

# Healthcare Associated Infections – A Strategy for Hospitals in Wales



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

## Foreword

Healthcare Associated Infection will always be an issue, since some patients will become infected as a consequence of another illness. Nevertheless, there is good evidence that a proportion of this infection may be prevented through careful attention to infection control procedures. It is incumbent upon all healthcare staff to be aware of their personal responsibilities towards the prevention and control of healthcare associated infection.

This strategy has been developed by the Welsh Healthcare Associated Infection sub-group (WHAISG) of the Committee for the Control of Communicable disease, and we are grateful to them for providing their time and expertise. The strategy focuses on the personal responsibility outlined above and proposes the development of Trusts' infection control infrastructure to emphasise these responsibilities at directorate level. We expect trusts to develop local action plans to implement this strategy and we will seek regular updates of progress. A detailed summary of the actions required by Trusts can be found in part two of this document. A Welsh Health Circular highlighting these actions will also be issued to support the strategy.

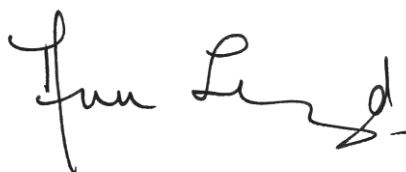
The strategy continues to build on our partnership working. Local action plans will be published and we will look towards developing a national action plan in those areas where this is appropriate.

This strategy is primarily aimed at reducing healthcare associated infections in acute hospitals. However, healthcare associated infection is an issue throughout the healthcare sector and the next step will be to develop a strategy for reducing healthcare acquired infections in community settings. This will be followed by work on broader infection control issues. The full suite of documents will include:

- The strategy for the control of healthcare associated infection in hospitals;
- The strategy for the control of healthcare associated infection in community settings;
- Core guidance on infection control;
- Strategy and management of infectious disease emergencies.

Trust chief executives will need to work closely with Local Health Boards and Local Authorities, as these strategies develop to ensure seamless care and management of healthcare associated and other infections.

As the strategy makes clear, we will use national standards to measure performance in this area and will work with the Welsh Risk Pool and Healthcare Inspectorate Wales to ensure that individuals are aware of their personal responsibilities in this area. However, corporate responsibility resides with chief executives and their boards and we will look to them to deliver this strategy for Wales.



## Introduction

Healthcare associated infections continue to cause substantial patient morbidity and cost to the health service. This strategy aims to support the reduction of these infections in Wales. The development of an infection control infrastructure emphasising the responsibilities of all healthcare workers is the main focus. The proposed changes use a clinical governance and risk management approach that expects clinical teams to confront their own problems, guided and supported by specialist infection control practitioners.

This approach was introduced in *Improving Health in Wales – A Plan for the NHS and its partners* and the National Audit Office document *The Management and Control of Hospital Acquired Infection in Acute NHS Trusts in England* published in 2000. This strategy recommends a package of tools to support clinical teams in identifying problem areas and targeting remedial action. It considers requirements for specialist support, highlights the need for safe physical environments, confirms the review of both specialist and non-specialist training in infection control practices, and emphasises the value of Information and Communication systems that underpin these processes.

### Structure of the document:

This document is aimed at all health care staff. Part one presents the strategic objectives and outlines the structure of the strategy. Part two is a summary of the key action points. Part 3 is divided into seven chapters and gives supporting information upon which the strategy and actions are based. The document will be available via the HOWIS website, on the micro site of the National Public Health Service (<http://nww.nphs.wales.nhs.uk>).

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# Part one

## The Strategic Objectives

- All staff will understand the impact of infection and infection control practices to enable them to discharge their personal responsibilities to patients, other staff, visitors and themselves.
- Patients will be treated in physical environments that minimise the risk of infection.
- Infection Control programmes must be supported by adequately resourced specialist infection control staff with sufficient skill mix to meet the needs of the NHS Trust's infection control plan.
- Trusts will adopt comprehensive surveillance and audit programmes to monitor and direct their infection control programmes. Programmes will be based upon local need as directed by the Trust infection control plan and programme but will adopt national programmes as they are developed and agreed by the NHS Wales Management Board.
- Reduction in infection rates will form part of Trust programmes and strategies. This will be embedded within overall Trust management schemes and will have links to clinical governance, risk management, performance management and the 'Balanced Scorecard'.
- Trusts will develop systems to ensure effective recording, analysis, sharing and access to their own data, and access to information sources appropriate to their needs for managing infection in their Trust.

## How these Strategic Objectives will be achieved

- National Standards that are up-to-date and evidence based will be adopted to ensure consistent and effective infection control practice across Wales.
- Infection control must be embedded as a core item of the management agenda and accountabilities of all staff and managers (as appropriate to their function).
- Specialist epidemiological support will be available to Trust infection control teams as required, to support their infection control programmes.
- Effective training schemes will be available to meet the needs of all staff. The schemes will cover undergraduate, pre-registration, in-service (NHS and non-NHS), post-registration (both generalist and specialist) and continuing professional development.

## Structure of the Strategy

This strategy builds on *Improving Health in Wales* and aims to support the reduction in healthcare associated infection. The strategy focuses on

- Standards – **Chapter two**;
- Infrastructure and organisation – **Chapter three**;
- Training and education – **Chapter four**;
- Surveillance and audit – **Chapter five**;
- Interventions and development of performance indicators – **Chapter six**;
- Communication – **Chapter seven**.

# Part two Framework Tables

Delivery Framework	Actions	Responsibility
<p><b>National Standards:</b> (See narrative in Chapter two)</p> <p>Strategic objective – National standards that are up-to date and evidence – based will be adopted to ensure consistent and effective infection control practice across Wales.</p> <p>The strategy recognises that standards change and develop. Consequently, the standards in operation will be those published on the HOWIS web site, on the ‘Infection and Communicable Disease Service’ website of the National Public Health Service (Wales) and endorsed by Healthcare Standards Advisory Board (HSCB) through the Statement of Standards.</p> <p>Current standards in operation in Wales:</p> <p>Welsh Risk Pool standards: (Standard 14 is the principal guide to infection control but many other standards have links to infection control responsibilities)</p> <p>Standard 14: Infection Control: <a href="http://howis.wales.nhs.uk/gsiteCW/documents/28714%20Infection%20Control.doc">http://howis.wales.nhs.uk/gsiteCW/documents/28714%20Infection%20Control.doc</a></p> <p>Standard 23: Nutrition and Catering: <a href="http://howis.wales.nhs.uk/gsiteCW/documents/287/23NUTRITIONANDCATERINGversion2amendmarch'03.doc">http://howis.wales.nhs.uk/gsiteCW/documents/287/23NUTRITIONANDCATERINGversion2amendmarch'03.doc</a></p>	<p>2(i) Trusts will comply with current infection control standards.</p> <ul style="list-style-type: none"> <li>• In doing so, Trusts will consider: <ul style="list-style-type: none"> <li>• Role of clinical directorates within the accountability framework;</li> <li>• Formal incorporation of the national surveillance programmes;</li> <li>• Incorporation of outcome measures within the performance indicators;</li> <li>• Consideration of the potential for extending external audit processes to complement internal audit arrangements.</li> </ul> </li> </ul>	<p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Trust Chief Executive &amp; Infection Control Committee;</li> <li>• NHS Regional Office.</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• Welsh Risk Pool annual assessment;</li> <li>• Healthcare Inspectorate Wales (through inspection process);</li> <li>• Welsh Healthcare Associated Infection Sub-Group (WHAISG) Project Team;</li> <li>• Ongoing – role of NHS Regional Office as part of organisation performance management arrangements (SAFF, Balanced Scorecard, CHI/HIW action plans.</li> </ul>

<p>Standard 30: Medical Equipment and Devices:  <a href="http://howis.wales.nhs.uk/gsiteCW/documents/287/30MedicalEquipmentandDevices-v1AmendMarch'03.doc">http://howis.wales.nhs.uk/gsiteCW/documents/287/30MedicalEquipmentandDevices-v1AmendMarch'03.doc</a></p> <p>Standard 35: Waste Management:  <a href="http://howis.wales.nhs.uk/gsiteCW/documents/287/35%20Waste%20Management.doc">http://howis.wales.nhs.uk/gsiteCW/documents/287/35%20Waste%20Management.doc</a></p> <p>Standard 36: Decontamination:  <a href="http://howis.wales.nhs.uk/gsiteCW/documents/287/36%20%20DECONTAMINATION%20vesion%201%20April%202001.doc">http://howis.wales.nhs.uk/gsiteCW/documents/287/36%20%20DECONTAMINATION%20vesion%201%20April%202001.doc</a></p>	<p>2(ii) Welsh Risk Pool standards for infection control to be adapted by Healthcare Inspectorate Wales to accommodate evolving aspects of the national infection control strategy and development of the evidence base.</p>	<p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>• Annual – through Welsh Risk Pool and Balanced scorecard;</li> <li>• Ad hoc – Healthcare Inspectorate Wales inspection.</li> </ul> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• WHAISG will make recommendations to the Healthcare Standards Advisory Board (HSCB). Healthcare Inspectorate Wales will adapt standards.</li> </ul> <p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>• Ongoing.</li> </ul>
<p>National Standards of Cleanliness for NHS Trusts in Wales:  <a href="http://howis.wales.nhs.uk/whe/library/National%20Cleaning%20Stnds%20(E).pdf">http://howis.wales.nhs.uk/whe/library/National%20Cleaning%20Stnds%20(E).pdf</a></p> <p>National Standards of Cleanliness for NHS Trusts in Wales – Performance assessment (Toolkit):  <a href="http://howis.wales.nhs.uk/whe/library/Nat.%20Cleaning%20Stnds%20(Toolkit)%20(E).pdf">http://howis.wales.nhs.uk/whe/library/Nat.%20Cleaning%20Stnds%20(Toolkit)%20(E).pdf</a></p>	<p>2(iii) Opportunities to be explored to build upon the new National Standards for Cleanliness of NHS Trusts to develop additional recommendations that further strengthen infection control.</p>	<p><b>Responsibility</b></p> <p>Trust Chief Executives</p> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• National Standards of Cleanliness for NHS Trusts in Wales – Performance assessment (Toolkit);</li> <li>• NHS Regional offices;</li> <li>• Community Health Councils annual audits and the Balanced Scorecard.</li> </ul> <p><b>Timescale</b></p> <p>May 2005</p>



Delivery Framework	Actions	Responsibility
<p><b>Infrastructure and Organisation</b></p> <p>(see narrative in Chapter three)</p>		
<p><b>Strategic objectives:</b></p> <ul style="list-style-type: none"> <li>All staff will understand the impact of infection and infection control practices to enable them to discharge their personal responsibilities to patients, other staff, visitors and themselves;</li> <li>Infection Control must be embedded as a core item of the management agenda and accountabilities of all staff and managers (as appropriate to their function).</li> </ul>		
<p>Management Accountabilities</p> <p>Clear lines of accountability to exist for all staff in compliance with infection control policies and procedures. Each directorate will determine the priorities for action in their area of activity through the organisation's risk assessment process. Local directorate plans to inform the Trust-wide infection control programme and Trust / Directorate Risk Registers.</p>	<p>3(i) Trusts should review management arrangements to ensure that clear lines of accountability have been established.</p> <p>3(ii) Each of the Trust's directorate management teams should appoint a member to be formally accountable for infection control practice. Trusts should recognise the infection control obligations of all directorates, both clinical and non-clinical.</p>	<p><b>Responsibility</b></p> <p>Trust Chief Executive in conjunction with Welsh Assembly Government's NHS Regional Offices and Trust directorates to develop a management action plan.</p> <p><b>Timescale</b></p> <p>Trust Chief Executives to submit action plan to NHS Regional Offices by March 2005.</p>

A rounded Balanced Scorecard approach to infection control that incorporates strategic vision, standards, benchmarking, scrutiny and action plans will be developed across the NHS in Wales. This will be through partnership working between the NHSD, Trusts, directorates and individuals.

3(iii) Each directorate should work with the Trust Infection Control specialists to determine the priorities for action in their area of activity and the directorate's contribution to the Trust-wide infection control programme.

Directorate based expertise in infection control to be developed.

**Responsibility**

Clinical Director and Infection Control Specialists

**Monitoring**

Chief Executive for inclusion in action plan and Clinical Governance three year Development Plans and Balanced Scorecard.

Delivery Framework	Actions	Responsibility
<p><b>Specialist Infection Control Support</b></p> <p><b>Strategic objective:</b> Infection control programmes must be supported by adequately resourced specialist infection control staff with sufficient skill mix to meet the need of the Trust's infection control plan.</p>	<p>The management arrangements outlined in 'Hospital Infection Control – guidance on the control of infection in hospitals'<sup>1</sup> will continue to give the principal management arrangements for infection control arrangements (chapter two).</p> <p>However, infection control guidance and recommendations are to be reviewed regularly by WHAISG to reflect current healthcare practice.</p> <p>3(iv) The current review of resources available for the control of communicable disease in Wales by the Committee for the Control of Communicable Disease will identify good practice and provide updated recommendations on staffing and resources. For Trust's Chief Executives to consider.</p> <p>3(v) Directorate based staff to become core members of the Trust's infection control committee.</p>	<p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Welsh Assembly Government;</li> <li>• Trust Chief Executive: for inclusion in action plan.</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• Review of Trust action plan by WHAISG;</li> <li>• Action Plan also to be linked to Clinical Governance Development Plans for annual review.</li> </ul> <p><b>Timescale</b></p> <p>September 2005</p>

<sup>1</sup> Hospital Infection Working Group. Hospital Infection Control – guidance on the control of infection in hospitals. London: Department of Health and Public Health Laboratory Service. 1995.

<p><b>Delivery Framework</b></p> <p><b>Specialist Epidemiological Support</b></p> <p><b>Strategic objective:</b></p> <p>Specialist epidemiological support will be available to Trust infection control teams as required, to support their infection control programmes.</p> <p>Sufficient expert advice and support for the strategy to be made available by the National Public Health Service for Wales (NPHS).</p>	<p><b>Actions</b></p> <p>3(vi) The National Public Health Service for Wales to ensure availability of specialist epidemiological expertise based in the Communicable Disease Surveillance Centre to support local services.</p>	<p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• NPHS (Wales).</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• Infection and Communicable Disease Service &amp; Welsh Assembly Government.</li> </ul> <p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>• Ongoing.</li> </ul>
<p><b>Facilities</b></p> <p><b>Strategic objective:</b></p> <p>Patients will be treated in physical environments that minimise the risk of infection.</p> <p>The Welsh Risk Pool and National Cleanliness Standards, together with work from the National Patient Safety Agency, form a comprehensive framework for infection control and hygiene management.</p>	<p>3(vii) The Welsh Assembly Government will evaluate the results of the survey of isolation facilities in Wales and in due course provide guidance on the accommodation required and consider the need for capital investment in the light of further planning.</p>	<p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Welsh Assembly Government.</li> </ul> <p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>• December 2005.</li> </ul>

3(viii) Trusts will need to provide appropriate isolation facilities to meet their needs.

**Responsibility**

- Trust Chief Executives.

**Monitoring**

- As in Action Plan.

**Timescale**

- Annually through the Action Plan.

Delivery Framework	Actions	Responsibility
<p><b>Training and Education</b></p>		
<p><b>Strategic objective:</b></p> <p>Effective training schemes will be available to meet the needs of all staff. The schemes will cover undergraduate, pre-registration in service (NHS and non NHS), post-registration (both generally and specialist) and continuing professional development.</p> <p>(See narrative in Chapter four) Trusts to ensure training and education is provided to all staff to meet their needs.</p>	<p>4(i) The Wales Centre for Health has reviewed on behalf of WHAISG current training and education in infection control. The review covered:</p> <ul style="list-style-type: none"> <li>• Identifying the providers (e.g. academia, Royal Colleges, in-service);</li> <li>• Identifying 'gaps' in the provision of infection control education &amp; training;</li> <li>• Take account of education and training at the following levels: <ul style="list-style-type: none"> <li>• Pre-registration and undergraduate;</li> <li>• In-service (NHS and non-NHS);</li> <li>• Post-registration and postgraduate (generalist);</li> <li>• Post registration and postgraduate (specialist);</li> <li>• Continuing professional development.</li> </ul> </li> </ul>	<p>Review was concluded on 31 March 2004 and findings will be taken forward to WHAISG for further work.</p> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Further detailed information will be sent to Trusts by the Welsh Assembly Government to indicate the introduction of training programmes.</li> </ul> <p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>• By 2006.</li> </ul>

- 4(ii) A new training programme will be developed that
- Builds on the current training and education infrastructure;
  - Seeks to address any deficiencies identified in the review;
  - Delivers multi-disciplinary infection control training for specialists and non-specialists.

**Responsibility**

WHAISG.

**Timescale**

Introduction of training programme in 2006 built upon the above developments.

Delivery Framework	Actions	Responsibility
<p><b>Surveillance</b></p> <p><b>Strategic objective:</b></p> <p>Trusts will adopt comprehensive surveillance and audit programmes to monitor and direct their infection control programmes. Programmes will be based upon local need as directed by the Trust infection control plan and programme, but will adopt national programmes as they are developed and agreed by the NHS Wales Management Board. (See narrative in Chapter four)</p> <p>Trusts to ensure training and education is provided to all staff to meet their needs.</p> <p>(See narrative in Chapter five)</p> <p>Service providers will undertake national surveillance programmes as they are developed and adopted.</p> <p>Process as outlined by WHC 2003 (43)<sup>2</sup> and currently consist of:</p> <ul style="list-style-type: none"> <li>• Bacteraemia surveillance;</li> <li>• Surgical site infection surveillance;</li> <li>• Hospital outbreak surveillance;</li> <li>• Current voluntary schemes; Central vascular device associated infection pilot.</li> </ul>	<p>5(i) Trusts will undertake national surveillance programmes as they are developed and adapted. The national surveillance programme will develop and give Trusts a comprehensive portfolio of surveillance tools that will provide comparators with other healthcare institutions both nationally and internationally. This will include:</p> <ul style="list-style-type: none"> <li>• Surgical site infection surveillance extended to other specialities;</li> <li>• Infections in ITU: pilot in 2005;</li> <li>• Laboratory confirmed infections due to Clostridium difficile. To be introduced as a continuous, mandatory, programme in 2004.</li> </ul>	<p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Trust Chief Executive and Consultant in Infection Control.</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• WHAISG project team;</li> <li>• Trust incident reporting procedures and National Patient Safety Agency national reporting.</li> </ul>

<sup>2</sup> Welsh Assembly Government. Healthcare associated infection surveillance. WHC 2003(43) April 2003. Available at <http://howis.wales.nhs.uk/gsiteCW/documents/368/whcortho.doc> accessed 15th September 2003.



- Other laboratory confirmed bacteraemias. There will be a particular focus on bacteraemias due to glycopeptide resistant enterococci.

**Timescale**

As listed but also as further advised via Welsh Health Circular, following recommendation of WHAISG and acceptance by the NHSD Management Team.

<b>Delivery Framework</b> <b>Audit</b>	<b>Actions</b>	<b>Responsibility</b>
<p>Clinical audit provides an important tool to monitor the implementation of policies and operational performance.</p>	<p>5(ii) Trusts to ensure that Infection control audit is to be included as part of the trust wide programme of clinical audit. (National audit tools will be adopted as agreed with NHS Management Board/National Association of Chief Executives).</p> <p>5(iii) The UK audit tool commissioned by the Department of Health and currently being developed by the Infection Control Nurses Association with key stakeholders, including the Welsh Assembly Government, to be piloted within selected Trusts with a view to adoption nationally. Trust Chief Executives to submit expressions of interest to pilot the tool by 30 November 2004.</p>	<p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• WHAISG project team.</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• National Clinical audit priorities programme.</li> </ul> <p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>• March 2005.</li> </ul> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Trust Chief Executives to submit expressions of interest to pilot the tool.</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• WHAISG.</li> </ul> <p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>• By 30 November 2004;</li> <li>• Audit report completed by February 2005.</li> </ul>

Delivery Framework	Actions	Responsibility
<p><b>Interventions and Performance Indicators</b></p> <p><b>Strategic objective:</b></p> <p>Reduction in infection rates will form part of Trust programmes and strategies. This will be embedded within overall trust management schemes and will have links to clinical governance, risk management, performance management and the 'Balanced Scorecard'.</p>	<p>6(i) In accordance with WHC 2003 (43)<sup>2</sup>, each Trust to set and register annually with healthcare associated infection project team, local priority targets for measurable infection reduction.</p>	<p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>Trust Chief Executive Officers.</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>NHS Regional Offices through the Balanced Scorecard.</li> <li>WHAISG project team. Annual review/report.</li> </ul> <p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>Annual.</li> </ul>

(See narrative in Chapter six) WHC 2003(43)<sup>2</sup> requires each Trust to set and register annually with the Healthcare Associated Infection Project team, local priority targets for measurable infection reduction.

<sup>2</sup> Welsh Assembly Government. Healthcare associated infection surveillance. WHC 2003(43) April 2003. Available at <http://howis.wales.nhs.uk/gsiteCW/documents/368/whcortho.doc> accessed 15th September 2003.

6(ii) Promulgation of best practice advice annually (or as required) to be provided by WHAISG.

**Responsibility**

- WHAISG.

**Timescale**

- Annual.

<p><b>Delivery Framework</b></p> <p><b>Information Technology and Communications</b></p>	<p><b>Actions</b></p> <p>7(i) The Welsh Assembly Government and NHS Trusts will take account of the needs of infection control in the development and implementation of future IM&amp;T programmes.</p> <p>7(ii) Trusts will ensure that appropriate resources are available to provide ICT with specialist IT tools and software.</p> <p>7(iii) The Welsh Healthcare Associated Infection website will be developed as the major vehicle for communication and information exchange, including regular update of strategic developments.</p>	<p><b>Responsibility</b></p> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>Trust Chief Executives and Trust Infection Control Committees.</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>WHAISG Project team.</li> </ul> <p><b>Timescale</b></p> <ul style="list-style-type: none"> <li>Ongoing.</li> </ul>
<p><b>Strategic objective:</b></p> <p>Trusts will develop systems to ensure effective data, and access to information sources appropriate to their needs for managing infection in their Trust.</p> <p>(See narrative in Chapter seven) Good Information Management, and Technology (IMT) support is essential for efficient working in infection control.</p>		

	<p>7(iv) Further development of DataStore by WHAISG project team will be used to improve the effectiveness and efficiency of laboratory reporting for surveillance purposes.</p> <p>7(v) The training review undertaken by WHAISG will include IM&amp;T requirements.</p>	<p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• NPHS – Wales (WHAISG Project team).</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• WHAISG Project team.</li> </ul> <p><b>Timescale</b></p> <p>During 2004.</p> <p><b>Responsibility</b></p> <p>NPHS (Wales).</p>
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## Part one

# Chapter one: Healthcare Associated Infections in Hospitals: An Overview

## Background

1.1 The treatment and care of patients in hospital is often complicated by the development of infection, which arises from a variety of factors that make people susceptible to microbial challenge. These include: the reduction of the effectiveness of the body's immune system by many illnesses; the presentation of disease in the very young and the very old who are particularly prone to infection; medical interventions which compromise normal protective mechanisms; and the potential for transmission of pathogenic organisms from patient to patient when they are managed in close proximity. The prevention and control of infections is a major challenge, and success in this area was a prerequisite in the development of complex medical procedures. The reduction of infections over the past hundred years has been achieved through a multiplicity of approaches that result from an increasing understanding of microbial disease. These include sound hygienic practices, effective methods for sterilisation, asepsis, antisepsis, and environmental control; the discovery and use of antibiotics; the development of laboratory methods and the application of epidemiological science. Incorporation into clinical practice has been facilitated and supported by education and training, a range of management processes to ensure good practice, and the development of a cadre of infection control specialists. Despite this, healthcare associated infections remain common. National surveys suggest that nine per cent of inpatients have a hospital associated infection at any time.

1.2 Healthcare associated infections (HAIs) are particularly important adverse events because of:

- Their frequency and scale – infection not only affects an individual but can be transmitted to others and represent a significant public health problem.
- Their impact on delivering services – HAIs impede good outcomes from treatment, increase length of stay and often lead to temporary closure of services or require additional resources to maintain services;
- Their bearing on public expectations – historically health has been improved by measures to prevent infections;
- Their negative image – HAIs are partly a reflection of poor hygiene and unsuitable environments.<sup>3</sup>

3 Scottish Executive (Guidance on core standards for the control of infection in hospitals, healthcare premises and the community interface). July 1998. Available at: [www.scotland.gov.uk/library5/health/preventinfect.pdf](http://www.scotland.gov.uk/library5/health/preventinfect.pdf)

## The impact of healthcare associated infections and their potential control

1.3 Effects of HAIs vary from discomfort to prolonged or permanent disability. In a small proportion of patients, death may result. The costs of hospital associated infection, including extended length of stay, are difficult to measure. It is also uncertain how many of these infections are preventable in the context of current medical practice and available technology. However, in 1995 the Hospital Infection Working Group of the Department of Health and Public Health Laboratory Service suggested that 30 per cent of hospital acquired infections could be avoided by better application of existing knowledge and realistic infection control practices (Department of Health, 1995). The National Audit Office report published in 2000 (National Audit Office, 2000) recorded a professional consensus that at least a 15 per cent reduction should be achievable. Continued progress in this area was highlighted in the *NHS in Wales strategy, Improving Health in Wales – A Plan for the NHS and Its Partners* (National Assembly for Wales, 2001). Hygiene is identified as a high priority for hospitals, and hospital associated infections should be reduced to ensure that patients are cared for in a safe environment.

1.4 Hospital and clinical management are key to limiting hospital associated infections and include:

- Identifying risk factors and minimising their impact;
- Improving patients' resistance to infection;
- Early identification and effective treatment of infections;
- Preventing transmission of micro-organisms from person to person;
- Maintaining a clean environment with low levels of microbial contamination.

These processes have been built into routine clinical activities. Data from the national *Staphylococcus aureus* bacteraemia surveillance scheme indicate that, to some degree, equilibrium has been achieved. Therefore, initiatives that result in significant change to practice will be required if progress is to be achieved.

## Some lessons from the Severe Acute Respiratory Syndrome (SARS) outbreak

1.5 The SARS outbreak highlighted some important principles in the prevention of transmission of micro-organisms in hospitals. The coronavirus responsible for this condition readily spread from patient to patient or from patients to staff. Infections associated with a high mortality resulted and required urgent reassessment of the infection control procedures in operation in affected hospitals (MMWR, 2003). It is probable that some of the agents commonly associated with cross-infection in UK hospitals, such as Norovirus, have a similar capacity for transmission. The SARS outbreak has thus provided us with a timely reminder that not only should sound and evidence-based infection control policies be in place but considerable attention must be paid to ensuring that they are rigorously and consistently applied. This requires a sound understanding and commitment to effective infection prevention and control practice among staff throughout the healthcare system. This strategy focuses on the development of systems designed to achieve this objective.



## Chapter two: National Standards

- 2.1 The NHS in Wales strategy, *Improving Health in Wales – A Plan for the NHS and its partners*, highlights the need to underpin the achievement of measurable improvements in health outcomes with the setting, monitoring and reviewing of national standards of care. The key standards in relation to infection control are defined by the Welsh Risk Pool. These aim to ensure that there is a managed environment which minimises the risk of infection to patients, staff and visitors, and which addresses
- Management accountabilities;
  - Resources made available to support infection control activities;
  - Policies and guidelines for the management of infection across the organisation;
  - The review and revision of infection control arrangements;
  - Training in the management of infection;
  - Surveillance and audit;
  - Communication;
  - Performance indicators.
- 2.2 National Standards for Cleanliness of NHS Trusts provide a structured approach to defining environmental hygiene requirements.
- 2.3 The Welsh Risk Pool and National Cleanliness Standards form a comprehensive framework for infection control and hygiene management. It is important that these are accompanied by a dynamic process of refinement and review that takes account of changing need and development of the evidence base.
- 2.4 Additionally, this strategy recognises the need to develop and learn from the evidence base. As new standards are developed that assist in managing infection, these will be adopted and endorsed by the Healthcare Standards Advisory Board and published on the NPHS web site alongside this strategy.

### **National Standards: Action**

#### **Action to be taken by Trusts:**

- 2 (i) Trusts to comply with current infection control standards. In doing so, Trusts to consider:
- Role of clinical directorates within the accountability framework;
  - Formal incorporation of the national surveillance programmes;
  - Incorporation of outcome measures within the performance indicators;
  - Consideration of the potential for extending external audit processes to complement internal audit arrangements.

#### **Action to be taken by Healthcare Inspectorate Wales:**

- 2 (ii) Welsh Risk Pool standards for infection control to be adapted by Healthcare Inspectorate Wales to accommodate evolving aspects of the national infection control strategy and development of the evidence base.

#### **Action to be taken by Trust Chief Executives:**

- 2(iii) Opportunities to be explored to build upon the new National Standards for Cleanliness of NHS Trusts to develop additional recommendations that further strengthen infection control.

# Chapter three: Infrastructure and Organisation

## Responsibilities of NHS staff

3.1 A key challenge for the prevention of HAIs is to ensure that procedures are in place that reduce the risk of adverse events at every patient contact. The NHS in Wales strategy, *Improving Health in Wales – A Plan for the NHS and Its Partners* highlights the need for a management culture emphasising the critical importance of care in a safe environment and the personal responsibility of every member of staff. A key objective of the strategy is to introduce a clean culture throughout the healthcare system and to ensure that hygiene and infection control are embedded in the management agenda and the accountability of all staff. At national level, the NHS Management Executive and National Assembly Committee for Trust Chief Executives have indicated their strong support for these objectives. The National Audit Office (National Audit Office, 2000) also highlighted the need for full engagement of NHS Trust Boards and Chief Executives. This level of engagement is explored within Welsh Risk Pool audits. Systems need to be in place to ensure that this high level commitment continues through to front line practitioners.

## Management accountabilities

3.2 *Improving Health in Wales – A Plan for the NHS and its partners* and the National Audit Office report *The Management and Control of Hospital Acquired Infection in Acute NHS Trusts in England*, both anticipate the implementation of management arrangements for infection control. These foster and develop ownership of the infection control agenda by all staff. This Strategy reinforces current guidance in this area by requiring clinical directorates to formally adopt accountability for the infection control and hygiene practices of staff working in their unit. Several Trusts in Wales have already taken this approach and Annex A illustrates the infection control strategy developed by one of them.

## Management Accountabilities: Action

### Action to be taken by Trusts:

- 3(i) Trusts should review management arrangements to ensure that clear lines of accountability have been established.
- 3(ii) Each of the Trust's directorate management teams should appoint a member to be formally accountable for infection control practice. Trusts should recognise the infection control obligations of all directorates, both clinical and non-clinical. This appointee should become a core member of the Trust's infection control committee.
- 3(iii) Each directorate should work with the Trust Infection Control specialists to determine the priorities for action in their area of activity and the directorate's contribution to the Trust – wide infection control programme.

3.3 Through these actions, it is hoped that a rounded 'balanced scorecard' approach to infection control that incorporates strategic vision, standards, benchmarking, scrutiny and action plans will be developed across the NHS in Wales. This will be through partnership working between the NHS, Trusts, directorates and individuals.

### Specialist infection control support

3.4 A cadre of infection control doctors and nurses provide specialist advice; leadership; outbreak management; policy formulation; epidemiological skills; and education in relation to infection prevention and control in all NHS Trusts in Wales. The infection control doctors are consultant medical microbiologists who are able to commit variable proportions of their professional time to this area of activity. The Infection Control Nurses (ICNs) are usually wholly employed on infection control duties. There are no guidelines in the UK on specialist infection control staffing. Data from the United States indicates that for their healthcare system there should be at least one ICN for every 250 beds (Haley et al, 1985). The deployment of ICNs in Welsh hospitals in 2001 is illustrated in Annex B. The figures do not include the non-acute beds covered by ICNs in many Trusts. Some increase in the numbers of infection control nurses in Wales has taken place over recent years. However, workloads have also risen as a result of increasing public and political focus on hospital associated infections, the spread of methicillin resistant staphylococcus aureus (MRSA) and other antibiotic resistant micro-organisms. Increased patient throughput, higher bed occupancy, staff shortages, the development of improved surveillance and audit systems and a very large, and increasing, requirement for staff training in infection control have added to the burden. The Royal College of Pathologists has guidelines on the amount of time that infection control doctors should spend on infection control. It is unlikely that these recommendations are being met in many Trusts. Trusts will also need to address the optimal skill-mix of Infection Control teams (ICTs) to fully discharge of their functions. In addition to medical and nursing input into the ICT, full support for a comprehensive infection control programme now requires a multi-disciplinary approach that can, in addition, use scientific, epidemiological and data handling skills.

3.5 Other problems in relation to the work of Infection Control Teams have been brought to the attention of the Welsh Healthcare Associated Infection Sub-Group (WHAISG). In 2001, 42 per cent of ICNs had no clerical support, on-call arrangements were variable and remuneration often inadequate and ICTs were often not consulted in relation to estates issues. However, the central problem for ICTs is gaining the full engagement and commitment from clinical staff in relation to adherence to infection control practice.

## Specialist Infection Control: Action

### Action to be taken by Welsh Assembly Government:

3 (iv) The current review of resources available for the control of communicable disease in Wales by the Committee for the Control of Communicable Disease will identify good practice and provide updated recommendations on staffing and resources for Trust Chief Executives to consider.

### Action to be taken by Trusts:

3(v) The directorate staff member appointed to be accountable for infection control practice should become a core member of the Trust's infection control committee.

## Specialist Epidemiological Support

3.6 Hospital epidemiology is the study of the distribution and determinants of infection in hospitalised patients and the application of this study to the prevention and control of hospital associated infection. Consultant epidemiologists and clinical scientists at the Communicable Disease Surveillance Centre have an in-depth understanding of statistics, epidemiology and research methods that can be applied to the investigation and control of hospital outbreaks and clusters of infection. Similar expertise is also available from Consultants in Communicable Disease Control based in local health protection teams. These skills are currently used in the interpretation of routine surveillance data. However, surveillance is not an end in itself but rather a mechanism to provide information for action. Trust infection control teams may require further specialist epidemiological support to investigate and identify the cause of any adverse findings detected by surveillance. Specialist epidemiological expertise can also help in the design and evaluation of interventions implemented to reduce hospital associated infection.

## Specialist Epidemiological Support: Action

### Action to be taken by NPHS (Wales):

3(vi) The National Public Health Service for Wales to ensure availability of specialist epidemiological expertise for Trusts based in the Communicable Disease Surveillance Centre to support local services.

## Facilities

3.7 Effective infection control systems require a range of estates and engineering issues to be addressed. These include:

- A clean environment;
- Safe water supplies and cooling systems;
- Operating theatres with appropriate clean air systems;
- Equipment for sterilisation and decontamination;
- Isolation facilities with effective negative pressure ventilation.

3.8 The House of Lords Select Committee report (House of Lords Select Committee on Science and Technology, 1998) stated that: 'Isolation of patients is an expensive but effective form of infection control.' Patients may be nursed in isolation if they have a disease or condition with the potential to spread or because they are highly susceptible to acquiring infection as a result of an underlying condition or therapy. Isolation of infected patients may be required on admission, as well as for those who become infected during their hospital stay. There are two main categories of isolation. The first, protective isolation, aims to shield the immuno-compromised patient from micro-organisms that may be acquired from other people or the environment. The second, source isolation, aims to prevent the transfer of pathogens or resistant organisms from infected or colonised patients to others. Concern about the provision in Wales of isolation facilities for the latter, and particularly accommodation with effective negative pressure ventilation to provide a high level of containment, prompted the Welsh Assembly Government to undertake a survey of the facilities currently available. This demonstrated an acute shortage of accommodation with negative pressure ventilation. Recent planning in Wales in relation to the threats posed by multi-drug resistant tuberculosis, SARS and bioterrorism has emphasised this deficiency.

### **Facilities: Action**

#### **Action to be taken by Welsh Assembly Government:**

3(vii) The Welsh Assembly Government will evaluate the results of the survey of isolation facilities in Wales, and provide guidance on the accommodation required and consider the need for capital investment in the light of further planning.

#### **Action to be taken by Trusts:**

3 (viii) Trusts will need to provide appropriate isolation facilities to meet their needs.

## Chapter four: Training and Education

- 4.1 This strategy places strong emphasis on the need for all healthcare workers to understand and discharge their roles and responsibilities in relation to infection control within the clinical governance and risk management framework, and expects clinical teams to confront their own problems, guided and supported by specialist infection control practitioners. This was firmly advocated in *Improving Health in Wales – A Plan for the NHS and its partners* and in the National Audit Office document, *The Management and Control of Hospital Acquired Infection in Acute NHS Trusts in England* published in 2000. Ensuring effective training schemes to support these objectives is critical in achieving success in this area.
- 4.2 The NAO report (2000) highlighted a number of problems associated with the delivery of education and training programmes. These included:
- Insufficient access to training programmes to provide learning reinforcement;
  - Incomplete provision of induction training for all groups of staff, particularly in relation to senior doctors; cleaners; food handling staff; nursing students; and medical students;
  - Incomplete staff attendance at annual updates;
  - A lack of audits to examine the effectiveness of training.
- 4.3 It is uncertain whether such problems exist in Wales; however, the Welsh Healthcare Associated Infection Sub-Group has anecdotal evidence that this may be the case. Difficulties experienced by Infection Control Teams in achieving high coverage of Trust staff have been highlighted. Developing infection control expertise in a broader range of staff and giving responsibility for in-service training and instruction at ward and directorate level has also been emphasised.
- 4.4 In addition, a deficiency in the provision of specialist infection control training is also noted. There is potential for developing specialist programmes in Wales. There is also a dearth of training in hospital epidemiology throughout the UK. Wales has the professional resources to fill this gap.

### Training and Education: Action

#### Action to be taken by Welsh Healthcare Associated Infection Sub Group

- 4 (i) The review of training and education undertaken by the Wales Centre for Health will be considered in June 2004.
- 4 (ii) A new training programme will be developed and further detailed information will be sent to trusts to indicate the introduction of training programmes by 2006.



# Chapter five: Surveillance and Audit

## The importance of surveillance and audit for infection control

5.1 *Improving Health in Wales – A Plan for the NHS and Its Partners* emphasised the importance of good information to plan service delivery, evaluate progress and demonstrate improvements. In infection control, surveillance plays a central role in providing the intelligence to underpin strategic objectives as well as informing priorities and focus of day to day operations. Measurement of local infection rates over time using standard methods allows comparison with national and international data and will facilitate:

- Recognition of clusters or outbreaks of infection;
- An understanding of a Trust's relative performance;
- Setting of priorities;
- Targeting of appropriate control measures;
- Monitoring the outcomes of interventions.

Incorporation of an effective surveillance programme with regular feedback of results to clinical staff has proved to contribute to reductions in the incidence of HAIs (Haley et al, 1985). The Welsh Risk Pool Standards recognise and require that surveillance programmes are in place using defined methods.

5.2 To achieve the above, surveillance must be structured, with agreed definitions, consistent data collection methods and appropriate statistical analysis to underpin conclusions. Frequent and timely feedback to clinical staff is essential.

5.3 Locally, Trusts Infection Control Teams and clinical directorates will be responsible for implementation of surveillance with close collaboration, involvement and participation of other staff. Trusts should ensure that resources are available to support the surveillance programme. Adequate staffing and good management are especially important.

5.4 Nationally, the Welsh Healthcare Associated Infection project team will

- Facilitate and co-ordinate the local surveillance in Trusts;
- Collate data at national level on behalf of the Welsh Assembly Government;
- Compile national reports;
- Help disseminate good practice.

5.5 In 1996, a project examining hospital infections was established in Wales via funding from the Welsh Office. The objectives were

- To quantify the burden of healthcare associated infections in Wales;
- To describe and explain variation in healthcare associated infections over time and by hospital and speciality;
- To develop a hospital outbreak/incident reporting system with a mechanism to promptly disseminate information on lessons learned and good practice;
- To develop an effective clinical surveillance system to capture data on post discharge infections;

- To develop an audit system to identify preventable factors and to implement observational audit to establish compliance with good practice;
- To determine risk factors for acquisition and outcome of colonisation by MRSA of differing types.

- 5.6 Much of the activity of the project has been devoted to establishing sound methods for surveillance to delineate hospital associated infections in Wales. Surveillance schemes for hospital 'alert' organisms and clinical infections have been developed, which Trusts adopted on a voluntary basis. The information from these schemes has proved valuable in tracking hospital associated infection in Wales, and highlighting areas of concern. (See Annex C: MRSA reporting via CoSurv and Annex D: Hospital Outbreak Reporting.)
- 5.7 This method for surgical site surveillance has been developed on a UK-wide basis. It is also accepted as the European Union approach for a surveillance programme involving 22 countries from 2004. The data collected will also be compatible with surveillance undertaken in the US and other non-EU countries.
- 5.8 The first mandatory surveillance programme was introduced in Wales in 2001. This focused on Staphylococcus Aureus bacteraemias. Laboratory confirmed patient events are reported on a quarterly basis, from all acute Trusts in Wales. This matched developments in England, Scotland and Northern Ireland. In Wales, the data items collected were increased after the first six months of surveillance, to allow speciality-based rates of Staphylococcus Aureus bacteraemias to be calculated and line associated infections identified. This has allowed problem areas to be highlighted and targeted for control measures (See Annex E ). Mandatory surveillance will be implemented for other organisms and conditions.

## Surveillance: Action

### Action to be taken by Trust Chief Executives and Consultants in Infection Control:

- 5(i) Trusts to undertake national surveillance programmes as they are developed and adapted. The national surveillance programme will develop and give Trusts a comprehensive portfolio of surveillance tools that will provide comparators with other healthcare institutions both nationally and internationally. This will include:
- Surgical site infection surveillance extended to other specialities;
  - Infections in ITU: pilot in 2004;
  - Laboratory confirmed infections due to Clostridium difficile. To be introduced as a continuous, mandatory, programme in 2004.

## Audit

- 5.9 Clinical audit provides an important tool to monitor the implementation of policies and operational performance. It can also provide insight into problems highlighted by surveillance. In a survey undertaken in 2001, 83 per cent of ICTs undertook audit in clinical areas. This usually comprised of exercises that examined environmental cleanliness, handwashing or knowledge of policies. The Welsh Risk Pool Standards require all Trusts to have an annual programme of internal audit of infection control policies and procedures. The introduction of external audit will now be considered.



## **Audit: Action**

### **Action to be taken by Trust Chief Executives**

- 5(ii) Trusts to ensure that infection control audit is to be included as part of the Trust-wide programme of clinical audit. (National audit tools will be adopted as agreed with NHS Management Board/National Association of Chief Executives).
- 5(iii) The UK audit tool commissioned by the Department of Health and currently being developed by the Infection Control Nurses Association with key stakeholders (including the Welsh Assembly Government) to be piloted with a view to adoption nationally. Trust Chief Executives to submit expressions of interest to pilot the tool by 29 January 2005.

# Chapter six: Interventions and Performance Indicators

6.1 *Improving Health in Wales – A Plan for the NHS and It's Partners* notes that effective performance management is essential for a successful organisation and particularly important at a time when so many demands are placed upon it. Health professionals, supporting staff, managers and the public need to know how they are doing against agreed objectives. The principles laid out in the document for effective performance management to be implemented and maintained are highly relevant to infection control, that is, good leadership at all levels and processes built on five basic building blocks:

- Bold aspirations;
- A coherent set of objectives, measures and targets to monitor progress in realising these aspirations;
- Ownership and accountability to ensure that those individuals who are best placed to ensure delivery do so;
- Rigorous performance review to ensure that continuously improving performance is being delivered in line with expectations;
- Reinforcement to motivate individuals to deliver the targeted performance.

6.2 These principles have strongly influenced this strategy, which proposes that our central aspiration should be to produce measurable reductions in infections. It recognises that this can only be achieved if all healthcare workers contribute to this process. This must be done in a strong performance management framework, with mechanisms in place to ensure communication to staff regarding progress.

## Interventions and Performance Indicators

6.3 The Welsh Risk Pool Standards require that Trusts identify key indicators that are capable of showing improvements in infection control and/or providing early warning of risk. There are a number of process indicators that can be valuable in this context:

- Percentage of staff trained in infection control;
- Progress against infection control audit;
- Progress against planned infection control programme.

6.4 However, the use of outcome measures as performance indicators is strongly recommended. These could include:

- Number and scale of infection control incidents/outbreaks reported;
- Rates of hospital associated infections.

6.5 Unfortunately the evidence base in relation to the rates of infection that might be anticipated in a hospital that manages its infection control activities effectively is deficient and the targets that might be set in relation to outcome indicators speculative. For this reason *Welsh Health Circular (2003) 43* seeks to facilitate the development of outcome performance indicators that have general application for benchmarking and monitoring purposes nationally. It does this by

- Use of performance indicators that seek to reduce infections;
- Providing sufficient flexibility to allow Trusts to identify their own priorities for action (see Annex F as an example of practice);
- Requiring the use of nationally agreed surveillance methods to assist in interpretation and ensure that the lessons learnt, and the good practice identified, have wide applicability.

## **Interventions and Performance Indicators: Action**

### **Action to be taken by Trust Chief Executives:**

6(i) In accordance with WHC 2003(43), each Trust is to set and register annually with the Healthcare Associated Infection Project Team, local priority targets for measurable infection reduction.

### **Action to be taken by WHAISG:**

6(ii) Promulgation of best practice annually (or as required) to be provided by the Welsh Healthcare Associated Infection Sub-Group (WHAISG).

# Chapter seven: Information Technology and Communication

7.1 The recently published *Review of Health and Social Care in Wales* (Welsh Assembly Government, 2003) highlighted the deficiencies in information technology available to the NHS in Wales and recommended a long-term programme for information and communication technologies with increased investment as a priority. Good Information Management and Technology (IM&T) support is essential for efficient working in infection control, particularly:

- Gathering, recording, analysing and disseminating data for surveillance purposes;
- Improved access to clinical information;
- Tracking patient locations;
- Assessing impact of staff activity on infection outcomes;
- Deriving proxies for the effectiveness of infection control management;
- Monitoring microbiology results, antibiotic resistance and prescribing;
- Facilitating communications and making available updates, policies and guidelines;
- Gaining access to expert advice.

The management of hospital infection will be significantly improved if future investment in the NHS IM&T infrastructure results in increased capacity in these areas. This must take account of the specialised systems for infection control.

## Communication

7.2 Major improvements of Trust clinical, diagnostic, pharmacy, administration and management systems are necessary to obtain maximum benefit for infection prevention and control. Nationally, IM&T systems have been developed to support ICT record keeping and surveillance: InControl (which has now been developed as a commercial product, ICNet). Another product, DataStore, has been developed in Wales. It is functional in NPHS laboratories and is being installed in NHS departments. DataStore will assist laboratory reporting for surveillance purposes and improve laboratories ability to gain access to, and analyse, their data. Further funding from the Welsh Assembly Government has produced a Welsh Healthcare Associated Infection website to improve information access and exchange. This site will support this strategy and can be accessed via the NPHS website.

7.3 To fully utilise use these IM&T systems, Information and Communication Technology skills training is required to develop expertise in this area.

## **Information Technology and Communications: Action**

### **Action to be taken by Welsh Assembly Government and Trusts:**

7 (i) The Welsh Assembly Government and NHS Trusts will take account of the needs of infection control in the development and implementation of future IM&T programmes.

### **Action to be taken by Trusts:**

7(ii) Trusts will ensure that appropriate resources are available to provide Infection Control Teams with specialist IT tools and software.

### **Action to be taken by NPHS (Wales):**

7(iii) The Welsh Healthcare Associated Infection website will be developed as the major vehicle for communication and information exchange, including regular update of strategic developments.

7(iv) Further development of Datastore by WHAISG project team will be used to improve the effectiveness and efficiency of laboratory reporting for surveillance purposes.

7(v) The training review undertaken by WHAISG will include IM&T requirements.

## Part four

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# Part five

## Annexes

### Annex A

Infection Control Strategy: Pontypridd and Rhondda NHS Trust.

#### Vision

To have in place measures and processes to enable us to continually reduce the risk of hospital acquired infection.

#### Goals

1. The Trust has a culture that recognizes that control of infection is everybody's business.
2. The development of effective and efficient control of infection is strategically planned.
3. The reduction of infection is an integral part of each Directorate's risk management action plan and the Trust-wide risk management strategy.
4. The roles and responsibilities of individuals and groups are clear.
5. Good practice is promoted across the Trust through a better understanding of the principles of control of infection.
6. Access is available to appropriate and necessary training and education opportunities in relation to control of infection.
7. Directorate-specific individual procedure documents are introduced which are based on a series of underpinning corporate principles.
8. The incidence of preventable infection is reduced.
9. Necessary actions are taken to prevent the spread of epidemic MRSA which minimize the number of patients affected by MRSA with minimal disruption of routine hospital activity and without compromising patients' access to necessary clinical care.
10. There are an agreed set of indicators of performance for each Directorate and progress against these targets is monitored and evaluated.

## Annex B

Number of acute beds covered by Infections Control Nurses in NHS Trusts in Wales. Variable numbers of non-acute beds are also covered. (2003).

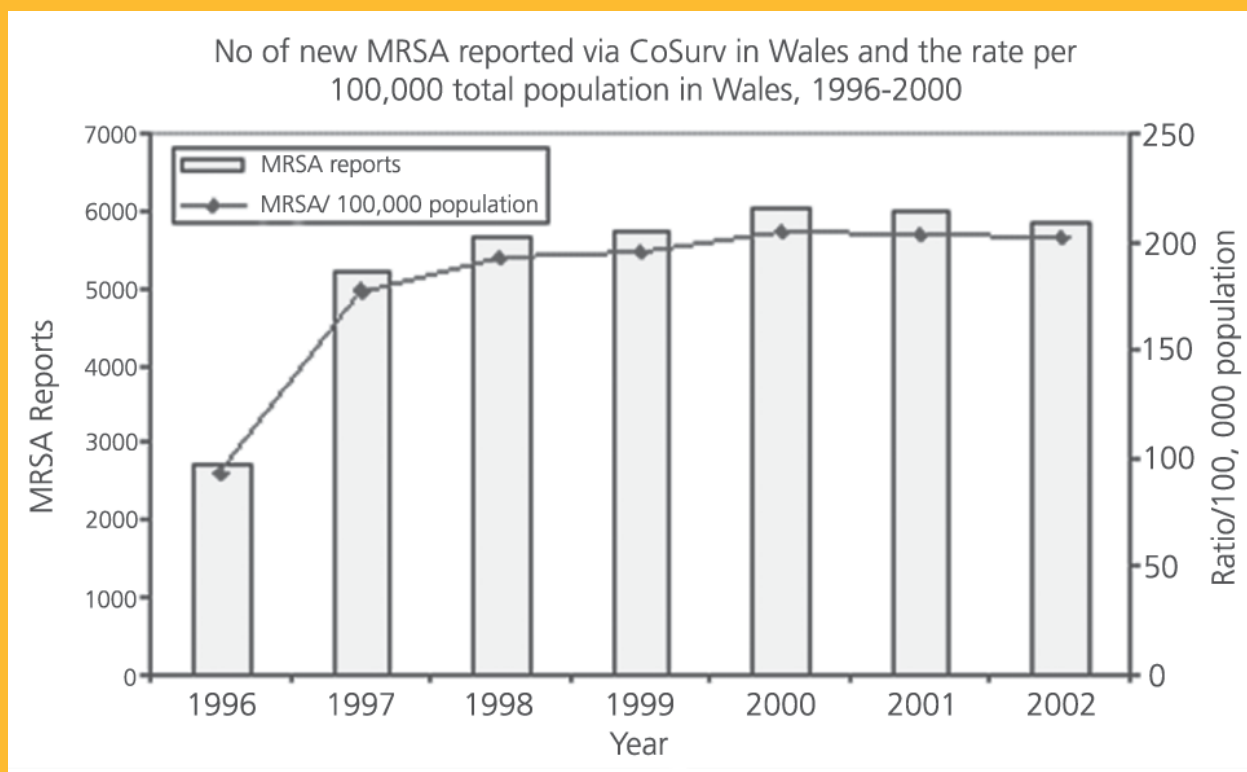
Trust	No. of acute beds	No. of ICNs	Acute beds/ICN
1	1783	5	357
2	1398	10	140
3	531	2	266
4	625	3	208
5	195	1	195
6	595	3	198
7	1343	3	447
8	65	2	33
9	846	2	423
10	635	4	159
11	300	2	150
12	436	2	218
13	621	3	207



## Annex C

### MRSA reporting via CoSurv

Since 1993, data on Staphylococcus Aureus from blood cultures and CSF has been collected via CoSurv, including methicillin susceptibility. In 1996, surveillance was expanded to all new MRSA, associated with colonisation and infection, from hospital and community settings. This surveillance has documented the rise in methicillin resistance over time, the variation by place and the population groups most affected. Data has shown that although there was a steep rise in the incidence of MRSA in Wales between 1996 and 1998, since then the incidence has remained relatively stable. The CoSurv data has been audited and supplemented by two MRSA incidence surveys and a survey of policies for transfers of patients with resistant organisms. These surveys have delineated the problem by hospital and extended the surveillance into examining policies and procedures.

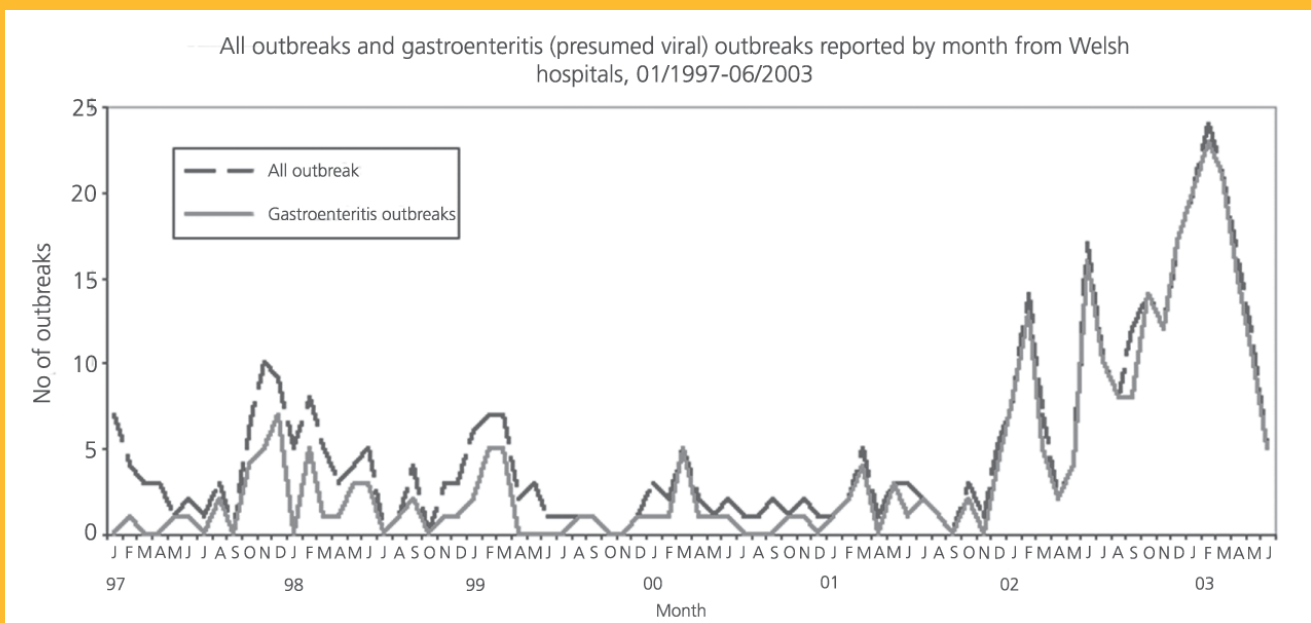


## Annex D

### Hospital outbreak reporting

A hospital outbreak reporting system was developed in 1997. Infection Control Teams (ICT) complete a monthly questionnaire on any outbreaks that have occurred. Originally the surveillance was by paper questionnaire, but this has developed over time into reporting via an electronic questionnaire sent by e-mail to the project team and now into web based reporting and querying of the database. Surveillance documents the causes of the outbreaks, the number of patients and staff involved and the control measures undertaken, providing an information resource for ICT and allowing the analysis of the success of different control strategies.

Although voluntary reporting is undertaken by approximately half the infection control teams in Wales, data shows that viral gastroenteritis is by far the most common outbreak in hospitals in Wales only, and that numbers of outbreaks of this organism have increased recently.

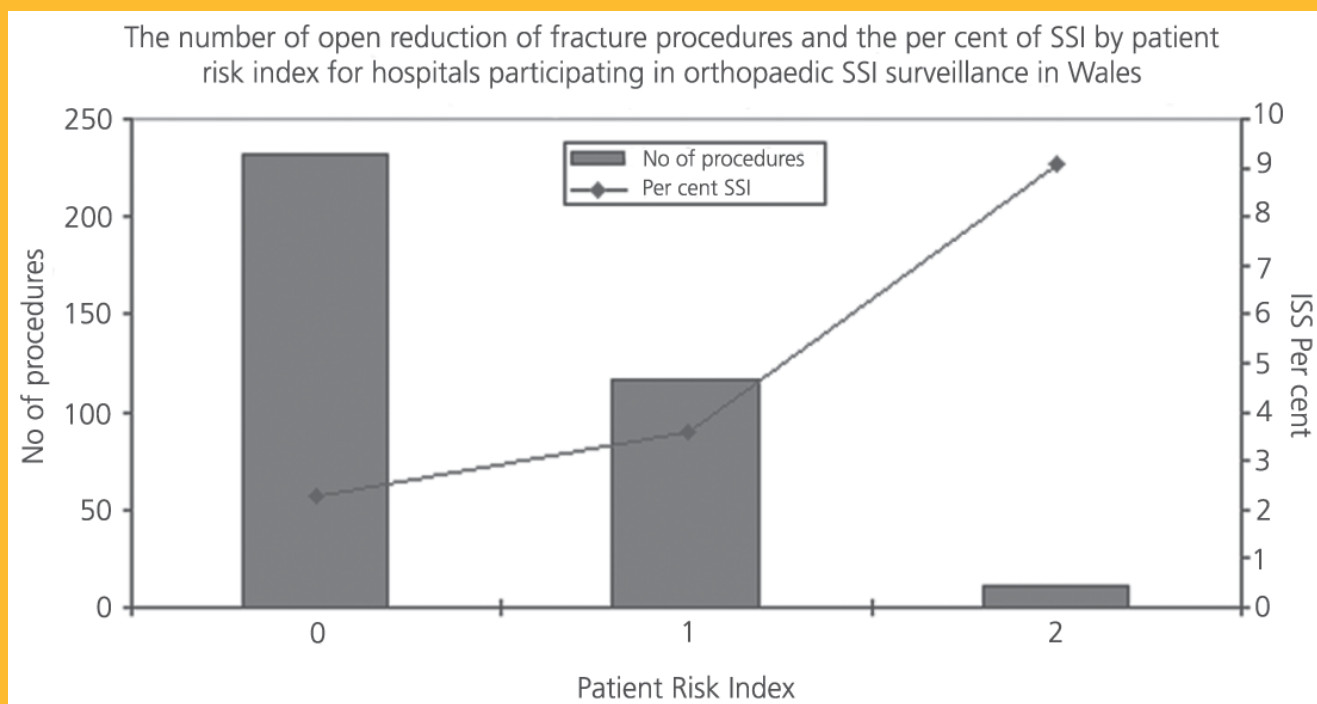


## Annex E

### Surgical Site Infection reporting

A voluntary surveillance scheme for surgical site infections was developed in 2001. Surveillance is via questionnaires produced for use with optical mark reader technology. The questionnaires are completed by surgical/infection control personnel in hospitals. Local analysis is carried out by a surveillance co-ordinator based at each hospital, using a database written by the programme team. Stratified analysis of the data based on the American NNIS risk index for infection is the basis of the reports in the database. All-Wales analysis is provided by the programme team.

Four hospitals in Wales have been running the SSI surveillance for orthopaedic procedures and three for obstetrics and gynaecology/Caesarian sections on a voluntary basis.



## Annex F

### Staphylococcus Aureus bacteraemia reporting

The project team was approached by the infection control team of a hospital, who were concerned because their MRSA bacteraemia rates were consistently among the highest in Wales. An examination of their data by specialty suggested that their rates for nephrology were higher than in other Trusts. A case notes review was carried out on nephrology patients with a MRSA bacteraemia over a one-year period. It was found that in 9 of 11 patients an intra-vascular line had been inserted during the three weeks previous to the positive bacteraemia. The rate of MRSA bacteraemia per 100 line insertions was found to be statistically significantly higher in this unit compared to a similar unit in a neighbouring hospital. A review of the line insertion policies and practice was carried out. Subsequent to this the MRSA bacteraemia rate for nephrology in the hospital has decreased, as has the overall MRSA bacteraemia rate.

