause serious problems in the healthcare setting.

CAI – Community acquired infection

Cleanyourhands Campaign – National campaign developed by the National Patient Safety Agency to increase levels of hand hygiene compliance in staff.

Clinical Futures – The redesign of hospital, community and primary care health services which redistributes the balance of care away from hospitals to community settings and patient homes.

HCAI – Healthcare associated Infection

MRSA - Methicillin or Multi Resistant Staphylococcus Aureus

MRSA Bacteraemia - MRSA circulating in the bloodstream of an individual.

MRSA Screen – Testing for MRSA using swabs to sample sites on the body most likely to harbour the organism. For example nose, throat, arm pit, perineum or groin, plus any wounds.

MRSA Colonisation – MRSA is living on the body but it is not causing any adverse effects. Colonisation is discovered through routine screening as the individual will have no symptoms, for example MRSA present in the nose.

MRSA Infection – MRSA is present and causing adverse effects for example a wound infection.

NPSA - National Patient Safety Agency

Negative Pressure Ventilation Isolation Facility – An isolation room used for patients with infections that spread through the airborne route. The ventilation system is such that air from the isolation room does not flow into adjacent areas, and minimises the risk of spread. Would be used for cases of pulmonary TB, Chicken Pox, SARS, Avian Influenza etc.

MANAGEMENT INFECTION CONTROL REPORTING ARRANGEMENTS
