

# Management of Hospital-acquired Infection

*Volume One of Two*



Report of the

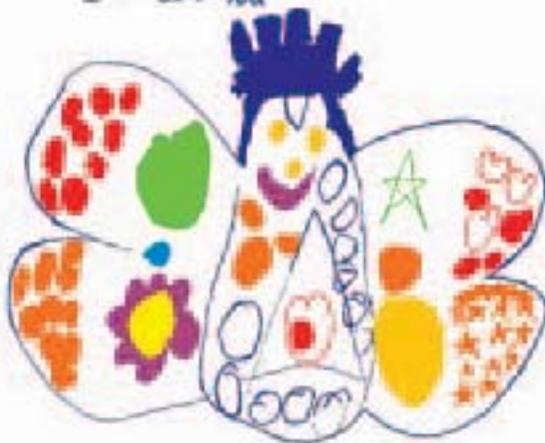
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**Controller and Auditor-General**

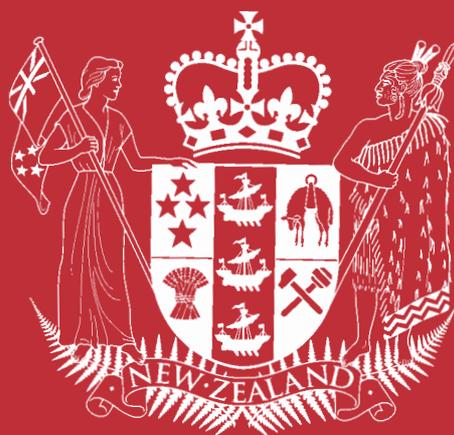
*Tumuaki o te Mana Arotake*

To Grandma and GRANDAD

I Love You



Get well soon and  
make sure the Doctor washes  
us back before she fixes  
you love from Emma and  
Caitlin



**Report of the  
Controller  
and Auditor-General**

*Tumuaki o te Mana Arotake*

**Management of  
Hospital-acquired Infection**

***Volume One of Two***

**June 2003**

*This is the first of two volumes of the report of a  
performance audit we carried out under the authority of  
section 16 of the Public Audit Act 2001.*

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## Foreword

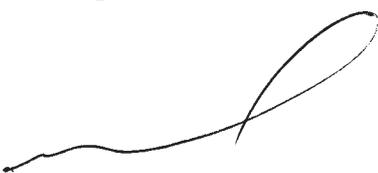
Under the Public Audit Act 2001, my mandate to review issues of effectiveness and efficiency was extended beyond core central and local government entities. This is the first performance audit in the health sector under the Act.

Audit Offices around the world take a close interest in what their counterparts in other countries are doing. They try to learn from one another and make good use of resources; for example, by sharing approaches to avoid 'reinventing the wheel'. Through this interest, we noted the success of the report that the United Kingdom National Audit Office published in February 2000 – *The Management and Control of Hospital Acquired Infection in Acute NHS Trusts in England*. The team for our audit is most grateful to the UK colleagues who worked on that report, for providing material to help us with our audit – including access to their survey, which we amended to reflect the New Zealand context.

In reporting the results of our survey (which form the basis of Volume Two), we decided not to name individual District Health Boards (DHBs) as we expected that, as a result of our report, hospitals would be implementing improvements. We have provided all DHBs with comparative feedback of survey results which we hope they will use to improve infection control practices.

We appreciate the positive response of the health sector to our audit. The idea of patients acquiring an infection as a result of treatment they receive strikes at the core of the health system. We might have expected to encounter some defensiveness among health sector staff. We did not. Instead, we were consistently met with open-minded professionalism from people wanting to continuously improve their clinical practices.

The Ministry of Health and DHB staff have acknowledged our audit as providing a baseline from which to improve infection control practices. I look forward to seeing this commitment applied to achieving the improvements recommended in this report.



K B Brady  
Controller and Auditor-General  
12 June 2003



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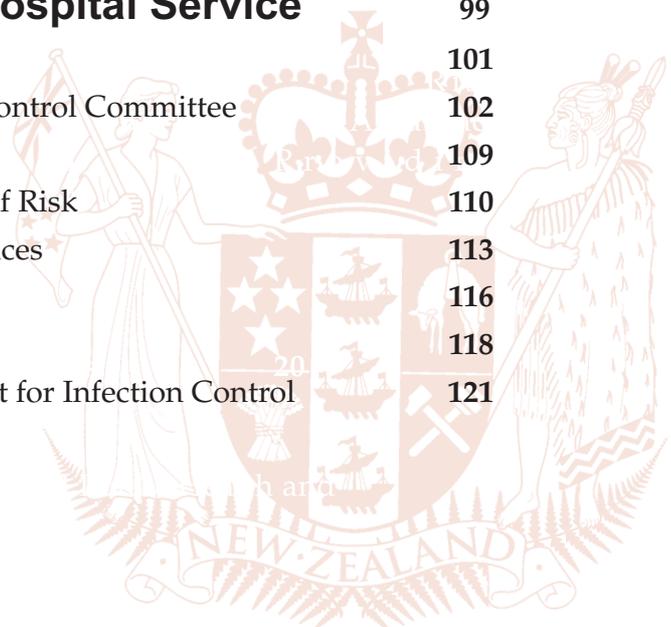
## Volume Two

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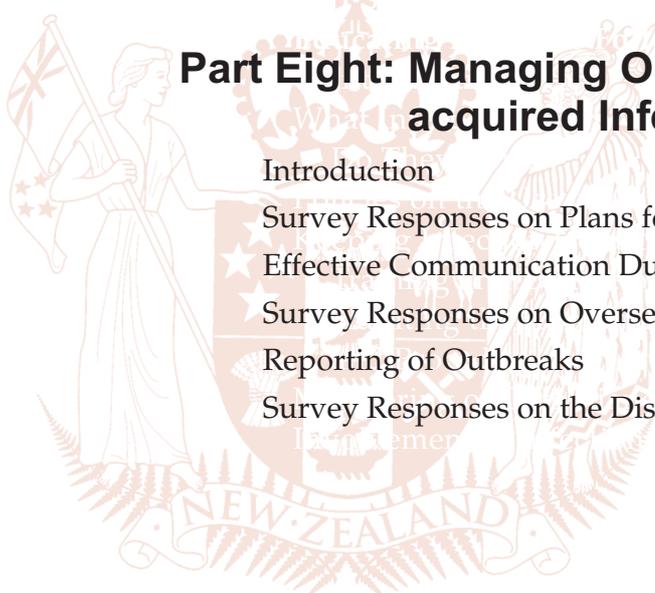
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### **Explanatory Notes:**

- 1 Frequent footnote references are made in this report to our survey by questionnaire of DHBs. The blank questionnaire form is available on our web site [www.oag.govt.nz](http://www.oag.govt.nz) under "Publications". All results are taken from a survey population of 21 DHB hospital services unless otherwise stated. The footnotes identify the relevant part of the survey questionnaire by form, question, and part – e.g. **F2: Q10, a, b, c** refers to Form 2, Question 10, and sub-parts a, b, and c of that question.
- 2 In this report we have used quotations extracted from DHB survey responses to highlight some issues and/or opinions. The quotations are shown in stylised text boxes.

### Summary

Infection control is an essential element of good clinical practice and is vital for patient safety. The purpose of our performance audit was to describe and assess systems for managing hospital-acquired infection in public hospitals.

### Overall Conclusions

Hospital-acquired infections are recognised nationally and internationally as a serious problem. In common with other parts of the world, they are an important concern in New Zealand's public hospitals.

Here, and in other developed countries, it is estimated that about 10% of patients admitted to hospital will acquire an infection as a result of their hospital stay. The costs of dealing with hospital-acquired infections in this country's public hospitals are estimated to be more than \$137 million a year.

A fair proportion of hospital-acquired infections can be avoided through effective infection control practices. Everyone working in a hospital should take responsibility for infection control. Making sure they do take responsibility – and that every reasonable action is taken to manage the risk of infection – is challenging.

The legislative framework and the Infection Control Standard<sup>1</sup> (the Standard) provide a solid basis for hospital services<sup>2</sup> to establish effective arrangements for infection control. Hospital services are making progress towards meeting the Standard. Some dimensions of infection control are working particularly well – such as collaboration between infection control and laboratory staff. Others require more attention – for example, auditing of infection control practice, which provides a vital source of assurance about compliance by hospital staff.

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1 Standards New Zealand: NZS 8142:2000 *Infection Control*. Organisations obliged to comply with the Health and Disability Services (Safety) Act 2001 will be required to demonstrate compliance with this Standard (for existing licensed providers by 1 October 2004).

2 The term *hospital services* refers to that part of the DHB delivering services in a hospital setting within the DHB.

In some hospital services, there needs to be more visible and active commitment by managers and clinical and other staff to the importance of infection control. Infection control needs to be a key component of hospitals' risk management and quality assurance arrangements. District Health Boards (DHBs)<sup>3</sup> must have the information they need to be accountable to their communities for providing safe health care services – and that should include information on the risks of hospital-acquired infection and how the risks are being managed.

Action is also required by the Ministry of Health (the Ministry) to improve national arrangements – for example, to establish comprehensive surveillance<sup>4</sup> of hospital-acquired infection that would provide a national picture of the incidence and causes of such infections.

## The Framework for Infection Control

The Health and Disability Services (Safety) Act 2001 aims to promote the safe provision of health and disability services by establishing national standards-based certification. The Ministry engaged Standards New Zealand<sup>5</sup> to prepare the Standard that sets out the basic principles and systems forming the foundation of effective infection control.

The Standard is proving to be a valuable resource for hospitals – although few were applying the accompanying infection control audit tool. The Ministry has been promoting voluntary accreditation of health care services, which will help hospitals to prepare for certification.

In addition, the Ministry's infectious disease strategy<sup>6</sup> sets useful goals – outlining strategies to reduce the incidence of infectious diseases, and specifying action plans to improve the prevention and control of hospital-acquired infection.

- 
- 3 There are 21 DHBs, which are responsible for ensuring the provision of health care services to their communities (see Figure 1 on page 33).
  - 4 Surveillance involves the collection and interpretation of data on infections, and reporting the results so that clinical staff and managers can take action, if appropriate.
  - 5 Standards New Zealand is the trading arm of the Standards Council, a Crown entity operating under the Standards Act 1988.
  - 6 *An Integrated Approach to Infectious Disease: Priorities for Action 2002-2003* is one of a number of supporting strategies designed to give effect to The New Zealand Health Strategy; Ministry of Health, Wellington, December 2000; ISBN 0-478-23993-9 (Book), ISBN 0-478-23994-7 (Internet) [www.moh.govt.nz/nzhs.html](http://www.moh.govt.nz/nzhs.html).



## SUMMARY

Only a comprehensive national surveillance programme will provide the Minister of Health, patients, and the general public, with information about rates and types of hospital-acquired infection that is necessary for reasonable assurance about the safety and quality of public health care. The Ministry has made a commitment to establish a national surveillance programme for hospital-acquired infection, but has yet to set a timetable.

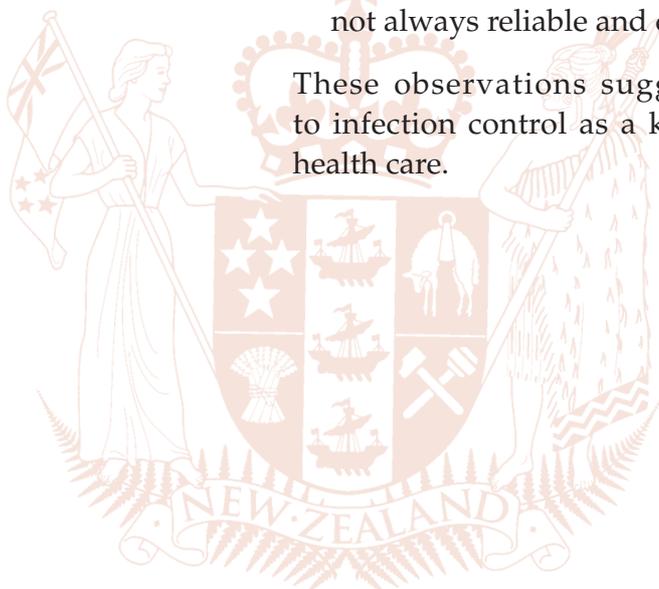
### District Health Board Governance

DHBs are responsible for ensuring that publicly funded health care services are safe – which includes safeguarding patients, staff, and others (as far as possible) from the risks of infection.

Infection control is about managing risk, by using information on what the risks are and how they are being managed. Most hospital managers were receiving regular reports on rates and cases of hospital-acquired infection, but:

- Not all hospital services provided such reports to quality assurance and risk managers – reflecting the absence of a co-ordinated approach, and poor integration of infection control activities with quality assurance and risk management.
- The Boards of DHBs were not receiving regular information on hospital-acquired infection rates or infection control systems. Without such information, Boards are not in a position to provide assurance to their communities about the safety of their hospital services.
- Few DHB plans made reference to infection control, and DHB reporting to the public on hospital-acquired infection was limited and not always reliable and consistent.

These observations suggest that more attention needs to be given to infection control as a key part of risk management and high-quality health care.



## Infection Control in DHB Hospitals

### *How Infection Control Is Organised and Managed*

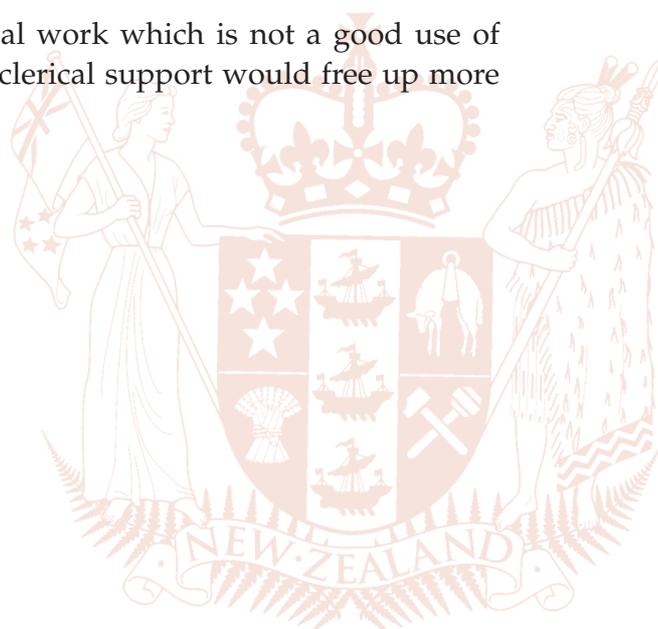
Infection control programmes were generally comprehensive and were monitored regularly. However, fewer than half of the programmes specified how their infection control team contributed to setting standards in clinical and support services, or identified planned audits of the services. This suggests that some hospitals may be giving insufficient attention to the infection control implications of clinical or other hospital practices.

Infection control responsibilities were appropriately allocated to a range of clinical staff and managers. Infection control teams were well established, and were normally made up of hospital nursing and medical staff with appropriate training and skills in infection control.

A range of factors suggested that some hospital services might not have applied the appropriate level of resources to infection control. Those factors included:

- the wide variety of tasks undertaken by infection control staff in different hospitals and in the community;
- widely varying ratios of infection control staff to occupied beds;
- the relatively little time spent in some hospital services on auditing compliance with infection control procedures; and
- high costs associated with managing outbreaks.

Infection control staff are doing clerical work which is not a good use of their skills and experience. Providing clerical support would free up more time for the infection control teams.

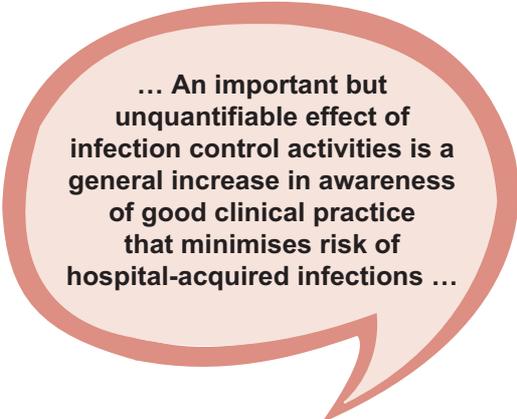


### *Relationships Between Infection Control and the Rest of the Hospital Service*

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Infection control is a hospital-wide activity. The infection control committee should provide a key interdisciplinary forum for considering infection control matters throughout the hospital, bringing together the interests of different clinical and non-clinical groups. In most DHB hospital services, membership of the infection control committee reflected the range of infection control interests in the hospital service. Some committees needed to be strengthened by adding representation from two important groups – hospital pharmacies and occupational health services.

In some hospital services, attendance at infection control committee meetings was sporadic. Absence of some members resulted in meetings not having the benefit of all relevant views, and valuable knowledge and experience may not be shared. Irregular attendance may also reflect a lack of proper commitment to, and support for, infection control.



**... An important but unquantifiable effect of infection control activities is a general increase in awareness of good clinical practice that minimises risk of hospital-acquired infections ...**

Communication is an important function of an infection control committee. Few committees reported on their year's activities. Those reports we saw were informative, and provided useful summaries of plans and performance to a wide audience throughout the hospital.

Infection control teams had effective relationships with laboratory staff, enjoying good access and constructive collaboration on infection control matters.

Establishing a network of infection control representatives can be a useful way of raising awareness, sharing knowledge, promoting best practice, and helping with surveillance and early detection of outbreaks. Two-thirds of hospital services had infection control representatives in ward areas. A number of obstacles must be overcome to make best use of these staff – in particular, a lack of recognition, limited training, and inadequate resourcing. Clearly defining the role of the infection control representative is an essential first step.

Changes to the hospital environment – such as purchase of new equipment, building re-design, and the introduction of new services or

contractors – can add new risks of spreading infection. Infection control staff can provide useful advice about the practical impacts of proposed changes, drawing on their wide experience of how the hospital works. Even so, they were often not consulted when such changes took place. This is a missed opportunity and increases the risk that important infection control matters may be overlooked.

### *Setting Infection Control Policies, Educating People to Follow the Policies, and Making Sure They Do*

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Infection control teams and other hospital staff had ready access to documented, up-to-date infection control policies and procedures – both for day-to-day reference and guidance, and to use as a benchmark for auditing against good practice. However, few sets of policies were comprehensive. Important omissions included policies relating to staff vaccination, the management of beds, and aspects of clinical practice.

Drawing up and maintaining infection control policies is time-consuming, and many aspects of good practice are applicable to all hospital services. There is scope for DHBs to collaborate more on policies.

Training in good practice and familiarity with policies helps promote a culture of good infection control throughout the hospital. Nurses received training in infection control when starting work in a hospital, but training was given less often to senior doctors and support services staff, creating the potential for lack of awareness. Moreover, without regular refresher training, commitment may wane over time and standards of good practice may slip.

Almost two-thirds of hospital services were assessing the effectiveness of training through follow-up audits. However, some infection control teams were not auditing enough to ensure that policies were being followed – representing a serious gap in quality assurance that must be addressed.

The teams were commonly carrying out audits of hospital hygiene, but some audits covered limited areas of the hospital environment, reducing the level of assurance provided. We noted instances where hygiene audits had led directly to substantial improvements. In some hospital services, the audit results needed to be distributed more widely to ensure that lessons were communicated to all relevant parts of the hospital service.



## SUMMARY

Infection control teams were not always involved in audits of related clinical practices – such as audits of isolation units and wound care. As a result, these audits may not have sufficient regard for the infection control aspects of such clinical practices.

While most hospital services had policies on appropriate use of antibiotics, more than half of infection control teams and hospital pharmacies were not working together to ensure compliance. Few infection control teams had access to the pharmacy data necessary to establish relationships between infections and antibiotic prescribing. This limited collaboration and access to information reduced the opportunities for effective communication throughout the hospital about prudent antibiotic usage.

### *Screening and Surveillance to Identify Hospital-acquired Infection*

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Screening patients and staff plays an important part in preventing and controlling infectious disease in a hospital. All but one hospital service routinely screened certain groups of patients, and 16 routinely screened staff to identify any who might be colonised<sup>7</sup> or infected.

Surveillance is an essential component of preventing and controlling infection in hospitals. All hospital services undertook some form of surveillance, but many used different definitions – making it difficult to set benchmarks, interpret data nationally or for groups of hospitals, or draw meaningful comparisons. Most infection control teams had satisfactory access to information systems for surveillance purposes, and regularly examined surveillance data – mainly laboratory reports and electronic patient records. But data collection and collation needed to be improved.

For effective surveillance, all relevant information and risk factors should be monitored. In most hospital services, surveillance programmes needed to be more comprehensive – only one programme in the six DHBs with tertiary<sup>8</sup> services covered all of the important risk factors.

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7 In a colonised person, the organism is present in the person's body but has not caused an infection in that person.

8 We use the term *tertiary* to refer to those DHB hospitals providing very specialised care and performing the most complex procedures. These services are predominantly delivered by the DHBs based in major cities.

Surveillance results provide valuable information about hospital practices that could put patients or staff at risk of infection but, in some hospital services, clinical staff were not receiving results that could help them eliminate unsafe practices and target possible causes of infection.

Most hospital-acquired infections become apparent only after a patient has been discharged. The most serious of these cases may require the patient to be re-admitted. However, most hospital services had no reliable information on re-admissions of patients with a hospital-acquired infection.

Most hospitals were carrying out periodic surveillance to establish the extent to which infections appeared after a patient's discharge from hospital. Enhancing post-discharge surveillance would give hospitals a more accurate picture of their rates of hospital-acquired infection.

Few hospital services were carrying out a risk assessment to establish whether their arrangements for isolating infectious or at-risk patients were adequate. Some respondents expressed the view that arrangements in their hospitals for isolating patients were unsatisfactory, and had concerns about the availability of beds and the quality of facilities.

### *Managing Outbreaks of Hospital-acquired Infection*

Nearly all hospitals had documented arrangements or plans to deal with infection outbreaks, endorsed by the infection control committee. Reports on reviews of how well outbreaks were handled can contain important lessons for the management of future outbreaks. Some hospital services would benefit from making such reports more widely available to all staff responsible for taking action on the issues raised.



# Recommendations

## The Framework for Infection Control

1. The Ministry should review the administration of its expert advisory groups relating to infection control, to enable the groups to be fully effective.
2. In consultation with DHBs, the Ministry should review the way it collects and feeds back data on bloodstream infections, to make such data more reliable and consistently available.
3. The Ministry should work with ESR<sup>9</sup> and DHBs to establish a timetable and project plan for setting up national surveillance of hospital-acquired infection along the lines indicated in paragraph 2.42 on page 49.

## District Health Board Governance

4. The Ministry should continue its actions to improve DHBs' monthly risk reporting, with particular emphasis on consistent reporting so that all risks, and measures to mitigate them, are reliably identified.
5. DHB Boards should receive regular information on rates of hospital-acquired infection and the operation of infection control systems. They should also receive periodic reports on their hospitals' progress towards meeting the Infection Control Standard.
6. DHB Boards should consider using their Hospital Advisory Committee to help them oversee infection control.
7. DHBs should specify infection control services (including periodic reporting) in service agreements with their hospitals.
8. DHBs should specify in their annual and strategic plans how they intend to give effect to the Ministry's priorities relating to the prevention and control of hospital-acquired infection.
9. DHBs should set out in their plans a timetable for achieving certification, and report to their communities on progress made by their hospital services and other health care service providers towards meeting the statutory deadline.

<sup>9</sup> ESR is the Institute of Environmental Science and Research Limited, a Crown Research Institute specialising in environmental and public health, and forensic science.

10. DHBs should obtain views from their communities on the assurance they want on hospital-acquired infection. DHBs' reporting should take account of these views and any local circumstances that affect the practicality of reporting, such as patient numbers. Periodic reporting (either in the DHB's annual report or another appropriate vehicle) might, for example, provide information on:
  - rates and types of hospital-acquired infection and comparisons with previous periods, with brief explanations of trends;
  - summaries of the management of any prolonged infection outbreaks that occurred during the period; and
  - planned actions to address any identified concerns.

### How Infection Control Is Organised and Managed

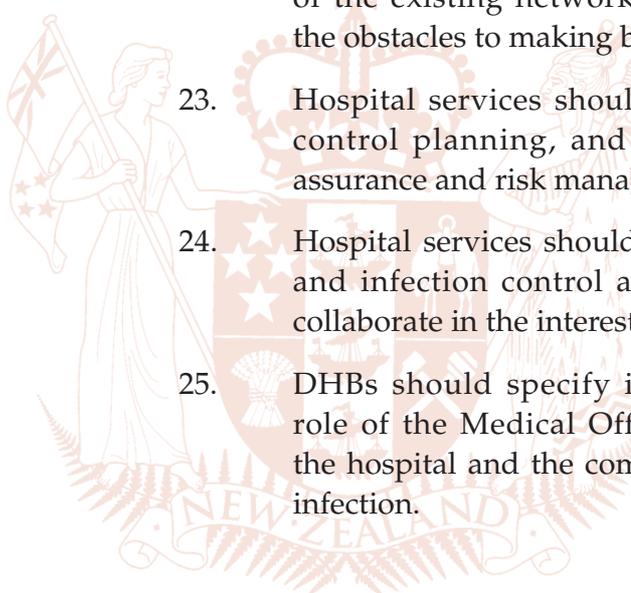
11. Hospital services should ensure that all relevant hospital managers are assigned infection control responsibilities – including clinical leaders and managers with responsibility for risk management and quality assurance.
12. Hospital services should make long-term plans for infection control in the context of meeting the Infection Control Standard by October 2004.
13. Hospital services should consider establishing separate infection control budgets, having regard to the benefits and drawbacks in terms of priorities for resource use, transparency, independence, and capability.
14. Hospital General Managers (or their equivalent) should monitor resources applied to infection control.
15. Hospital services should review the way in which infection control staff spend their time, to ensure that key activities – such as surveillance, monitoring hospital hygiene, and audit – receive the appropriate attention.
16. In consultation with the Ministry, DHBs and hospital services should design a model to help determine the appropriate level of resources applied to infection control. The model should take account of all relevant factors – such as bed numbers, bed occupancy, complexity of medical and surgical procedures and associated technology, and patient mix.



## RECOMMENDATIONS

17. Hospital managers should consider assigning additional clerical support to infection control practitioners, thereby leaving the practitioners free to carry out the wide range of tasks that require their infection control expertise.
18. Hospital services should periodically review whether their infection control resources are adequate, and look for ways of increasing resources where such additional expenditure is shown to be cost-effective.
19. Hospital managers and staff should make use of the infection control audit tool (published by Standards New Zealand as a companion document to the Infection Control Standard).

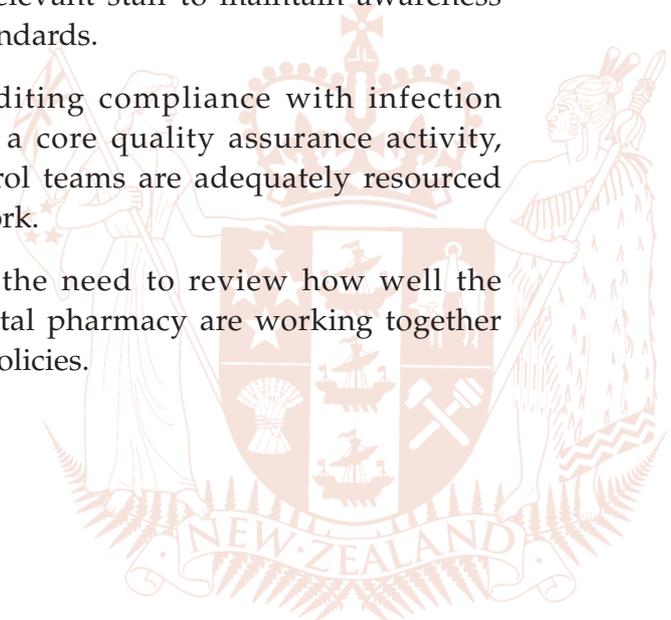
### Relationships Between Infection Control and the Rest of the Hospital Service

20. Hospital services should ensure that:
    - their infection control committee includes representation from occupational health and the hospital pharmacy; and
    - members attend committee meetings on a regular basis, to help ensure that discussions draw on the full range of views and experience.
  21. Infection control committees should consider producing an annual report of their activities and plans, to help maintain the profile of the infection control service and to keep staff and managers informed of infection control issues.
  22. Hospital services should consider the merits of putting in place a network of infection control representatives (or review the effectiveness of the existing network), having regard to both potential benefits and the obstacles to making best use of the network.
  23. Hospital services should use a risk-based approach for their infection control planning, and integrate infection control into their quality assurance and risk management programmes.
  24. Hospital services should ensure that the activities of occupational health and infection control are well co-ordinated, and that the two groups collaborate in the interests of patient and staff safety.
  25. DHBs should specify in their service agreements with hospitals the role of the Medical Officer of Health as a public health link between the hospital and the community on the management of hospital-acquired infection.
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26. Hospital services that do not yet have arrangements for their laboratories to report notifiable diseases directly to the Medical Officer of Health should consider the need to put such arrangements in place.
27. The infection control team should be consulted when changes to the hospital environment (including contracting of services) are proposed.

### **Setting Infection Control Policies, Educating People to Follow the Policies, and Making Sure They Do**

28. Hospital services should review the scope of their infection control policies, procedures, and practices, to ensure that they cover all relevant activities.
29. The Ministry should consider establishing a working party to review information on overseas practices and developments on the re-use of items intended for a single use, with a view to providing timely guidance to DHBs.
30. DHBs should explore using the Health Intranet maintained by the Ministry to facilitate communication and collaboration, and to share educational material and information on policies, procedures, best practice, and local initiatives.
31. Hospital services should:
  - ensure that all hospital staff – including doctors and support services staff – receive training in infection control when they join the hospital; and
  - provide refresher training to all relevant staff to maintain awareness and encourage compliance with standards.
32. Hospital services should treat auditing compliance with infection control policies and procedures as a core quality assurance activity, and ensure that their infection control teams are adequately resourced to spend the necessary time on this work.
33. Hospital services should consider the need to review how well the infection control team and the hospital pharmacy are working together to ensure compliance with antibiotic policies.





## RECOMMENDATIONS

34. Infection control teams should be involved in the design and conduct of clinical audits (as members of the audit team or indirectly through consultation or discussion) to ensure that such audits have regard to infection control risks associated with clinical facilities and processes, and to identify opportunities for improvement in infection control practices arising from audit findings.

### **Screening and Surveillance to Identify Hospital-acquired Infection**

35. In consultation with DHBs, the Ministry should draw up guidance on how and to what extent surveillance data should be collected.
36. Infection control teams should review how reporting of surveillance data to quality/risk managers and clinical staff can be improved.
37. Hospital services should put in place systems to help them identify patients re-admitted with a hospital-acquired infection.
38. Hospital services should review the adequacy of their arrangements for isolating patients.

### **Managing Outbreaks of Hospital-acquired Infection**

39. Hospital services should ensure that reports on the management of outbreaks are distributed widely to all hospital managers responsible for taking action to prevent and control hospital-acquired infection and minimise future risk.



# Part One

# Background



**One in 10 patients get bugs: study**  
An Australian study

**Superbug cases on rise**

**Guidelines for superbug war to be revised**

**Superbugs rife in rest homes – study**

**Patients' own bugs 'cause most harm'**

**Hospital infections cost \$150m a year**

"Most of the bugs that we see here in the past 10 years have been 'superbugs'."



## What Is Infection Control?

- 1.1 Infection control refers to a range of practices and procedures designed to minimise the risk of spreading infections, especially in hospitals and health care facilities.
- 1.2 A hospital-acquired infection is an infection that:
  - a patient acquires while in hospital (though it may only become apparent after discharge); and
  - was neither present nor incubating at the time of the patient's admission to hospital.

## Rationale for Our Audit

- 1.3 The purpose of our audit was to describe and assess systems for managing hospital-acquired infection in public hospitals. We undertook the audit for four main reasons:
  - hospital-acquired infections pose a serious risk to the safety of patients and hospital staff;
  - the cost of dealing with hospital-acquired infection is high;
  - a significant proportion of hospital-acquired infections can be avoided through effective infection control practices; and
  - a review of the management of hospital-acquired infection is timely.
- 1.4 By October 2004, providers of health care services<sup>10</sup> – including public hospitals – will have to demonstrate that they meet the Infection Control Standard (see paragraph 1.28 on page 30) in order to be certified under the Health and Disability Services (Safety) Act 2001. We assessed the current position and what work is needed to ensure that hospitals can comply with the Standard by 2004.
- 1.5 DHBs (see map of DHB boundaries at Figure 1 on page 33) are relatively new bodies, and are continuing to come to terms with their responsibilities. Ensuring the safety of hospital services is a key DHB responsibility, and we saw value in bringing the importance of effective infection control practices to the attention of Board members.

<sup>10</sup> The term *health care services* means services that are hospital care, residential disability care, rest home care, or specified health or disability services.

## Risks of Hospital-acquired Infection

### Hospital-acquired infections pose a serious risk to the safety of patients.

- 1.6 Hospital-acquired infections are recognised both nationally and internationally as a serious problem. In common with other parts of the world, they are an important concern in New Zealand public hospitals.<sup>11</sup> The Ministry's document *An Integrated Approach to Infectious Disease: Priorities for Action 2002-2006*<sup>12</sup> identified hospital-acquired infections (and in particular those caused by organisms that are resistant to commonly used antibiotics) as one of the six highest priority categories of infectious disease.<sup>13</sup>
- 1.7 Hospital-acquired infections occur most often in the patient's urinary tract, lungs, surgical wounds, and bloodstream:
- Urinary tract infections are the most common but least likely to cause significant additional problems or a prolonged stay in hospital.
  - Pneumonia, wound infections, and bloodstream infections can have serious consequences, resulting in prolonged hospital stays, ongoing complications and (occasionally) death. Antibiotics used to treat such infections may themselves cause complications or have toxic side effects.
- 1.8 Where a patient with a hospital-acquired infection dies, it is often from a cause other than infection. Nevertheless, hospital-acquired infections can result in permanent disability or death. In the United States, estimates suggest that hospital-acquired infection is primarily implicated in 1% of all deaths – making it the 11th most common cause of death, and a contributory factor in many more.<sup>14</sup> Equivalent data is not available for New Zealand.

11 As shown, for example, by the further analysis of material collected for the study conducted by Davis et al: *Adverse Events in New Zealand Public Hospitals: Principal Findings from a National Survey*; Occasional Paper No 3, published by the Ministry of Health, December 2001; ISBN 0-478-26265-5 (Booklet), 0-478-26268-X (Internet); available on [www.moh.govt.nz](http://www.moh.govt.nz).

12 Ministry of Health, November 2001, ISBN 0-478-26230-2 (Book), 0-478-26231-0 (Internet); available on [www.moh.govt.nz](http://www.moh.govt.nz).

13 The other five highest priority infectious diseases are: vaccine-preventable diseases, infectious respiratory diseases, blood-borne infections, sexually transmitted infections, and food-borne enteric (intestinal) diseases.

14 Haley RW: *Managing Hospital Infection Control for Cost-effectiveness: A strategy for reducing infectious complications*; American Hospital Publishing, Chicago, USA; 1986.

- 1.9 Unless contained, infections can spread throughout a hospital and into the community – as occurred in 2001 when the organism Methicillin-resistant *Staphylococcus aureus* (MRSA)<sup>15</sup> spread from public hospitals to aged care facilities in the North Island. Publicity about outbreaks of hospital-acquired infection reduces the public's confidence in the safety of our hospitals.

### Hospital staff are also vulnerable.

- 1.10 Hospital staff and people visiting the hospital can also acquire an infection in the hospital, particularly if they are directly exposed to an organism and are susceptible to the disease.
- 1.11 Hospitals need to manage the risk to staff in order to meet their responsibilities as good employers. Moreover, even if only a small number of staff become sick with a hospital-acquired infection, their absence from work can have major financial and operational consequences for the hospital.

### Certain types of patients are more likely to acquire an infection while in hospital.

- 1.12 Three patient groups are most likely to acquire an infection while in hospital:
- elderly people – whose immune systems deteriorate with age;
  - the very young – who have immature immune systems; and
  - patients undergoing therapies that suppress their immune systems, e.g. chemotherapy.
- 1.13 Patients are also more likely to acquire an infection if they:
- have a prolonged stay in hospital;
  - had a severe underlying condition before admission that makes them particularly susceptible to infection;
  - are attached to medical devices (such as ventilators); or
  - have undergone invasive procedures – such as surgery or insertion of tubes into the blood circulation system, bladder or lungs.

<sup>15</sup> MRSA is resistant to methicillin, oxacillin, and other antibiotics. It can spread easily in hospitals and other health care settings. We describe the nature and impact of MRSA in more detail in Figure 15 on page 154.

### **The bigger the hospital, the greater the risks associated with hospital-acquired infection.**

- 1.14 Bigger hospitals tend to treat very sick patients who have lower immunity to infections – for example, cancer patients and patients with kidney disease. These hospitals carry out complex procedures that put patients at greater risk of acquiring an infection in hospital.
- 1.15 At the same time, there is a rationale for having big hospitals – for example, to bring together specialist expertise and sophisticated equipment that often requires expert operators. The job of infection control is to manage the risk of hospital-acquired infection in an environment where very sick patients are receiving complex and invasive treatments.

### **Outbreaks of hospital-acquired infection are often associated with antibiotic-resistant organisms.**

- 1.16 Most hospital-acquired infections are treated with antibiotics. Widespread prescribing of antibiotics can give rise to organisms that are resistant to one or more types of antibiotic. Antibiotic resistance reduces the options available to treat infections, thereby further increasing the importance of preventing infection in the first place.

## **Extent of Hospital-acquired Infection**

### **An infection can be passed on in many different ways.**

- 1.17 Organisms capable of causing infection are present everywhere on or in people and animals, and in the environment. A large number of infections are caused by organisms normally present on or in the patient's own body.
- 1.18 An infection occurs when organisms capable of causing diseases have the means to invade a susceptible host. Sources of these organisms in hospitals include:
- infected patients and staff;
  - people who are carrying organisms but are not infected themselves;
  - moist, unclean areas in the hospital environment;

- dry objects and surfaces if they have been recently contaminated by being in contact with a colonised or infected person;
- endoscopes or other medical devices (if not properly processed for re-use); and
- the environment in or near the hospital – e.g. infections caused by exposure to fungal spores from materials around building sites.

1.19 Almost any type of organism can cause infection, but bacteria are the most common cause in hospitals. In hospitals, patients and health care workers are in close contact, making it easier for infections to spread.

### **Estimates suggest that about one in 10 hospital patients admitted to hospital will acquire an infection while in hospital.**

1.20 Overseas studies<sup>16</sup>, and a New Zealand study<sup>17</sup> drawing on multi-year data from one DHB area, suggest that about 10% of patients admitted to hospital will acquire an infection as a result of their hospital stay. Some hospital-acquired infections will not be recorded by hospitals when the infection appears after the patient has been discharged. For this reason, the true rate may be higher.

1.21 Incidence data relating to hospital-acquired bloodstream infections in New Zealand public hospitals has been collected since the mid-1990s, and a study published in 1998 found the rate acceptable for a developed country with a comprehensive health service.<sup>18</sup> Almost 80% of bloodstream infections occurred in the six DHBs having the largest hospitals and offering the most complex services. The study recommended that a nationally co-ordinated programme be initiated to monitor and compare bloodstream infection rates for comparable medical and surgical services in high-risk hospital units.

16 Pittet D: *Nosocomial bloodstream infections*; chapter in *Prevention and control of nosocomial infections* edited by Wenzel R.P; published by Williams & Wilkins, Philadelphia. 1993 (2nd edition); ISBN 0-683-08921-8. Plowman R, Graves N, et al: *The Socio-economic Burden of Hospital Acquired Infection*; published by the Public Health Laboratory Service, London, 1999.

17 Graves N, et al: *The Prevalence and Estimates of the Cumulative Incidence of Hospital-Acquired Infections Among Patients Admitted to Auckland District Health Board Hospitals in New Zealand*; published in *Infection Control and Hospital Epidemiology* (an official journal of the Society for Healthcare Epidemiology of America), Vol. 24, No. 1, January 2003.

18 Jones M, et al: *Hospital-acquired bloodstream infections in New Zealand*; published in the *New Zealand Medical Journal*, February 1998.

## Costs of Dealing with Hospital-acquired Infection

The cost of dealing with hospital-acquired infection is high.

1.22 Hospitals bear most of the direct financial costs of dealing with hospital-acquired infection. No authoritative studies have been carried out to establish the full costs of dealing with hospital-acquired infection in New Zealand. However:

- A recent study<sup>19</sup> based on data collected from the hospitals in the area of the Auckland District Health Board estimated that it would cost about \$137 million a year to treat hospital-acquired infection in medical and surgical patients in the country's public hospitals. The total true cost is likely to be higher, as this figure does not include the costs of managing infections acquired by patients in maternity, neonatal intensive care, and paediatric services.
- The cost of treating hospital-acquired infection in adult medical and surgical patients in two Auckland DHB hospitals was assessed at almost \$19 million a year.
- Even in smaller hospitals, the costs of treating hospital-acquired infection – or containing a threatened outbreak – can be high. One hospital estimated that it spends \$261,000 annually on dealing with surgical site infections.
- In another hospital, the estimated cost of swabs, protective clothing, and medication associated with treating and containing MRSA approached \$30,000. Controlling an outbreak of the infection was likely to add around \$50,000 to this cost.

... There are countless studies from overseas that we regularly reference showing the high cost of infection control inactivity and of the cost-benefits of controlling outbreaks ...

1.23 Treating hospital-acquired infection consumes scarce hospital resources by prolonging hospital stays, requiring additional investigations and treatment, and taking up extra staff time. Costs to the patient include time off work, rehabilitation and medical costs.

19 Graves N, Nicolls T, Morris A: *Modeling the Costs of Hospital-acquired Infections in New Zealand*; published in *Infection Control and Hospital Epidemiology* (an official journal of the Society for Healthcare Epidemiology of America), Vol. 24, No. 3, March 2003.

## Hospital-acquired infections create extra costs in the community.

- 1.24 Many hospital-acquired infections become evident after a patient is discharged. Most such infections are not serious, but they nevertheless create extra costs in the community. These costs include:
- the need for family or friends to care for the patient;
  - community-based nursing services;
  - GP visits; and
  - time off work.
- 1.25 As a further indicator of the amount and cost of infection acquired in our hospitals, we asked the medical misadventure unit of the Accident Compensation Corporation (ACC) for information on the claims it accepted that relate to hospital-acquired infection.
- 1.26 ACC reviewed claims for the 10 years to February 2002 and found that 4.4% (or 697) of accepted claims for medical misadventure involved a hospital-acquired infection. Wound infections accounted for more than half of those claims, while the most severe form of hospital-acquired infection – bloodstream infection – accounted for 7% of the 697 claims. The costs of the accepted claims over the 10 years ranged from \$40 for a medical consultation to \$57,000 compensation over a year. Eleven of 342 claims from families for compensation for the death of a family member related to hospital-acquired infection.

## How Can Infection Control Help?

### A fair proportion of hospital-acquired infections can be avoided through effective infection control practices.

- 1.27 Infection control is essential to the safety of the hospital environment and to public health. Studies suggest that up to around 30% of hospital-acquired infections could be avoided by use of rigorous infection control practices. One study<sup>20</sup> conducted in the United States during the 1970s estimated that an intensive infection surveillance and control programme was associated with a reduction in hospital-acquired infection. Even though this study is now about 30 years old, its findings are still likely to be credible and relevant in today's environment.

20 Haley R, Culver D, White J, et al: *The efficacy of infection surveillance and control programmes in preventing nosocomial infections in US hospitals*; published in *American Journal of Epidemiology* Vol. 121, 1985.

### The Infection Control Standard

**The Infection Control Standard is designed to promote safe, high-quality delivery of health and disability services.**

- 1.28 The Health and Disability Services (Safety) Act 2001 requires all licensed public (and private) hospitals to comply with the Health and Disability Sector Standards<sup>21</sup> by 2004. The New Zealand Infection Control Standard<sup>22</sup> (the Standard) was published in 2000. It was prepared by an expert technical committee drawn from the health and disability sector, in preparation for implementation of the standards-based certification regime required by the Act (see paragraphs 2.15-2.20 on pages 42-44).
- 1.29 The Standard addresses the basic principles and systems of effective infection control. We used the Standard in drawing up our expectations of good practice and in designing a survey questionnaire for our audit. The Standard provides guidance in seven areas:
- governance – with emphasis on a managed environment to reduce the risk of infection to patients, residents of health care facilities, staff, and visitors;
  - the composition, responsibilities, and resourcing of the infection control team;
  - policies and procedures to prevent and control hospital-acquired infection;
  - education for hospital staff and patients;
  - surveillance in accordance with agreed objectives, priorities, and methods specified in the infection control programme<sup>23</sup>;
  - policies and procedures to promote the prudent prescribing of antibiotics and other anti-microbial agents; and
  - an infection control programme explicitly linked to the organisation's quality and risk management programme.

21 A series of generic standards that are applicable to a wide range of specialities, age groups, and health and disability settings.

22 Standards New Zealand: NZS 8142:2000 Infection Control.

23 Ibid. Table B1 – surveillance guide.

## How We Carried Out Our Audit

- 1.30 In February 2000, the National Audit Office (NAO) in the United Kingdom published a report<sup>24</sup> on the management and control of hospital-acquired infection. The report highlighted the importance of infection control as a dimension of public health care and hospital safety. It drew conclusions about the quality of strategic management, surveillance, and measures for prevention, detection, and control in England. We identified benefits in taking a similar approach to examining infection control arrangements within the New Zealand public hospital environment.
- 1.31 We gathered information about infection control arrangements in public hospitals through an extensive survey questionnaire<sup>25</sup> that we sent to all 21 DHBs. The questionnaire drew on:
- the issues explored by the NAO in its study of the management of hospital-acquired infection;
  - the requirements of the Standard (see paragraph 1.29), research, and international best practice;
  - the advice of two practitioners (see paragraph 1.37) and the Ministry; and
  - the views of managers and practitioners when we piloted the questionnaire in two hospitals.
- 1.32 All 21 DHBs completed the questionnaire and returned it by April 2002, in good time for us to undertake our analysis. Many DHBs' responses included valuable additional comments, and, in some cases, relevant supporting documents, to illustrate their infection control arrangements or practices.
- 1.33 When we had undertaken a preliminary analysis of the survey responses, we visited four DHBs with tertiary hospitals – Auckland, Capital and Coast (Wellington), Canterbury, and Otago – to gather further information about their infection control practices. We also examined all DHBs' planning documents, their six-month reports to June 2001, and their annual reports to June 2002.

24 Report by the Comptroller and Auditor General: *The Management and Control of Hospital Acquired Infection in Acute NHS Trusts in England*; The Stationery Office, London; 17 February 2000; available on [www.nao.gov.uk](http://www.nao.gov.uk).

25 The blank survey form is available on [www.oag.govt.nz](http://www.oag.govt.nz) under "Publications".

## BACKGROUND

- 1.34 We consulted the Ministry in planning this audit, seeking its views on the design and content of our questionnaire. In the course of the audit, we gathered further information on the role of Ministry staff in drawing up policy and standards for infection control, and on their use of the information they received from DHBs on hospital-acquired blood-stream infections.
- 1.35 We consulted two other public entities on their responsibilities relating to infection control and hospital-acquired infections:
- the Institute of Environmental Science and Research Limited (ESR), a Crown Research Institute specialising in environmental and public health, and forensic science; and
  - the Accident Compensation Corporation.
- 1.36 We also invited the views of professional bodies and groups with an interest in infection control matters.<sup>26</sup>
- 1.37 Our audit team included an infection control practitioner<sup>27</sup> from a DHB who worked full-time on the audit. Two medical practitioners attended meetings of our internal steering committee for the audit, and provided advice and comments on our plans and the draft report:
- Dr Timothy Blackmore, Infectious Diseases Specialist, Capital and Coast DHB, and
  - Dr David Holland, Microbiologist and Infectious Diseases Specialist, Auckland Hospital.
- 1.38 We also consulted a medical microbiologist and hospital epidemiologist on the scope of our audit.

<sup>26</sup> The New Zealand Nurses Organisation (NZNO), the NZNO Division of Infection Control Nurses, the New Zealand Medical Council, and the Royal Australasian College of Surgeons.

<sup>27</sup> An infection control practitioner is usually a registered nurse with appropriate training and skills in infection control.





## Part Two

# The Framework for Infection Control



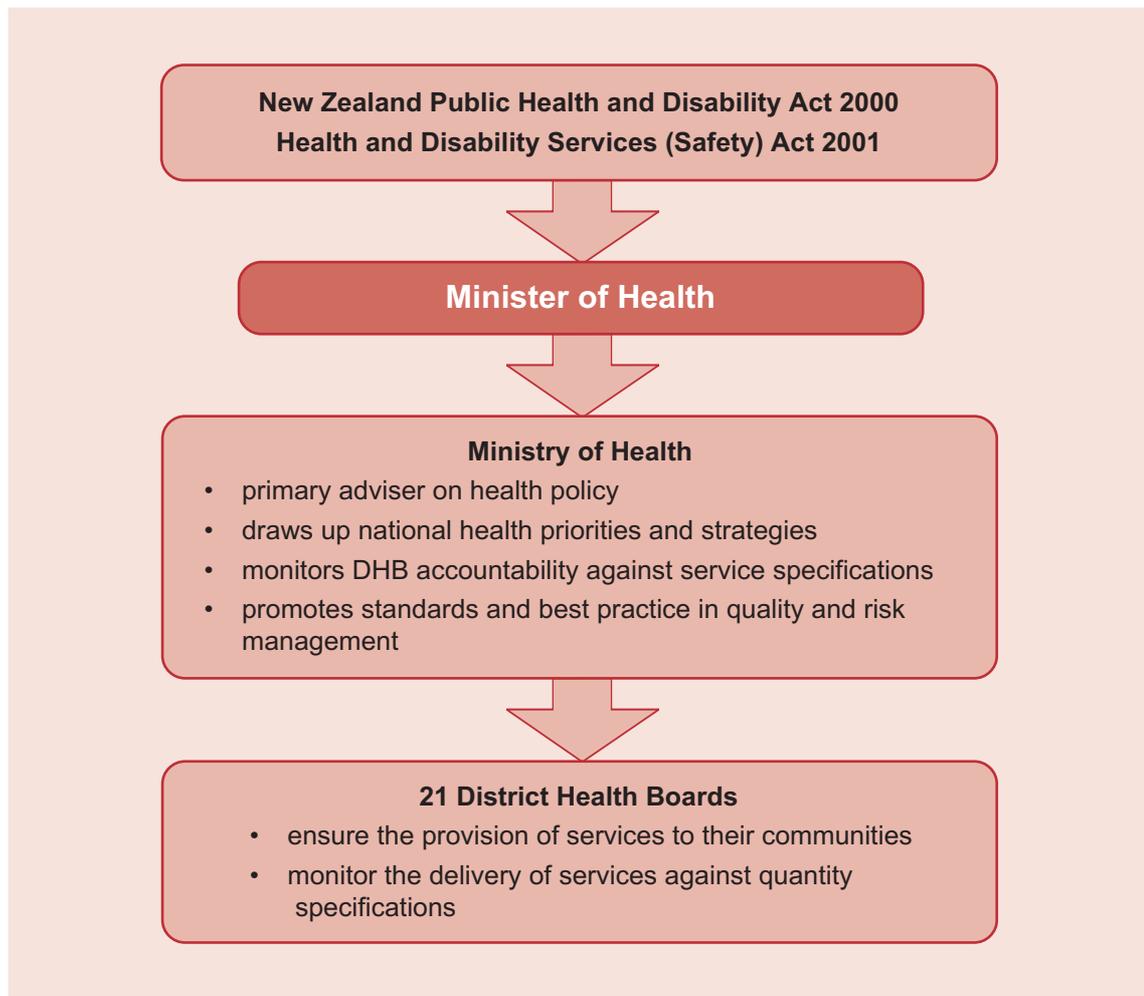


### Introduction

- 2.1 Infection control in public hospitals sits within an overall framework for ensuring the quality of care provided to patients – in terms of safety, effectiveness, and patient satisfaction.
- 2.2 In this part of the report, we:
- examine the framework for infection control in the context of quality and risk management;
  - set out the main statutory requirements, including the roles and obligations of the Ministry and DHBs, with specific reference to infection control; and
  - discuss the two key pieces of legislation that establish the framework governing the quality of public health care –
    - the Public Health and Disability Act 2000; and
    - the Health and Disability Services (Safety) Act 2001.
- 2.3 Figure 2 (on the next page) shows how these Acts relate to the overarching role of the Ministry and the role of DHBs in directly ensuring the provision of public health care services.
- 2.4 We then examine the role of the Ministry in:
- encouraging DHB hospital services to pursue voluntary accreditation as one means of preparing for certification under the Health and Disability Services (Safety) Act 2001;
  - promoting the implementation of quality standards;
  - using existing and specific-purpose expert groups to provide authoritative advice on clinical issues; and
  - undertaking national surveillance of hospital-acquired infection.



*Figure 2*  
*Responsibilities for the Provision of*  
*Public Health Care Services*



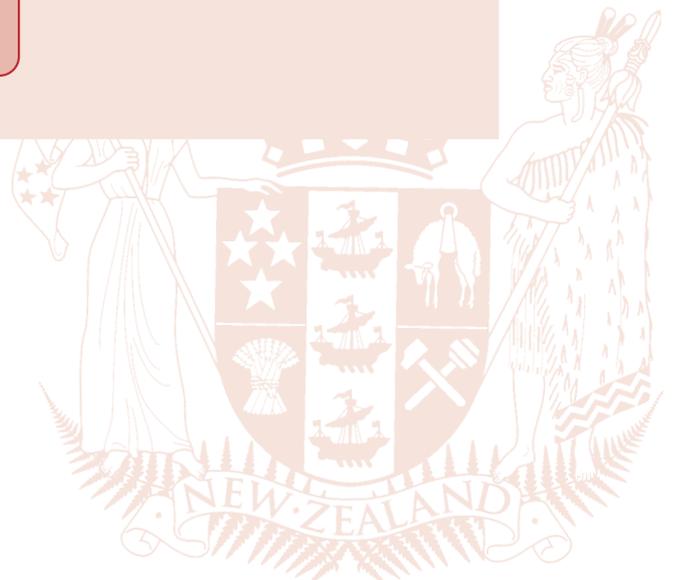
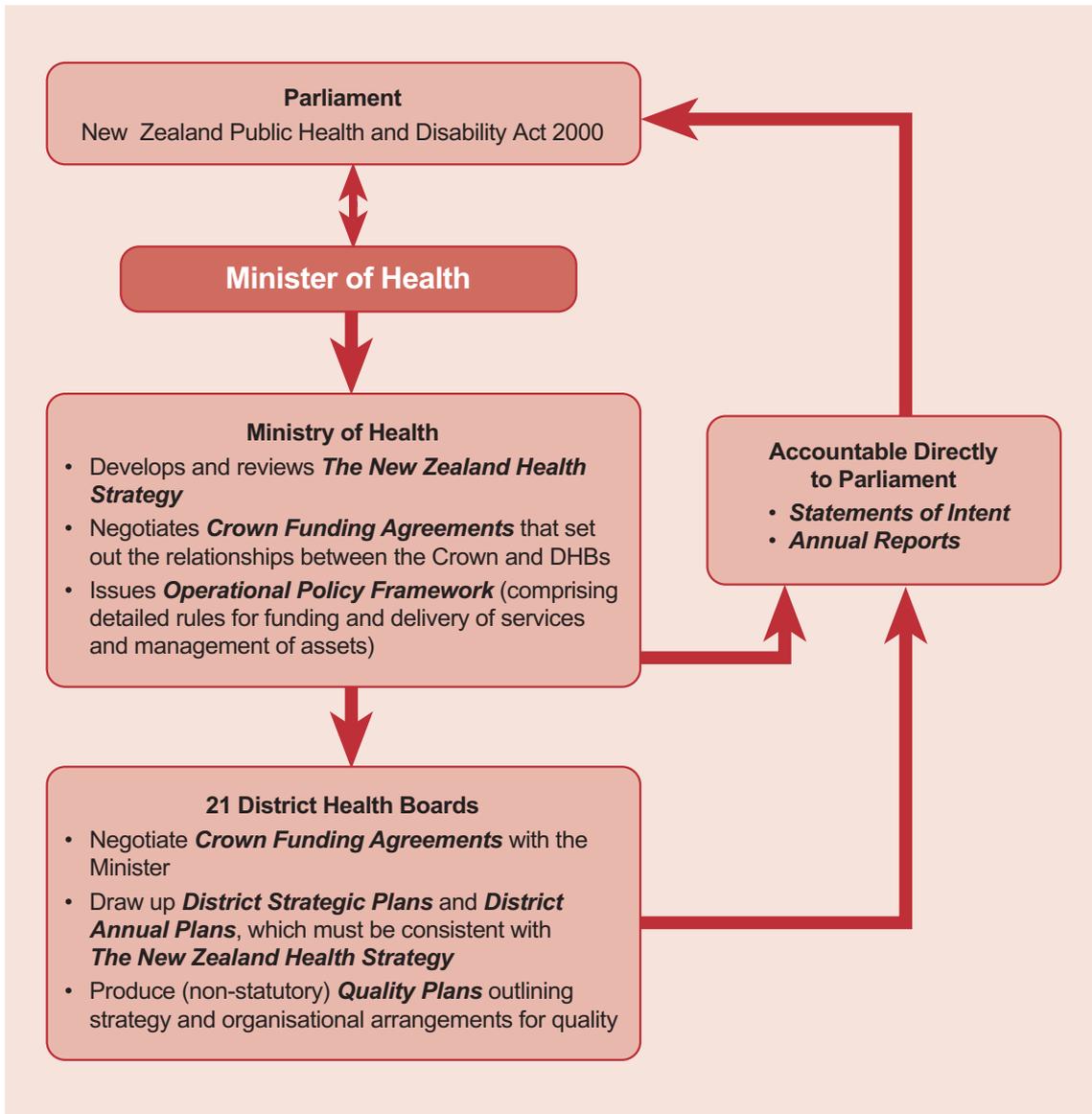
## New Zealand Public Health and Disability Act 2000

2.5 The New Zealand Public Health and Disability Act 2000 established the 21 DHBs from 1 January 2001, and defined their roles and functions. Figure 3 opposite illustrates the key accountability documents required by the Act, including the requirement for the Minister to establish a strategy for the delivery of health care services.<sup>28</sup> The Act also requires the Minister to determine strategies for the preparation and use of standards, quality assurance programmes, and performance monitoring to promote patient safety.

<sup>28</sup> *The New Zealand Health Strategy*; Ministry of Health, Wellington, December 2000; ISBN 0-478-23993-9 (Book), ISBN 0-478-23994-7 (Internet) [www.moh.govt.nz/nzhs.html](http://www.moh.govt.nz/nzhs.html).

# THE FRAMEWORK FOR INFECTION CONTROL

Figure 3  
Accountability under the New Zealand Public Health and Disability Act 2000



### *The New Zealand Health Strategy and the Strategic Plans of District Health Boards*

- 2.6 Quality is a key focus of *The New Zealand Health Strategy* (the Strategy); one of its seven principles is *a high performing system in which people have confidence*.<sup>29</sup> The Strategy:
- is designed to foster a culture that supports continual quality improvement in the delivery of services; and
  - envisages reducing preventable harm – through using a risk management approach and fostering consistency of practice through shared learning, benchmarking, and clinical governance within a framework of standards.
- 2.7 The Strategy notes that:
- ... services are deemed safe when components and systems are in place that reduce risk to levels which are considered acceptable according to recognised and, where appropriate, international standards.*
- 2.8 DHBs must reflect the Strategy in their District Strategic Plans and District Annual Plans, which identify their objectives and explain how they will meet them in their local areas. Ministry guidelines for the plans' format and content include quality and risk management activities that are designed to ensure the safety of the hospital environment, including infection control.

### *An Integrated Approach to Infectious Disease*

- 2.9 The Strategy lists 10 goals, including *Better physical health*. One objective supporting that goal is:

*To reduce the incidence and impact of infectious diseases.*<sup>30</sup>

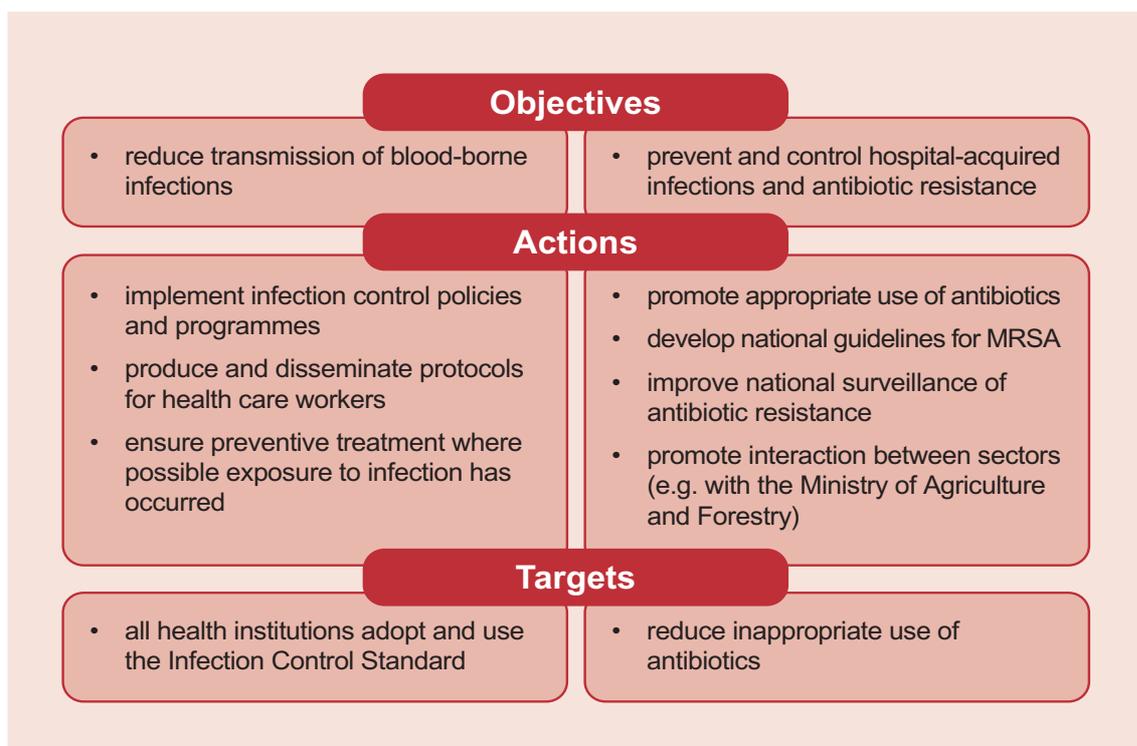
- 2.10 In November 2001, the Ministry published a strategy entitled *An Integrated Approach to Infectious Disease: Priorities for Action 2002-2006* (IAID) as one of a number of supporting strategies designed to give effect to the Strategy. The IAID defines the priorities for reducing the incidence and impact of infectious diseases and forms the basis for the Ministry's work programme for infectious disease control.

<sup>29</sup> Chapter 3 of *The New Zealand Health Strategy*.

<sup>30</sup> Page 11 of *The New Zealand Health Strategy*.

2.11 Figure 4 below illustrates the Ministry's plans for addressing two of the IAID's six highest priority disease groupings that are directly relevant to the management of hospital-acquired infection.

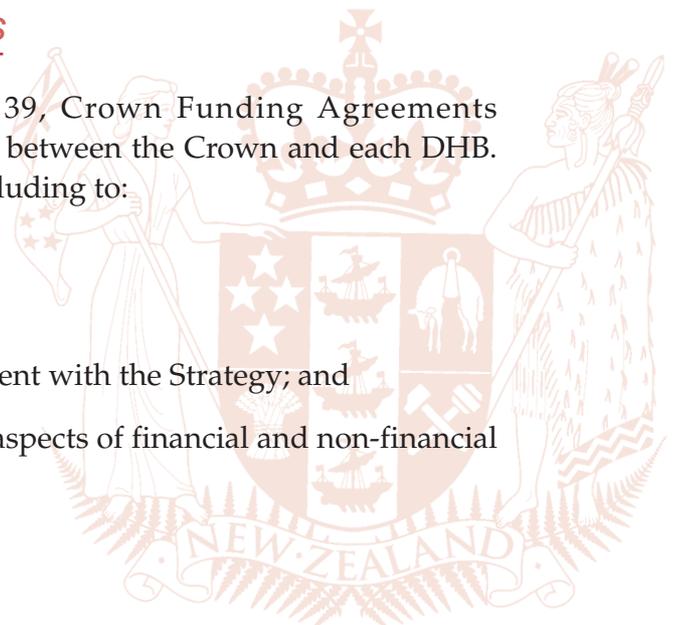
*Figure 4  
Ministry Plans for Addressing Two High-priority  
Objectives for Infectious Disease Control*



## Crown Funding Agreements

2.12 As indicated in Figure 3 on page 39, Crown Funding Agreements govern the accountability relationship between the Crown and each DHB. They impose obligations on DHBs, including to:

- monitor service obligations;
- follow best governance practice;
- ensure operational plans are consistent with the Strategy; and
- report quarterly to the Ministry on aspects of financial and non-financial performance.





## THE FRAMEWORK FOR INFECTION CONTROL

- 2.13 As Crown entities under the Public Finance Act 1989, DHBs must prepare a statement of intent and annual financial statements for reporting to Parliament.
- 2.14 Each DHB must also:
- *develop, document, implement and evaluate a transparent system for managing and improving the quality of Services to achieve the best outcomes for consumers<sup>31</sup>; and*
  - have a written *quality plan* outlining a clear quality strategy and identifying the organisational arrangements to implement the plan. The quality plan must be reviewed at least annually.

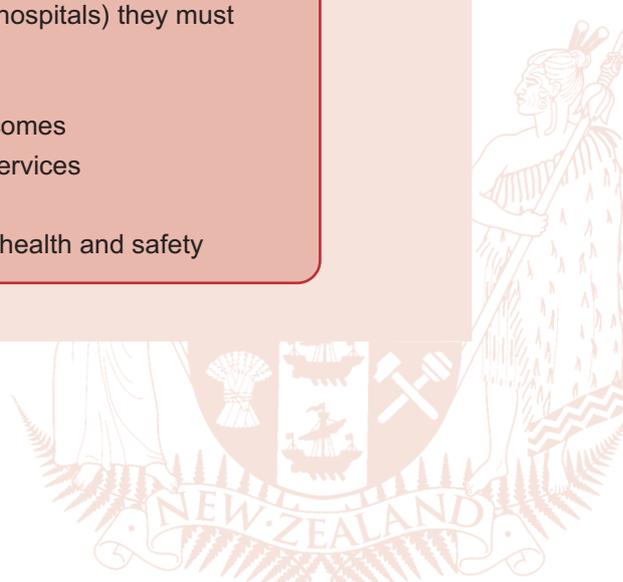
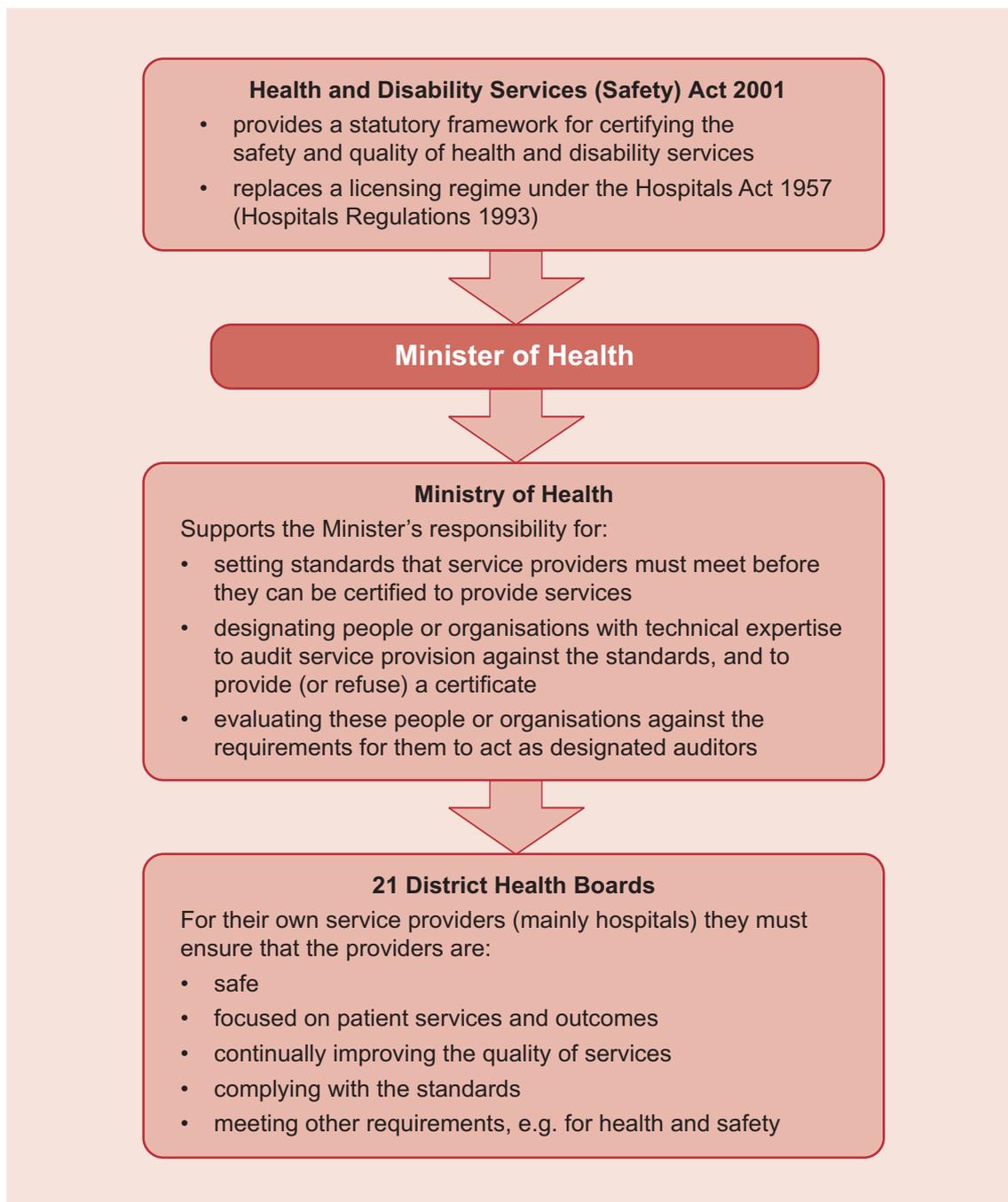
### Health and Disability Services (Safety) Act 2001

- 2.15 At present, hospitals are licensed to deliver health care services under the Hospitals Act 1957 and the Hospitals Regulations 1993. Hospitals must maintain a safe environment and prevent the spread of communicable diseases through the use of appropriate equipment and careful clinical practice. The Ministry may inspect any licensed premises and close down any considered unsafe for patients.
- 2.16 The current licensing legislation is aimed mainly at building requirements. The Health and Disability Services (Safety) Act 2001 repealed sections of the Hospitals Act related to licensing, and introduced a certification regime based on compliance with health care standards (see Figure 5 opposite). The stated purposes of the Health and Disability Services (Safety) Act 2001 are to:
- *promote the safe provision of health and disability services;*
  - *enable the establishment of consistent and reasonable standards for providing health and disability services to the public safely;*
  - *encourage providers of health and disability services to take responsibility for providing those services to the public safely; and*
  - *encourage providers of health and disability services to the public to improve continuously the quality of those services.<sup>32</sup>*

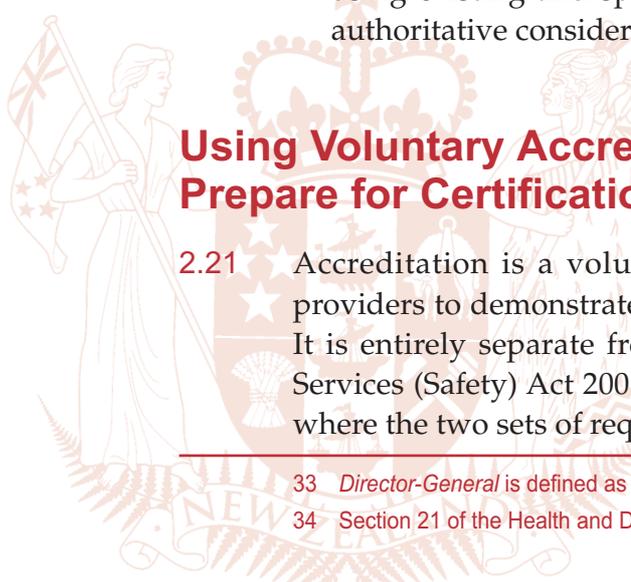
31 Appendix 6, Provider Quality Specifications – *Operational Policy Framework 2002-03*, Ministry of Health.

32 Section 3 of the Health and Disability Services (Safety) Act 2001.

*Figure 5  
Responsibilities for Implementing the Health and Disability Services (Safety) Act 2001*



- 2.17** Under the Health and Disability Services (Safety) Act 2001, a person providing health care services of any kind must be certified by the Director-General<sup>33</sup> of Health, and meet all relevant service standards. The legislation gives the Minister power to approve service standards, which may take a number of forms, including:
- general statements of appropriate care delivery outcomes, procedures or techniques for providing health or disability services;
  - the means of achieving such outcomes; and
  - technical recommendations or specifications for service delivery, or for equipment, facilities, goods or materials used in delivering services.<sup>34</sup>
- 2.18** The Health and Disability Services (Safety) Act 2001 requires all hospital, rest home, and disability residential care services to be audited by a designated audit agency and certified by the Director-General of Health by 1 October 2004. Service providers must meet specified standards before they can be certified.
- 2.19** Certification will be valid for varying periods, but usually for three years. New providers of hospital and health care services had to be certified by 1 October 2002. Providers licensed under the current arrangements (see paragraph 2.15) have a two-year transition period (1 October 2002 to 1 October 2004) to achieve certification.
- 2.20** The Ministry has taken steps to facilitate the transition to certification by:
- encouraging DHB hospital services to pursue voluntary accreditation as one means of preparing for the transition;
  - promoting the implementation of health and disability standards; and
  - using existing and specific-purpose expert advisory groups to provide authoritative consideration of clinical issues.



### Using Voluntary Accreditation to Prepare for Certification

- 2.21** Accreditation is a voluntary way for hospital and health care service providers to demonstrate adherence to specific standards of good practice. It is entirely separate from certification under the Health and Disability Services (Safety) Act 2001, but can be used to help prepare for certification where the two sets of requirements are aligned.

<sup>33</sup> *Director-General* is defined as the chief executive of the Ministry under the State Sector Act 1988.

<sup>34</sup> Section 21 of the Health and Disability Services (Safety) Act 2001.

2.22 When a service provider decides to obtain voluntary accreditation, it agrees to submit to assessments by clinical and health management surveyors who are trained to:

- evaluate and report on the service provider's compliance with the accreditation standards;
- identify the service provider's strengths and areas for improvement; and
- award accreditation if appropriate.

... [Accreditation] was one of the driving factors to changes in service delivery. Has assisted in improving the profile and recognition of importance of infection control for the organisation ...

2.23 The Ministry has encouraged DHBs to seek accreditation of their hospital services to help prepare for certification, and most hospital services were taking part in an accreditation scheme that included infection control (see paragraph 4.73 on page 95). More generally, the Ministry is also promoting accreditation to:

- raise awareness of quality issues; and
- encourage organisation-wide commitment to quality assurance.

### Promoting Health and Disability Standards

2.24 The Ministry has promoted the preparation and publication of standards under the Health and Disability Services (Safety) Act 2001. To date, the Minister has approved four:

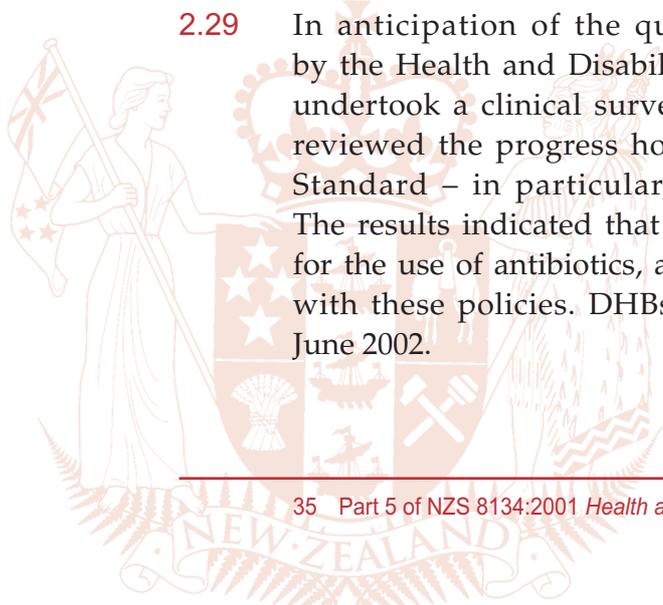
- *Health and Disability Sector Standards* (NZS 8134:2001);
- *National Mental Health Sector Standard* (NZS 8143:2001);
- *Restraint Minimization and Safe Practice* (NZS 8141:2001); and
- *Infection Control* (NZS 8142:2000).





## THE FRAMEWORK FOR INFECTION CONTROL

- 2.25** The Health and Disability Sector Standards are central to the quality and risk management framework for the delivery of health care services. Compliance with those standards will underpin accountability for DHB performance, and service providers will have to meet the specified standards in order to be certified.
- 2.26** Infection control management and related risk management activities – such as the safe administration of medicines, cleaning, and laundry services, and the disposal of waste and hazardous substances – are all identified as contributing to safe and effective management of health care services.<sup>35</sup>
- 2.27** The Infection Control Standard was published by Standards New Zealand in August 2000 in anticipation of the Health and Disability Services (Safety) Act 2001. It contains valuable information on principles and systems that form the foundation for effective infection control. However, it is not intended to provide a detailed manual of guidance on the Standard's application. We consider such guidance in Part Six of our report.
- 2.28** Health care service providers – including public hospitals – will have to demonstrate that they meet the Standard in order to be certified by 1 October 2004. The Standard is accompanied by an infection control audit work-book that has two purposes:
- to establish whether the service provider has attained the outcomes required by the Standard; and
  - to identify areas of compliance, and those areas that need to be improved in order to reduce risk levels and provide safe services to patients.
- 2.29** In anticipation of the quality requirements about to be introduced by the Health and Disability Services (Safety) Act in 2001, the Ministry undertook a clinical survey of hospital services. The Ministry's survey reviewed the progress hospitals had made towards implementing the Standard – in particular, the implementation of antibiotic policies. The results indicated that some DHBs needed to improve their policies for the use of antibiotics, and their procedures for evaluating compliance with these policies. DHBs were encouraged to achieve compliance by June 2002.



<sup>35</sup> Part 5 of NZS 8134:2001 *Health and Disability Sector Standards*.

### Conclusions

- 2.30 The two main pieces of legislation that are relevant to the management of hospital-acquired infection provide a sound framework that supports:
- accountability for the quality of health care; and
  - the application of principles and systems necessary for quality assurance.
- 2.31 The national standards-based certification regime required under the Health and Disability Services (Safety) Act 2001 is a potentially effective model if it is properly applied. The Ministry has taken useful steps to facilitate the transition to certification – notably by promoting voluntary accreditation among health care service providers, including public hospitals.
- 2.32 The Ministry and Standards New Zealand have made good progress in providing information to help hospital services work towards meeting the Standard. The Standard addresses the basic principles and systems that are the foundation of effective infection control. To be certified, hospital services must meet the Standard.
- 2.33 The Ministry has drawn up a number of supporting strategies to guide the health and disability sector in giving effect to *The New Zealand Health Strategy*. For example, the infectious disease strategy defines objectives and ways to reduce the incidence of infectious diseases, and action plans to improve the prevention and control of hospital-acquired infection.

### Using Expert Advisory Groups

- 2.34 The Ministry uses (and is a member of) advisory groups that bring together sector knowledge and expertise, and provide technical and scientific advice to the Director-General of Health.
- 2.35 In respect of infection control, the Ministry has two standing advisory groups – the Infectious Diseases Advisory Committee and the Antibiotic Resistance Working Group. Established in 1996 and 1998 respectively, their roles are to advise on communicable diseases and antibiotic resistance.
- 2.36 Minutes of meetings of these groups indicate that they have played a valuable role in advising the Ministry on a wide range of policy and operational matters. However, the minutes also illustrate that administration of the groups could be improved.

## THE FRAMEWORK FOR INFECTION CONTROL

- 2.37 In the course of our DHB visits some group members raised concerns about administration matters that could easily be rectified:
- meetings were sporadic and/or infrequent;
  - members received material for the meetings with insufficient time to read and prepare; and
  - meeting minutes were distributed late, limiting their usefulness to members as a meeting record.
- 2.38 From time to time, the Ministry also sets up groups to work on issues of national significance. One such example is the working group that drew up the Ministry's *Guidelines for the Control of Methicillin-resistant Staphylococcus aureus (MRSA) in New Zealand*, which were published in August 2002. The group comprised medical, laboratory, and infection control personnel.
- 2.39 The Guidelines contain comprehensive, practical advice, including recommended screening and precautionary practices, covering the various dimensions of MRSA prevention and control. They provide valuable guidance to health care practitioners in drawing up MRSA policies at a local level.

### Conclusion

- 2.40 The Ministry convenes and makes good use of expert advisory groups to advise on a wide range of policy and operational matters. There is scope to improve the way the groups operate.

#### **Recommendation 1**

The Ministry should review the administration of its expert advisory groups relating to infection control, to enable the groups to be fully effective.

### **Undertaking National Surveillance**

- 2.41 Planning, implementation, and evaluation of public health practices require good quality health information. Surveillance refers to the ongoing systematic collection, analysis, and interpretation of health data needed to provide such information.

2.42 Comprehensive national surveillance of hospital-acquired infection would involve:

- promoting agreement among DHBs on data to be collected, and on reliable methods for collecting consistent data to support valid comparisons;
- interpreting the data against factors such as hospital size and service complexity so that meaningful comparisons can be drawn;
- disseminating the results of the analysis to DHBs so that they can compare their performance;
- using the information to provide assurance to the public on matters relating to hospital safety;
- identifying unexpected results that might indicate weaknesses in infection control practices that could be addressed through guidelines; and
- monitoring trends in order to gain an early warning of possible epidemics caused by infectious organisms.

2.43 Two types of national surveillance currently undertaken are relevant to hospital-acquired infection:

- surveillance of organisms of public health significance; and
- collection and reporting of hospital-acquired bloodstream infection rates.

### *Surveillance of Organisms of Public Health Significance*

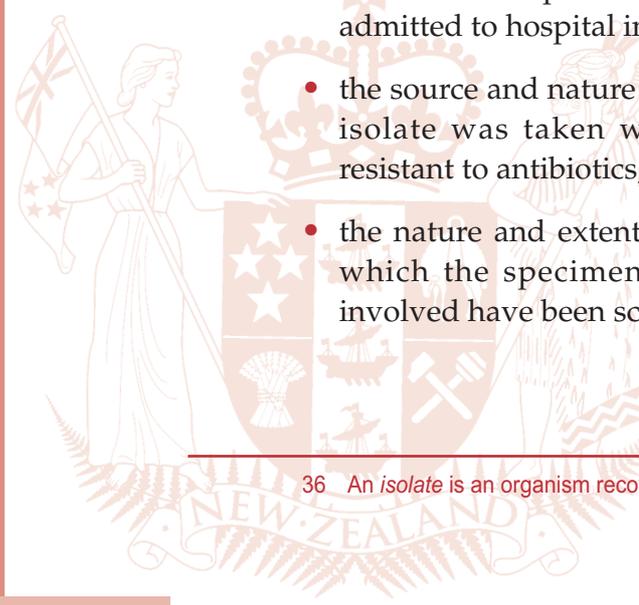
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2.44 Surveillance of organisms of public health significance is carried out by the Institute of Environmental Science and Research Limited (ESR), a Crown Research Institute specialising in environmental and public health, and forensic science. ESR provides a range of laboratory services for such things as food safety, pharmaceuticals, and communicable diseases. For communicable diseases, it provides laboratory services to other laboratories in hospitals and other organisations, and assistance to public health units within DHBs in managing outbreaks of infection in the community.



## THE FRAMEWORK FOR INFECTION CONTROL

- 2.45** Under contract to the Ministry, ESR examines and reports on organisms of public health significance referred to it by medical laboratories throughout the country. All medical laboratories are required to send specified isolates<sup>36</sup> to ESR for further testing. Among these specified isolates are a variety of antibiotic-resistant bacteria that are common causes of hospital-acquired infection.
- 2.46** ESR operates national surveillance systems, including notifiable disease surveillance and specific non-notifiable disease surveillance (e.g. for sexually transmitted infections). The systems are wide-ranging and are concerned with:
- hazard – laboratory surveillance of organisms, such as MRSA;
  - exposure – surveillance of transmission routes for organisms, such as food or water; and
  - outcome – surveillance of the disease, based on the organism, such as cases of meningococcal disease.
- 2.47** ESR's laboratory-based surveillance includes confirmation and investigation of important and emerging antibiotic-resistant organisms. These include MRSA which, among multi-drug-resistant organisms, is the most common cause of hospital-acquired infection. MRSA isolates sent to ESR are accompanied by information about the circumstances surrounding the discovery of the infectious organism. In 2000, hospital and community laboratories referred isolates of multi-drug-resistant MRSA from 1003 people, the majority of whom were hospital patients.
- 2.48** Recorded information about the circumstances surrounding the acquisition and transmission of MRSA includes:
- details of the patient, including whether they have been previously admitted to hospital in New Zealand or overseas;
  - the source and nature of the organism – whether the site from which the isolate was taken was infected and whether the MRSA strain is resistant to antibiotics; and
  - the nature and extent of staff contact with the organism, the site from which the specimen was taken, and whether and when the staff involved have been screened.



<sup>36</sup> An *isolate* is an organism recovered from a specimen and grown in culture media.

- 2.49 ESR publishes a weekly update on reported incidences of MRSA. Each month it also publishes data related to MRSA and other organisms of public health significance in the monthly *Public Health Update*.

### *National Surveillance of Hospital-acquired Bloodstream Infections*

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- 2.50 In the November 2001 strategy *An Integrated Approach to Infectious Disease* (see paragraph 2.10) the Ministry stated its intention to:

*... establish a national surveillance programme for infections acquired in health and disability care institutions, including standardised definitions and data analysis, with local feedback mechanisms to clinicians.*

- 2.51 This objective was one of a number of high-priority initiatives for which funding has not yet been identified, and which must be assessed alongside other priorities. The Ministry did not set a timetable for establishing this national surveillance programme.

- 2.52 A national system was (and still is) in place for monitoring one type of hospital-acquired infection – bloodstream infections. The system was set up in 1994.

- 2.53 Trends in bloodstream infection rates are an important measure of DHB performance in delivering good quality health care services because:

- While bloodstream infections comprise only 5% to 10% of hospital-acquired infections, they can have very high mortality rates – higher than 30%. Reducing bloodstream infections can therefore save lives.
- Patients with hospital-acquired bloodstream infections tend to stay in hospital longer and cost more to treat.
- High levels of such infections can also indicate shortcomings in the quality of patient care, particularly in relation to the use of intravenous catheters.

- 2.54 The Ministry collects quarterly data on hospital-acquired bloodstream infections from all DHBs as a measure in the Balanced Scorecard<sup>37</sup> reports that form the basis for its Quarterly Review of Comparative Hospital and Health Service Performance for the Minister of Health. The rate of bloodstream infection (determined by the number of hospital-acquired blood-

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37 The Balanced Scorecard reports four areas of DHB performance: quality of service and patient satisfaction; organisational health; process and efficiency; and financial performance.

## THE FRAMEWORK FOR INFECTION CONTROL

stream infections during the quarter divided by the total number of inpatients<sup>38</sup> during the quarter, and expressed as a rate per 1000 inpatients) is one of four indicators for quality of service and patient satisfaction.<sup>39</sup>

- 2.55 The quarterly reports to the Minister contain comments on trends in rates of hospital-acquired bloodstream infection and on possible reasons for the trends. This analysis is not made available to DHBs on a regular basis, but could be useful to them in reviewing their results (subject to the concerns about data quality explained in paragraph 2.61).
- 2.56 We asked senior hospital managers in the DHBs how useful they found the Ministry's collection and reporting of rates of hospital-acquired bloodstream infection. We also asked infection control teams about their use of bloodstream infection data.
- 2.57 Hospital managers had mixed views on the usefulness of bloodstream infection reporting to the Ministry. Between 70% and 80% of hospital-acquired bloodstream infections occur in the six DHBs with tertiary hospitals (see Figure 1 on page 33). Because of the higher level of such infections (and the associated costs) in the larger DHBs, they should find the bloodstream infection reporting particularly useful. However, only two of the six DHB tertiary hospital managers said that they found the reporting useful.
- 2.58 The results indicate that some DHB managers may not be aware of the potential benefits from using this data as an indicator of quality, or as a tool to compare their performance with that of other DHBs, and to identify possible risks and scope for improvements.
- 2.59 More than two-thirds of DHB infection control teams did not find the reporting useful, and noted that it could be improved by:
- compiling comparative data which would allow them to share information and benchmark their results against those of other DHBs;
  - incorporating more detailed data which would help identify trends, resistance patterns, and risk factors (such as case mix and significant organisms);

... Ministry of Health  
balanced scorecard reports  
give details of our results only  
and are of little value ...

38 An *inpatient* is a patient admitted for treatment and present at the midnight census (excluding well babies and boarders).

39 The other three areas are: patient satisfaction, complaints resolved in 30 days, and the time taken to assess emergency patients.

- adopting a definition of bloodstream infection which took account of the severity of the infection and the circumstances in which such infection occurred; and
  - more timely reporting back to DHBs.
- 2.60 We followed up with the Ministry the suggestion that it compile data for benchmarking, since we understood that DHBs were already receiving some comparative data from the Ministry. The Ministry confirmed that it provided comparative information to DHBs.
- 2.61 In addition, the Ministry told us that it considered the bloodstream infection data it received from DHBs to be unreliable, because of inconsistencies in the way DHBs defined such infections.

### Conclusions

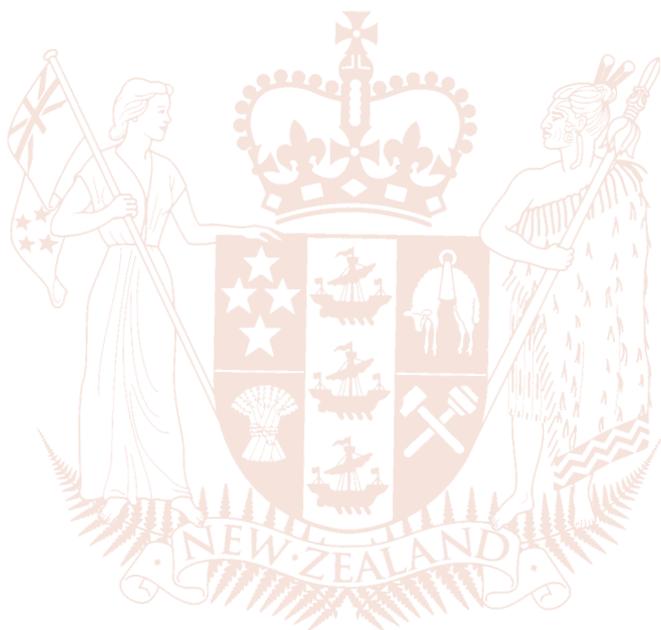
- 2.62 The Ministry has made a commitment to establish a national surveillance programme for hospital-acquired infection, but has not yet set a timetable for meeting this commitment. As a result, it is not currently possible to provide assurance to the public on related hospital safety matters, and DHBs cannot comprehensively compare their performance.
- 2.63 The wide-ranging national surveillance that ESR undertakes in other areas illustrates its experience in designing, establishing and operating national surveillance, and in the analysis, reporting, and dissemination of surveillance data. Its current work in relation to hospital-acquired infection (under contract to the Ministry) is primarily concerned with scientific analysis of selected organisms. It is therefore not designed to meet the requirements of a comprehensive national surveillance programme, although it meets some of these requirements in respect of MRSA.
- 2.64 There is a national system for monitoring one important, high-risk sub-set of hospital-acquired infection – bloodstream infections. However, the data collected is neither reliable nor consistent among DHBs, and in some DHBs comparative data may not be reaching those people who can make best use of it. The monitoring is of limited value to DHBs wanting to use it to help them improve their management of hospital-acquired infection.

### **Recommendation 2**

In consultation with DHBs, the Ministry should review the way it collects and feeds back data on bloodstream infections, to make such data more reliable and consistently available.

### **Recommendation 3**

The Ministry should work with ESR and DHBs to establish a timetable and project plan for setting up national surveillance of hospital-acquired infection along the lines indicated in paragraph 2.42 on page 49.



## Part Three

# District Health Board Governance





### Introduction

- 3.1 In a DHB, good governance is about ensuring that the risks associated with hospital services are managed in a responsible manner to maintain safety and public confidence. An important obligation of DHBs is to minimise the risk of infection for hospital patients, staff, and visitors.
- 3.2 Two key components of good governance are monitoring and reporting. In this part we examine:
- risk reporting by DHBs to the Ministry;
  - arrangements within DHBs for providing assurance on infection control; and
  - what assurance DHBs provide to their communities on infection control.

### Risk Reporting by DHBs to the Ministry

- 3.3 DHBs are responsible for ensuring that publicly funded health care services are safe. In doing so, they must manage and report on financial and non-financial risks.
- 3.4 The Ministry has issued an Operational Policy Framework setting out detailed rules to be followed by DHBs (see Figure 3 on page 39) that include a requirement for all DHBs to comply with public sector risk management standards. DHBs are expected to report monthly to the Ministry on their management of:
- risks arising from the delivery of services and the discharge of other functions;
  - risks arising from “changes in the sector”; and
  - clinical effectiveness and quality.
- 3.5 When we examined the reports held at the Ministry as at October 2002, only a few DHBs were sending in their risk reports, and none did so every month. Some of the reports we examined contained information about risks associated with hospital-acquired infection, but none specified what action the DHB was taking to address the identified risks. Some DHBs reported the same risks in successive reports, without specifying what progress had been made in mitigating them.

## DISTRICT HEALTH BOARD GOVERNANCE

- 3.6 Those DHBs submitting risk reports were also sending them to different groups within the Ministry. As a result, no comparative analysis was being carried out, and any issues of concern that were raised were not being routinely followed up with individual DHBs; nor was information sought where remedial action was outstanding.
- 3.7 In its *Departmental Forecast Report* for 2001-02, the Ministry undertook to report monthly to the Minister of Health on DHB financial performance and risk management. In the absence of regular reporting from individual DHBs, the Ministry acknowledged that it was not able to meet this commitment.
- 3.8 The Ministry told us that it intended to:
- ensure that all DHBs submitted their monthly risk reports;
  - standardise the reporting format and content to require each DHB to specify measures it was taking to mitigate identified risks; and
  - improve its own internal processes for monitoring DHB risk management, follow-up, and feedback.
- 3.9 We examined the reporting again in March 2003. The Ministry had written to DHBs on 15 November 2002 reminding them of their responsibility to submit monthly risk reports to the Ministry. Also in November 2002, the Ministry issued DHBs with a draft manual on risk management, which should provide a valuable framework for preparing risk reports. The manual covers components of clinical effectiveness and quality, including infection control.
- 3.10 The risk reports we reviewed on each visit to the Ministry varied widely in format and level of detail. Few referred specifically to infection control and some did not even refer to clinical effectiveness or quality. Some did not specify strategies to mitigate identified risks.
- 3.11 These shortcomings make it difficult for the Ministry to analyse risks throughout the health sector and present a reliable national picture to the Minister. The Ministry expects its risk management manual to be in operation from 2003-04. We would then expect all DHBs to follow a more consistent format for risk reporting.
- 3.12 A single group in the Ministry is now analysing the DHB risk reports, and the results are being made available to other groups (where the information is relevant to their responsibilities).

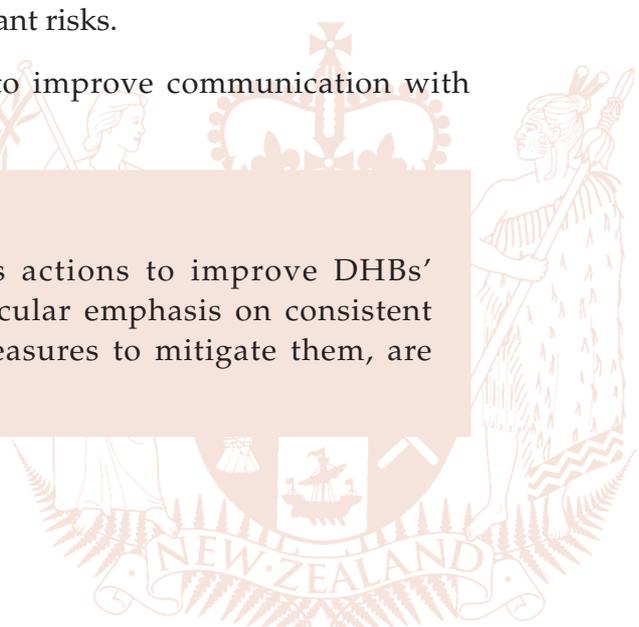
- 3.13 The Ministry is also using the reporting to improve communication with DHBs – to promote sharing of good practice, encourage consistent reporting, and provide a forum for raising matters of concern. Feedback is provided directly to DHBs. In addition, DHB risk managers are invited to attend a monthly meeting where the Ministry is able to raise issues and seek feedback. The meeting provides a useful forum for information exchange.
- 3.14 The Ministry's February 2003 report to the Minister of Health, on DHB performance for the four months ended 31 October 2002, provided a summary of risk reports from all DHBs. It identified sector-wide risks as well as risks to individual DHBs.

### *Conclusions*

- 3.15 The Ministry is addressing concerns we raised about it not receiving the required monthly risk reports from DHBs on a regular basis. Without these reports, the Ministry has no assurance that DHBs have the necessary risk management systems in place for infection control or other aspects of service delivery.
- 3.16 The Ministry's actions have had some success, and it has substantially improved its monitoring of risk management in DHBs. However, the monitoring is complicated by the risk reports' inconsistent format and level of detail, and the omission from some reports of information on measures being taken to mitigate identified risks.
- 3.17 The reports do not yet consistently reflect the Ministry's draft manual on risk management. Until there is greater consistency, the Ministry cannot be sure that all DHBs are reporting all relevant risks.
- 3.18 The Ministry is using risk reporting to improve communication with DHBs on risk management.

#### **Recommendation 4**

The Ministry should continue its actions to improve DHBs' monthly risk reporting, with particular emphasis on consistent reporting so that all risks, and measures to mitigate them, are reliably identified.



### Assurance Within DHBs on Infection Control

- 3.19 Risk management and quality assurance systems within DHBs should encompass infection control arrangements that are consistent with good practice and provide assurance about the safety of the hospital environment. In relation to infection control, DHBs have the following specific obligations:

*Each DHB will safeguard consumers, staff and visitors from infection as far as is reasonably practicable. Each DHB will have environmental and hygiene management/infection control policies and procedures that minimise the likelihood of adverse health outcomes arising from infection for consumers, staff and visitors.<sup>40</sup>*

- 3.20 DHBs are responsible for ensuring that the providers they fund (including their own hospitals) have an appropriate quality assurance programme. Ensuring effective infection control should form part of this quality programme – for example, clinical guidelines should take account, where appropriate, of infection control matters.

- 3.21 Specifically in relation to infection control, DHBs should:

- know what progress hospitals are making towards meeting the Infection Control Standard by the statutory deadline (see paragraph 2.28 on page 46);
- monitor infection rates in their hospitals; and
- seek regular assurance about the quality and comprehensiveness of arrangements and activities, in order to minimise the risk of infection for patients and staff.

**... Reporting on infection control performance at a senior management level is important to obtaining operational support for infection control policy and effectiveness of the programme ...**



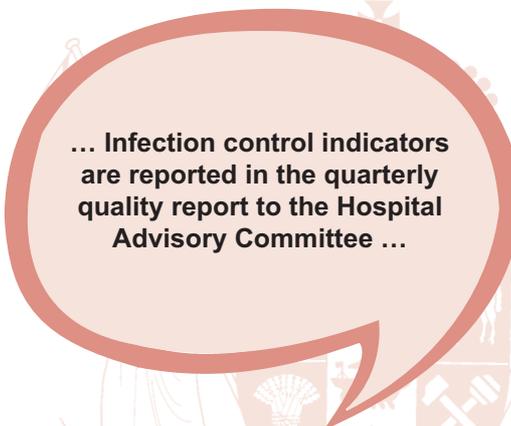
<sup>40</sup> Appendix 6, Provider Quality Specifications – Operational Policy Framework, 2002-03, Ministry of Health.

### *Boards of DHBs*

- 3.22 To establish whether, and to what extent, DHB Boards considered infection control matters, we asked in our survey how often, and under what circumstances, infection control issues were discussed at Board meetings. We also considered the possible role of Hospital Advisory Committees (see paragraphs 3.24-3.26) in discharging this responsibility on behalf of the Board.
- 3.23 Boards were not receiving regular information about hospital-acquired infection rates or other aspects of infection control to provide assurance about the quality and safety of their hospital services. Senior hospital managers in most DHBs told us that their Boards considered infection control matters only when particular issues arose.<sup>41</sup> Reporting to Boards on hospital-acquired infection rates and infection control activities was by exception, generally infrequent, and limited to major incidents or outbreaks.

### *Hospital Advisory Committees*

- 3.24 Boards of DHBs are required to establish three permanent committees to advise them on matters relating to the delivery of services. One of these committees, the Hospital Advisory Committee, has three broad functions:
- to monitor the financial and operational performance of the hospital/s (and related services) of the DHB;
  - to assess strategic issues relating to the provision of hospital services by or through the DHB; and
  - to give the Board advice and recommendations arising from its monitoring and assessment.



**... Infection control indicators are reported in the quarterly quality report to the Hospital Advisory Committee ...**

41 F2: Q17.



## DISTRICT HEALTH BOARD GOVERNANCE

- 3.25** Hospital Advisory Committees provide a possible means for DHBs to monitor the management of infection control in their hospitals. We reviewed selected terms of reference for Hospital Advisory Committees and minutes of committee meetings to assess the role they might play in providing assurance to the Boards of DHBs about infection control arrangements in their hospitals.
- 3.26** Eight DHBs reported that infection control was discussed at meetings of their Hospital Advisory Committee. This indicates the committees' potential to support DHB Boards by overseeing infection control arrangements and monitoring rates of hospital-acquired infection. Some Boards had assigned useful roles to their Hospital Advisory Committees; for example:
- overseeing the management of clinical and operational risks;
  - monitoring the containment of outbreaks;
  - reporting on compliance with standards and progress towards certification;
  - consideration of service-related issues such as nurse training; and
  - assessing performance against service Key Performance Indicators.

### *Conclusions*

- 3.27** DHB Boards were not receiving regular information about the prevention and control of hospital-acquired infection that would provide assurance that they were meeting their governance responsibilities. This suggests that DHB Boards were not giving sufficient attention to infection control as a key part of risk management and high quality health care. More DHB Boards could use their Hospital Advisory Committee to help in discharging their responsibilities for infection control.

#### **Recommendation 5**

DHB Boards should receive regular information on rates of hospital-acquired infection and the operation of infection control systems. They should also receive periodic reports on their hospitals' progress towards meeting the Infection Control Standard.

### Recommendation 6

DHB Boards should consider using their Hospital Advisory Committee to help them oversee infection control.

### *Service Agreements between DHBs and Their Hospitals*

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- 3.28 To monitor the quality of health care services being delivered to their communities, DHBs need to have clearly defined, formal expectations about how their health care service providers (including hospitals) will manage the risks of hospital-acquired infection. We therefore expected DHBs to have specified the provision of infection control services through service agreements with their hospitals.
- 3.29 We asked:
- whether a service agreement required the hospital to provide infection control services;
  - what information the service agreement required the hospital to collect; and
  - what was done with the information collected.
- 3.30 Only 10 DHBs reported that the provision of infection control services was specified in a service agreement with the hospital.<sup>42</sup> Those DHB hospitals were required to:
- report all cases of hospital-acquired infection; and
  - prepare summarised information for reports to the Board and its quality and risk committees.
- 3.31 Comments made to us by DHBs with service agreements illustrated the benefits of setting formal expectations for assurance reporting, trend analysis, organisational oversight, and systems improvement.
- One DHB expected its hospital to report all instances of hospital-acquired infection to the Board monthly. The reporting provided a regular source of assurance about the safety of the hospital environment, and alerted the Board to any matters of concern.

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<sup>42</sup> F2: Q10, a, b, c.



## DISTRICT HEALTH BOARD GOVERNANCE

- Formal reporting made it possible to analyse trends over time, initiate strategies to address identified weaknesses, and monitor their impact.
- Regular reports from service managers and senior hospital personnel prompted Boards to consider the wider clinical and organisational implications of infection control matters (such as for design of the hospital and its facilities).
- Reporting showed whether standards had been followed, illustrated the effectiveness of guidelines, and highlighted those areas where policies needed to be reviewed.

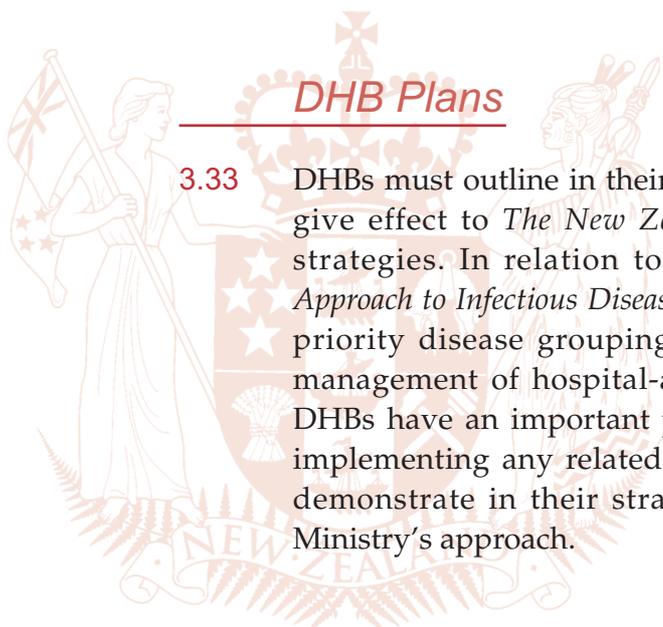
### Conclusions

- 3.32 DHB Boards should include infection control in service agreements because it is an important area of risk for patient safety. However, more than half of DHBs did not include infection control in service agreements – making it less likely that hospital performance on infection control would be appropriately reported and monitored.

#### **Recommendation 7**

DHBs should specify infection control services (including periodic reporting) in service agreements with their hospitals.

## Providing Assurance to Communities on Infection Control



### DHB Plans

- 3.33 DHBs must outline in their annual and strategic plans how they intend to give effect to *The New Zealand Health Strategy*, and other supporting strategies. In relation to infection control, the Ministry's *Integrated Approach to Infectious Disease: Priorities for Action 2002-2006* has six highest-priority disease groupings, two of which are directly relevant to the management of hospital-acquired infection (see Figure 4 on page 41). DHBs have an important part to play in addressing these priorities and implementing any related action plans. We therefore expected DHBs to demonstrate in their strategic plans how they would respond to the Ministry's approach.

- 3.34 Most DHBs' annual and/or strategic plans provided helpful information about priorities and areas of focus for infectious diseases – for example, many cited priorities for tackling respiratory infections. However, few plans commented specifically on how infection control was being applied to help reduce the rate of infections.
- 3.35 Certification is an important measure of the quality of systems and processes for all health care services. All licensed hospital services must be certified by 1 October 2004, but no DHB plans contained a timetable for meeting this requirement. More than two-thirds of the plans referred to voluntary accreditation (see paragraphs 2.21-2.23 on pages 44-45), which entails quality assurance processes that can help prepare for certification.

### Conclusions

- 3.36 It was difficult to tell from DHBs' plans how they were using infection control to help reduce rates of infectious disease. However, more than two-thirds of plans referred to voluntary accreditation – indicating an awareness among those DHBs of the importance of preparing for certification.

#### **Recommendation 8**

DHBs should specify in their annual and strategic plans how they intend to give effect to the Ministry's priorities relating to the prevention and control of hospital-acquired infection.

#### **Recommendation 9**

DHBs should set out in their plans a timetable for achieving certification, and report to their communities on progress made by their hospital services and other health care service providers towards meeting the statutory deadline.



### DHBs' Annual Reports

- 3.37 DHBs must account publicly through their annual reports for the delivery of health care services to their communities. Service obligations under the Crown Funding Agreement (see Figure 3 on page 39) require them to ensure the provision of health care services that are:
- safe for patients and staff;
  - consistent with their quality plans; and
  - reflect a responsible approach to the management of risk.
- 3.38 Consistent with these obligations, we expected DHBs' annual reports to contain:
- summarised surveillance data on rates and types of hospital-acquired infection for the previous 12 months;
  - a comparison of infection rates and types with previous reporting periods to show trends, and interpretation of the results;
  - commentary on DHBs' management of any prolonged infection outbreaks that occurred over the period; and
  - an outline of planned actions to address identified concerns – such as increases in infection rates or weaknesses in control systems, policies, and procedures.
- 3.39 We analysed each DHB's six-month report to 30 June 2001 and their annual report for the year ended 30 June 2002.
- 3.40 Seventeen of the six-month reports showed the rate of hospital-acquired bloodstream infection over the 12-month period but, in the annual reports for the year ended 30 June 2002, only nine reports contained this data. Bloodstream infections are only one type of hospital-acquired infection. No DHBs published data on rates of other types of hospital-acquired infection.
- 3.41 Rates of hospital-acquired bloodstream infection can be expected to differ according to the size of DHB hospitals and the type of services delivered. However, performance targets for similar types of hospitals varied widely, suggesting that some DHB targets may not be realistic.

- 3.42 Some explanatory notes to the reports (referring, for example, to the exclusion of certain medical cases from the population measured) indicated DHBs might be using different methods for collecting and interpreting data. This raises questions about the reliability of the published rates of bloodstream infection and the validity of any comparisons of performance between DHBs.
- 3.43 The nature and extent of commentary varied between DHBs. Only three provided comparative data on rates of bloodstream infections over time, showing trends. Without comparative data, it is not possible for a reader to draw conclusions about a DHB's performance. Useful commentary in some DHBs' reports included:
- an explanation of the risk factors contributing to incidents or outbreaks;
  - comparisons of rates between hospitals within the same DHB; and
  - a summary of steps being taken to improve infection prevention and control.
- 3.44 During the reporting period, some DHBs experienced disease outbreaks related to hospital-acquired infection, creating risks for community health and generating public interest. However, the DHBs made no reference to these outbreaks in their reports.

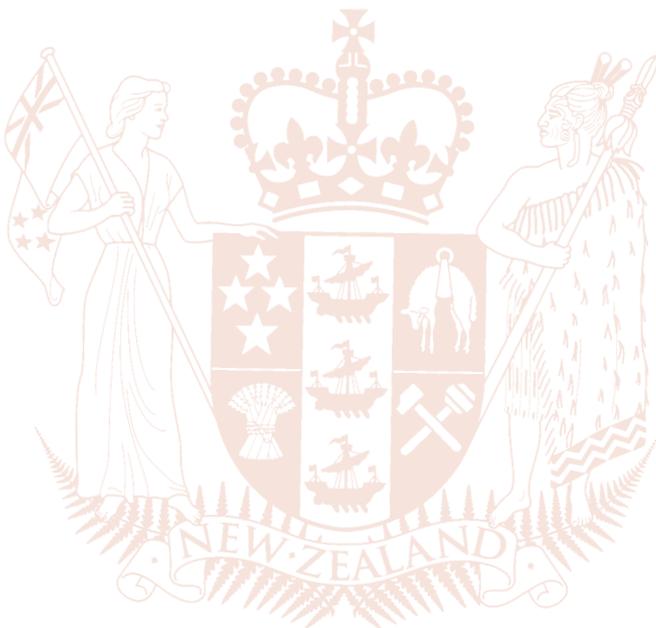
### Conclusions

- 3.45 DHBs' annual reports contained limited information about infection control. The reporting was often based on unreliable and inconsistent data, raising doubts about whether targets were realistic.
- 3.46 In our view, the reports we examined did not provide sufficient assurance to the public on the management of hospital-acquired infection.
- 3.47 In the course of consulting on our report, we received comments from the Ministry and others on whether it is appropriate to include detailed material on hospital-acquired infection in DHBs' annual reports – given the considerable number of other risk and quality issues that could potentially be reported. These comments arose out of concerns that public reporting of DHBs' performance should not become burdensome for the DHBs, nor should it overwhelm people with excessive information. We acknowledge these concerns and have framed our recommendation accordingly.

### Recommendation 10

DHBs should obtain views from their communities on the assurance they want on hospital-acquired infection. DHBs' reporting should take account of these views and any local circumstances that affect the practicality of reporting, such as patient numbers. Periodic reporting (either in the DHB's annual report or another appropriate vehicle) might, for example, provide information on:

- rates and types of hospital-acquired infection and comparisons with previous periods, with brief explanations of trends;
- summaries of the management of any prolonged infection outbreaks that occurred during the period; and
- planned actions to address any identified concerns.





**Don't** visit if you are not feeling well

♥ Just bring hugs into the hospital, not bugs



**Management of  
Hospital-acquired Infection  
*Volume One of Two***

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**Controller and Auditor-General**  
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