

Infection Prevention and Control Clinical Governance in New Zealand District Health Boards

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Abstract

Infection Prevention Control (IPC) plays an increasingly important role in twenty-first century healthcare. For this reason, developing and implementing effective IPC systems and structures is imperative for New Zealand District Health Boards (DHBs). At its core, IPC relies on effective clinical governance. This research sought to explore the current climate of IPC clinical governance in New Zealand. The aim of this dissertation is to audit IPC management plans in New Zealand and to evaluate which clinical governance factors facilitate and hinder IPC best practice. This was achieved by using a mixed methods, exploratory, qualitative design. Firstly, I conducted semi-structured interviews with ten IPC nurses across New Zealand to understand their perceptions of the New Zealand IPC Standard, how the Standard is implemented in their DHB, the way IPC risks are managed, and barriers they see hindering IPC engagement. Secondly, I analysed IPC documentation from all 20 New Zealand DHBs and extracted information related to IPC clinical governance. Thematic analysis of the interviews revealed there was a generally positive view of the IPC Standard and although it was not implemented uniformly across DHBs, implementation relied on factors such as resources, organisational culture, clear roles and responsibilities, continual change, bureaucracy, and the presence of IPC opinion leaders. The documentation analysis showed that IPC teams reported to either quality, laboratory, or nursing departments. There were usually two or three layers between the IPC team and CEO, the Clinical Council Chair was most likely to sign off the programme, and 90% of the DHBs had programmes based on the national Standard. Together, these results suggest that IPC clinical governance in New Zealand is growing and is guided significantly by the national IPC Standard. However, the results do show inconsistencies across DHBs and areas for potential growth, including updating the national IPC standard, better defining clinical governance, embracing a multidisciplinary approach to IPC, creating an organisation culture of IPC, and increasing involvement of the consumer/patient. These future directions are discussed and several recommendations are made to improve IPC clinical governance in New Zealand.

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List of Abbreviations

ACC – Accident Compensation Corporation
CEO – Chief Executive Officer
CMO – Chief Medical Officer
COO – Chief Operations Officer
DHBs – District Health Boards
DON – Director of Nursing
ESBL – Extended-spectrum beta-lactamases
HDSS – Health and Disability Sector Standards
HQSC – Health Quality and Safety Commission
IPC – Infection Prevention and Control
IPCC – Infection Prevention and Control Committee
KPI – Key Performance Indicators
MDRO – Multi Drug Resistant Organism
MDT – Multi Disciplinary Team
MoH – Ministry of Health
TOR – Terms of Reference

1 INTRODUCTION

The burden of hospital acquired infections (HAI) and antimicrobial resistance is increasing both internationally and nationally (Healthcare Associated Infections Governance Group, 2016). While the risk of infection transmission has intensified over time, our ability to respond to infection has diminished with growing resistance of micro-organisms to one of our most effective medicines: antibiotics (Ministry of Health and Ministry for Primary Industries, 2017). In a New Zealand context, HAIs have been shown to increase the length of hospital stays for patients, resulting in additional costs for treatment and diagnostics (Baker et al., 2012; Read & Bhally, 2015). Approximately 10% of patients will develop an HAI at some time during their admission which is why it is important for us to understand the major contributors and barriers to effective infection prevention and control (IPC). The purpose of this dissertation is to explore the role of clinical governance in IPC in New Zealand District Health Boards (DHBs).

Governance, and in particular clinical governance, refers to the overarching system that organisations put in place to ensure quality control, risk-minimisation, continuous improvement, and excellence (Brennan & Flynn, 2013). One of the key facets of clinical governance is that it relies on participation and involvement across an organisation and across roles. Only with this shared responsibility between the governing body, managers, clinicians, and staff can the best outcomes be achieved for patients. The effectiveness of clinical governance is only as good as the systems and structures in place to implement it (Gauld & Horsburgh, 2015). Clinical governance is important for IPC because it lays the foundations for IPC to operate and supports IPC integration into the healthcare system.

The New Zealand Ministry of Health (MoH) and DHBs are now just beginning to appreciate the impact clinical governance has on IPC with the creation of the Ministry of Health (MoH) Healthcare Associated Infection Governance Group and IPC programmes run by the Health Quality and Safety Commission (HQSC). Further to these new national groups, in 2008 the NZS 8134.3:2008 Health and Disability Services (Infection Control) Standard was updated to provide guidance on IPC clinical governance across the country and set a benchmark of standards for health and disability sector organisations to adhere to. Through a certification process all 20 DHBs in New Zealand are required to be compliant with this standard and to maintain certification.

Part of meeting the national IPC standard for certification involves having an IPC programme that includes terms of reference (TOR) for the Infection Prevention and Control

Committee (IPCC). The implementation and oversight for this programme is often placed on a small dedicated group within the DHB and although doctors are involved with this as part of the multi-disciplinary team (MDT) the majority of the resource is provided by a small and specialised workforce of nurses to ensure IPC best practice is embedded. New Zealand DHBs have approximately 55 full-time equivalent IPC nurses and a small number of medical staff with designated responsibilities for IPC priorities (Anderson, 2015). IPC planning and programmes are integral to the prevention and management of infections at both individual and population levels. However, without effective clinical governance systems and structures in place, even the best IPC planning and programs will face barriers to implementation and as such will lose their effectiveness. This is especially true given the comparatively low numbers of IPC staff in New Zealand and the already limited capacity to meet their organisational and legislative requirements (Stone, Dick, Pogorzelska, Horan, Furuya, & Larson, 2009). Clinical governance is a way by which DHBs can spread the responsibility of IPC implementation across the organisation and helps create a culture of IPC.

The importance and impact of clinical governance to IPC in New Zealand is a novel area of research. IPC legislation has been in place since the 1990's (The Hospitals Regulations, 1993) but since then, no one has looked at the perceptions of nurses responsible for ensuring their organisation meets current IPC standards or the IPC documentation that DHBs create and follow. This research project will serve as an initial, theoretically driven qualitative exploration into IPC nurses perceptions of IPC clinical governance in New Zealand, IPC clinical governance structures within organisations, and the relationship between IPC practice and the national IPC Standard. In doing so it is hoped to illuminate the current state of IPC clinical governance in New Zealand, including identifying areas that are working well and areas that could be strengthened. Therefore it will provide a baseline evaluation that can be further built on in the future.

The following dissertation will begin by reviewing literature relevant to clinical governance and IPC. Then the method and theoretical background for the semi-structured interviews and documentation analysis will be explained before the key themes and results are presented. Finally, the key findings and their implications for clinical governance and IPC will be discussed and a number of recommendations for legislation, DHBs, governance, IPC teams, and healthcare professionals, will be made.

2 LITERATURE REVIEW

Infection Prevention Control (IPC) is increasingly important in modern healthcare because there is a growing threat of antimicrobial resistance (Ministry of Health and Ministry for Primary Industries, 2017), it significantly and negatively impacts the quality of life of patients, and it is costly to the healthcare system (Healthcare Associated Infections Governance Group, 2016). In New Zealand, HAIs were estimated to cost DHBs over \$137 million per year (Graves, Nicholls, & Morris, 2003). It is imperative that healthcare systems find ways to reduce the numbers of infection and maximise patient safety. One of the primary ways to ensure IPC works is through effective clinical governance.

The aim of this dissertation is to audit IPC management plans in New Zealand and to evaluate which clinical governance factors facilitate and hinder IPC best practice. To achieve this, it is necessary to first review the literature surrounding clinical governance and IPC, in particular the definition of effective clinical governance, how this relates to IPC, and the current role of IPC clinical governance in New Zealand DHBs. The aim of this literature review is to identify national and international best practice for IPC clinical governance. The review was undertaken using the Medline, Ovid and Web of Science databases and via online search engines such as Google Scholar. This was achieved by utilising key search terms related to IPC and clinical governance such as governance, infection control and hospital acquired infections.

2.1 Governance

The term governance is viewed as an umbrella concept and has both practice, management, and clinical facets. This leads to confusion for staff working within healthcare around roles and responsibilities (Flynn, Burgess, & Crowley, 2015). In an attempt to add clarity, Brennan and Flynn (2013) defined clinical management as:

“Processes and procedures, including resourcing clinical staff, by managers to efficiently, effectively and systematically deliver high quality, safe clinical care.”
(p.119)

They then define clinical practice as stated below:

“Delivery by clinicians of high quality, safe clinical care in compliance with clinical policies and performance standards, in the interests of patients.” (p.119)

Within the context of managerial and clinical practice they describe clinical governance as:

“Structures, systems and standards applying to create a culture, and direct and control clinical activities. Clinical accountability and responsibility, a sub-set of clinical governance, involves the monitoring and oversight of clinical activities, including regulation, audit, assurance and compliance by governors, regulators, internal auditors and external auditors.” (p.119)

These definitions highlight how clinical governance is an important facet of overall governance and clinical management. Governance crosses a number of areas but clinical governance in particular is important to quality improvement and IPC in healthcare (Collingnon, Freeman, Shaban, Rings, & Howard-Brown, 2016).

2.2 Clinical Governance

Effective clinical governance is an integral component to healthcare management. Despite this importance, it is a relatively new concept with the first formal attempt at implementation occurring in the United Kingdom in 1998. While clinical governance as a concept is interpreted and applied slightly differently across contexts there are elements common to most definitions. Take the most commonly cited definition of clinical governance from the United Kingdom:

“Clinical governance is a system through which National Health Service organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment where excellence will flourish” (Sally & Donaldson, 1998, p. 62)

This is comparable to a more recent definition provided by the Australian Council on Healthcare Standards:

“[Clinical governance is] the system by which the governing body, managers, clinicians, and staff share responsibility and accountability for the quality of care, continuously improving, minimising risks, and fostering an environment of excellence in care for consumers” (The Australian Council on Healthcare Standards, 2004, p. 4)

Common themes in both definitions are related to efficient systems, accountability, and environments that are conducive to the highest standard of care. One of the unique themes that is stressed in the Australian Council definition is the importance of shared responsibility. Individual parties cannot achieve the goals of clinical governance alone, it takes a cohesive,

combined effort from the governing body, clinicians, managers, and staff to achieve the goal of excellent care for consumers.

Whereas clinical governance started out as a systematic approach to improving quality through the application of specific structures, it has developed into an organisational mind-set (Veenstra et al., 2017). It is part of the ideals, beliefs and practices that form the organisation culture (Greenfield, Nugus, Fairbrother, Milne, & Debono, 2011). Culture within a clinical governance context should include good leadership, an ethos of team work, patient partnership, for education and research to be valued and be open and participatory (Sally & Donaldson, 1998). Factors that support the implementation of good clinical governance include not only culture but also the ability to manage change, effective decision-making, strong and focused leadership, and participation at all levels, from governance, to managers, to clinicians (Flynn, Burgess, & Crowley, 2015). All stakeholders in the health sector, including politicians, academics, managers, clinicians, and patients have a vested interest in ensuring clinical governance structures are maintained because otherwise quality and safety are jeopardised (Brennan & Flynn, 2013).

There are some potential barriers to clinical governance implementation. Major external threats, including mergers and budget cuts, can negate many of the positive cultural features that are required to facilitate clinical governance. Major internal threats, including organisation change and unclear roles and responsibilities, can influence the maintenance of quality improvement and have the potential to affect patient care. If change is not managed correctly this can cause feelings of frustration, powerlessness and eventually apathy and disengagement (Hogan, Basnett, & McKee, 2007). Similarly, if roles are unclear then the responsibilities of clinical governance will not be fulfilled (Brennan & Flynn, 2013). While it would be reasonable to expect these barriers to clinical governance occur at a between-country level, differences in implementation are actually more prevalent at a within-country level. This is due to vast differences in the size, geography, and style of management across healthcare organisations (Bloom, Homkes, Sadun, & Reenen, 2010). Combined, these issues suggest that clinical governance requires some effort to implement effectively and this differs depending on an organisation's context.

2.3 Clinical Governance in New Zealand

In a New Zealand context, there are 20 DHBs across the country each representing a geographical region and range in size, capacity, and management. Clinical governance is a

relatively new concept within New Zealand DHBs. The first significant report into clinical governance and leadership in New Zealand, commissioned by the MoH, was ‘In Good Hands’ (Ministerial Task Group on Clinical Leadership, 2009). This report drew on models of clinical governance and leadership from overseas to make a number of recommendations for effective clinical governance in New Zealand, including implementing structures that foster high quality patient care and safety standards, measuring performance and reporting on outcomes, focusing on leadership at all levels of the organisation, and finding ways to share success.

Although clinical governance has been the focus of many DHBs since the 2009 ‘In Good Hands’ report, clinical governance as a concept has yet to be formally defined despite recommendations to do so (Gauld & Horsburgh, 2015). Recent guidelines set down by the New Zealand Health Quality and Safety Commission describe clinical governance as:

“An organisation-wide approach to continuous quality improvement of clinical services... it is larger in scope than any single quality improvement initiative, committee or service.” (Health Quality and Safety Commission, 2017, p. 7).

They go on to describe it as a consumer-oriented process for continuous quality improvement that relies on an open, transparent organisational culture with all staff actively involved in the clinical governance process.

A report by the Best Practice Advocacy Centre in New Zealand identifies that one of the aspects missing from many overseas and early definitions of clinical governance is that organisations will need to create their own frameworks and models for putting effective clinical governance into practice (Best Practice Advocacy Centre, 2005). There are many frameworks and models for implementing clinical governance. An important aspect for these frameworks is that they cover the entire patient journey including primary, secondary and tertiary care (Ministerial Task Group on Clinical Leadership, 2009).

One such framework for implementing clinical governance was recently developed by the Health, Quality and Safety Commission (2017; See Figure 1.). In this model, experience and quality of care are at the centre of operations and this relies on cohesive overlap between clinicians, managers and consumers. The model lays down four cornerstones to effective clinical governance: consumer engagement and participation, clinical effectiveness, an engaged effective workforce and quality improvement/patient safety. By implementing a

model such as this, health care providers have a guideline to follow and are signalling their commitment to clinical governance.

Even with the best models and frameworks, clinical governance will not be an effective tool without the right implementation (Gauld & Horsburgh, 2015). When it is implemented correctly, the gains to efficiency can be immense. In New Zealand DHBs, a number of factors have been identified that are related to success such as “alignment to strategic goals, executive and clinical leadership, culture and capability, measurement and results, and consumer engagement and patient experience” (The New Zealand Treasury, 2016, p. 1).

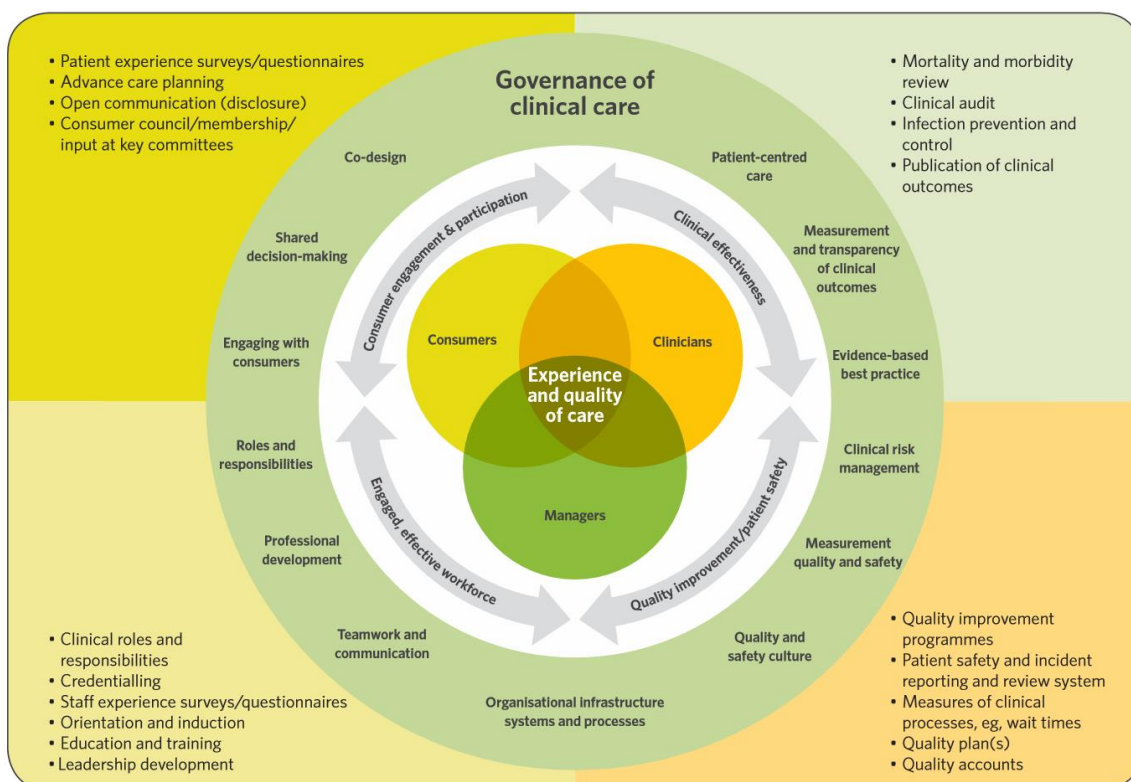


Figure 1. The key components of the clinical governance framework (Health, Quality & Safety Commission, 2017)

2.4 Clinical Governance and Infection Prevention and Control (IPC)

“Infection Prevention and Control like clinical governance is everyone’s business.”
(Masterton & Teare, 2001)

Infection Prevention and Control (IPC) is the effective, rapid containment of infectious threats of public health concern (World Health Organisation, 2017). Infection and the spread of infection is something that cannot necessarily be completely prevented but it

can be effectively managed with the right organisation systems and structures (Griffiths, Renz, Hughes, & Rafferty, 2009). IPC relies on a number of factors like hospital organisation, bed occupancy, staffing and work load (Zing et al., 2015). IPC shares many similarities to clinical governance. Firstly, it is not something that that can be delivered by an individual or a specific team, it requires a coherent organisational approach. Secondly, it is crucial for organisations to have a structure and framework for implementing effective IPC, for example by having staff responsible for IPC and an IPC programme. Finally, the benefits of establishing effective IPC for the quality of patient care and safety are immense for patient outcomes.

IPC is a priority for patient safety and as such should be embedded in an organisation and integrated into their processes and systems (Brannigan, Murray, & Holmes, 2009). In Australia, the National Safety and Quality Health Service Standard for IPC has a specific section on the importance of clinical governance for implementing, reviewing and improving IPC policies and procedures (Australian Commission on Safety and Quality in Health Care, 2012, p. 28). This means promoting an interdisciplinary, collaborative environment with high levels of leadership and support (Raveis et al., 2014). It also means that IPC must be integrated into the complex, interlinking systems within hospital management structures (Brannigan, Murray, & Holmes, 2009). In fact, IPC is such an important facet of an organisation that it has been suggested as an indicator of overall quality and safety standards within a healthcare facility (Borg, 2014).

In some cases, there are barriers to implementing IPC. For example, when healthcare structures are complex it can be difficult to determine who is responsible for what and in some cases, this means that IPC is ignored. This is where effective clinical governance comes into play. Refining the systems of clinical governance makes it clear who is responsible for addressing the issues of IPC (Brewster, Tarrant, & Dixon-Woods, 2016). Implementing clinical governance structures for IPC has been linked to a reduction in infection rates (Veenstra et al., 2017) and is one of the key organisational mechanisms behind effective IPC practice and success (Griffiths et al., 2009).

One way to ensure IPC is implemented effectively is to have a dedicated multi-disciplinary IPC team or staff responsible for IPC planning (Castro-Sanchez & Holmes, 2015). Originally, IPC planning would be the responsibility of a single IPC nurse in conjunction with clinical microbiologists but now with the increasing importance of IPC the

role has expanded and become more specialised. Now, in most organisations there are dedicated IPC teams or specialist nurses responsible for IPC planning (Hale, Powell, Drey, & Gould, 2015). Over time IPC has been recognised as not the responsibility and role of a single individual or a small dedicated team but the governing body, clinical staff, and management all need to be committed to achieving the common IPC goals (Masterton & Teare, 2001). It is the responsibility of the IPC team to contribute to the development of clinical governance in their organisation and to ensure the participation of the wider organisation and their colleagues in this. It is also the responsibility of the IPC team to engage in IPC planning. It takes a comprehensive strategy for the development and implementation of the IPC programme and education alone will not achieve this.

2.5 IPC Documentation

IPC programmes are the key road map for providing safe patient care and should be incorporated into established clinical governance frameworks with an emphasis on risk management. At its core, an IPC programme strives for patient safety and to do this it needs to be comprehensive and open to multi-modal and multi-disciplinary solutions (Castro-Sanchez & Holmes, 2015). A functional IPC programme incorporates the values, practices, and interpersonal staff relationships of an organisation. This ensures that staff adhere to and embrace the programme (Raveis et al., 2014). The structure, content and sign off of the IPC programme should be interwoven through clinical governance processes to ensure that it is transparent and everyone is aware of and working towards the same goals and the necessary resources are allocated towards compliance of the programme (Gauld & Horsburgh, 2015)..

Ensuring that an IPC programme is implemented is primarily the responsibility of a DHB's Chief Executive Officer (CEO) and the executive team, including the Chief Operations Officer (COO) and Chief Medical Officer (CMO). Responsibility then flows through the organisation to uptake from medical and nursing teams. It is essential that all these parties are on the same page so that the importance of risks identified by the IPC programmes are mitigated (Bryant, 2016). It is also important for the organisation to promote a positive culture for IPC to flourish (Raveis et al., 2014). Organisations with better safety cultures have been found to have improved health outcomes for patients, including less incidences of HAIs (Hofmann & Mark, 2006). Interventions promoting IPC systems and practices have also been shown to be effective at improving IPC implementation and improving health outcomes for patients (Coopersmith et al., 2002). Performance measures are required to track the success, or lack of success, of the programme so outcomes can be

reported and appropriate follow up action can be taken if necessary (Shaban, Macbeth, Vause, & Simon, 2016).

Underpinning the IPC programmes are various sets of documentation including the infection prevention and control committee (IPCC) terms of reference (TOR) which provides the road map for the reporting structure of IPC and the sign off for IPC related documentation. Included with documentation is evidence based policies and procedures; these give the details of how to achieve the objectives of the IPC programme (Shaban, Macbeth, Vause, & Simon, 2016). International guidelines may facilitate the establishment of quality standards across all countries, however local determinants and cultural dimensions will have a profound influence on implementation and must be carefully considered when adapting international recommendations. Leadership and coordinated actions at national and facility levels using multidisciplinary approaches will be essential for success. The passive presence of written guidelines will not suffice for successful IPC (Birgand, Johansson, Szilagyi, & Lucet, 2015).

The TOR's for the IPCC provide clarity and understanding for the functions of the committee both to the members of the IPCC and the wider organisation. The IPCC is mandated to provide a clear direction to the organisation to support everyone to create and maintain a safe environment for patients (Lee & Lind, 2000). Regular IPCC meetings are an important facet of this. Well-prepared and structured IPCC meetings with staff who are educated in IPC is integral for the IPC clinical governance within healthcare organisations (Wiblin & Wenzel, 1996). An efficiently run committee with clear objectives will facilitate and support IPC initiatives within the organisation. Conversely a poorly run committee has the ability to derail the successful implementation of the IPC programme objectives (Bearman, Stevens, Edmond, & Wenzel, 2014).

2.6 Clinical Governance and Organisational Culture

Effective IPC clinical governance relies directly upon the organisation culture that supports the successful integration of IPC practices within all levels of an organisation. The structure of the organisation includes personnel and the roles and responsibilities that they have within this structure and their understanding of these. Included in this is ensuring that personnel are adequately resourced and have the appropriate qualifications (De Bono, Heling, & Borg, 2017). This is particularly relevant in terms of IPC clinical governance in which adequate numbers of well-trained staff are vital to understand and implement IPC best

practice. When personnel gaps are identified including understaffing, high bed occupancy and stretched resources, the number of outbreaks and HAI's increase (Griffiths, Renz, Hughes, & Rafferty, 2009).

Strong leadership across an organisation has been identified as being essential for the successful implementation of the IPC programme. A study on the relationship between organisational culture and IPC behaviour identified that hospitals with more effective leadership showed better hand hygiene compliance and improved gowning/gloving practices among staff; these institutions were also less likely to report barriers to IPC implementation (Sinkowitz-Cochran et al., 2012). Effective leadership styles can also have a strong impact on patient outcomes whereas an excessively strong top-down control can have a negative impact on the nurses' job satisfaction and responsiveness of employees (Salge, Vera, Antons, & Cimiotti, 2017). The hierarchical formal leadership structure can be less effective than informal opinion leaders (Seto, 1995).

Informal opinion leaders are people within an organisation who shape the opinions, behaviour, beliefs, motivation, and attitudes of those around them and in doing so exert considerable influence on organisational objectives (Valente & Pumpuang, 2007). Informal opinion leaders have been shown to exert a major influence on their peers and can potentially be more effective than formal leaders with the successful integration of IPC best practice (De Bono, Heling, & Borg, 2017). Opinion leaders have been identified as critical to positively influence organisational culture to improve adherence to IPC best practice (Pittet, 2004). For this reason, some research has suggested that identifying opinion leaders and using them as agents for change is actually a very effective way to speed up the adoption of new innovations (Valente & Pumpuang, 2007). If there is a lack of strong clinical governance structure opinion leaders gain more power. Some of the risk attributed to this is, when an opinion leader leaves or decides to champion a different project the momentum they established is lost.

Hand in hand with positive leadership is the role that the multi-disciplinary team has to influence IPC initiatives. A culture of teamwork (together with leadership, adaptability and support) develop more effective IPC initiatives. The formation of multi-disciplinary clinical teams has been shown to reduce rates of hospital-acquired pneumonia in intensive care units (Kaye et al., 2000; Rushforth, 2005) and bloodstream infections (Zingg et al., 2014). A multidisciplinary approach to improving antibiotic prescribing significantly reduced

inappropriate prescriptions and was associated with a significant reduction in infections caused by extended spectrum beta-lactamase (ESBL)-producing Enterobacteriaceae (De Bono, Heling, & Borg, 2017).

2.7 IPC Clinical Governance in a New Zealand Context

“Infection Control is an essential element of good clinical practice and is vital for patient safety.” (Controller and Auditor-General, 2003, p. 8)

The quote above is from the opening statement of the 2003 report of the New Zealand Controller and Auditor-General on the management of hospital acquired infections and highlights the increasingly important role IPC plays in healthcare in New Zealand. The report represented a stepping stone in New Zealand toward a greater focus on IPC and the adoption of IPC standards. There were 39 recommendations made in the report, three of which are acknowledged as integral to the embedding of a clinical governance framework:

- DHBs should receive regular information on the rates of HAIs and the operation of hospital systems and period reports on how the hospital is meeting (or not meeting) the IPC standard.
- 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.
- In consultation with the MoH, 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 (Controller and Auditor-General, 2003)

It concludes that the legislative framework provided by the national IPC standard provides a solid basis for DHB’s to establish effective arrangements for IPC practice. It acknowledges some dimensions of IPC are working well and others require more attention.

“In some hospital services, there needs to be more visible and active commitment by managers, clinicians 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.” (Controller and Auditor-General, 2003, p. 9)

It is interesting to note that the term ‘clinical governance’ is not mentioned in this report because the concept of clinical governance has only recently been adopted within New Zealand DHBs. There has not been a follow up report by the Auditor General’s office to ascertain if any of the recommendations have been implemented. However, other entities including the Ministry of Health (MoH) and HQSC have continued to provide support and guidance nationally for clinical governance and IPC.

Since the 2003 Auditor-General report, the focus on IPC has increased internationally and in New Zealand. This growth has been led by the formation of the MoH Healthcare Associated Infection Governance Group (HAIGG) and a number of IPC programmes run by the HQSC including hand hygiene and monitoring of orthopaedic and cardiac surgical site infections. The HQSC IPC programme has a dedicated multi-disciplinary governance committee, the Strategic Infection Prevention and Control Advisory Committee (SIPCAG), which has oversight of the current programs, makes recommendations, and provides advice on future directions. The Accident Compensation Corporation (ACC; 2017) identified infections as one of the four areas of focus over the next five years. They are working in conjunction with the MoH, HQSC and DHBs to reduce infection rates by supporting infrastructure.

The 2008 New Zealand Health and Disability Services (Safety) Standards (NZS 8134.3:2008; Ministry of Health, 2008) provide the framework for IPC clinical governance within New Zealand healthcare facilities. Service providers seeking certification under the Health and Disability Services (Safety) Act 2001 will need to demonstrate that their service complies with all relevant approved standards. Hospitals, rest homes and providers of residential disability care, who are required by the Act to be certified, need to meet the Health and Disability Services and Standards (Ministry of Health, 2008) and this includes the IPC standard.

The first part of the national IPC standard is dedicated to Infection Control management and Criteria 1:1 states “The responsibility for infection control is clearly defined and there are clear lines of accountability for infection control matters in the organisation leading to the governing body and/or senior management.” Criteria 1:2 goes on to state “Reporting lines and frequency are clearly defined within the organisation including processes for prompt notification of serious infection control related issues.” Criteria 1:3 adds clarity to the IPC programme stating that: “The organisation has a clearly defined and

documented infection control programme that is reviewed at least annually.” It goes on to expand through Criteria 1.4, 1.5 and 1.6 the responsibility that the governing body has for the development and the implementation of the IPC programme. The IPC standard has not been updated since 2008.

The recently published HQSC clinical governance framework (See Figure 1.) includes IPC. In this document, in the clinical effectiveness section they further reference the IPC standard highlighting the following requirement “Infection prevention and control in health services is integral to quality and safety improvement and clinical risk.” This is followed by the statement “We have clear leadership of related activities.” In addition to this, a recent cross-sectional study of IPC staff in Australia and New Zealand identified an opportunity to strengthen contextual factors at organisational level to promote further practice improvements and sustain current IPC successes. The risk if this does not happen is to undermine the required capacity to implement IPC best practice (Halton, Hall, Gardner, MacBeth, & Mitchell, 2017). Both of these recommendations support IPC clinical governance. The challenge will be in the implementation.

2.8 Summary

This chapter has reviewed the range of literature surrounding clinical governance and IPC both internationally and in New Zealand. The term “clinical governance” has been explored and the elements required for the application of this to IPC. The literature illustrated that there are many different definitions for clinical governance with common terminology. It also described the role that IPC has for quality improvement and the positive difference an effective clinical governance framework could make. Both internationally and nationally there are clinical governance structures with documentation to underpin this.

What is lacking in the literature is how the national frameworks are implemented into the individual organisations. There are numerous IPC requirements for New Zealand DHBs to implement and currently there is limited information on the success of these interventions. The NZ IPC standard provides the legislative requirement for IPC within NZ healthcare facilities however it is not clear the value that this provides to IPC clinical governance. There also appears to be limited understanding of what clinical governance is. For this reason the research described in this dissertation focuses on the national IPC standard as an integral part of the IPC clinical governance and its implementation within New Zealand DHBs.

3 METHOD

3.1 Participants

Participants were 10 nurses with IPC responsibilities each employed by DHBs in New Zealand. Nine participants had a post-graduate qualification (three specific to IPC) and six had worked in other specialities prior to commencing their IPC role. The majority (nine) had more than 15 years' experience in nursing and four held the role of IPC 'team leader'. Interviews commenced in April and ended in December 2016.

There are 20 DHBs within New Zealand and to ensure a sample that was representative of the entire country, five participants were from South Island DHBs and five were from the largest North Island DHBs. The South Island DHBs were Canterbury, Nelson-Marlborough, South Canterbury, and West Coast. Because the researcher was employed at the Southern DHB, this was the only South Island DHB that was not sampled and instead two participants were selected from the Canterbury DHB. The North Island DHBs were Waitemata, Auckland, Counties Manukau, Capital and Coast, and Waikato. Although doctors also sometimes have IPC responsibilities, for consistency nurses were selected because not all DHBs have doctors as part of their IPC team.

3.2 Design

A purposive sampling method (Robson, 1993) was employed due to the small number of DHBs and dedicated IPC staff in New Zealand. Participants were identified and approached by the researcher based on existing networks the researcher had within the IPC community (see section on researcher transparency below). All 10 of the participants who were approached agreed to be interviewed. Participants are identified in the analysis by pseudonyms to protect their identity. The study design was qualitative and exploratory (Patton, 2014). The study consisted of semi-structured interviews with participants based on eight interview questions and a documentation analysis of IPC management plans. Thematic analysis was conducted with the interview data to identify the governance system in place and assess which governance factors either facilitated or hindered best practice. Documentation analysis via a checklist procedure of IPC management programmes identified compliance with New Zealand standards and international best practice.

3.3 Ethical Approval

This study received Category B ethical approval in 2016 from the University of Otago Human Ethics Committee D16/386 (see Appendix A.).

3.4 Semi-Structured Interviews

Interview questions were derived based on analysis of the existing literature, the research aims, and practitioner knowledge. These questions formed the basis of the interview however if new themes arose during the discussion, the semi-structured nature of the interviews meant that these new themes could be explored further. The following eight questions formed the basis of the interviews:

1. What is your understanding of the IPC standard (NZS 8134.3:2008)?
2. Where does the responsibility sit within your DHB for the implementation of the standard?
3. How well has the standard been implemented within your DHB? Please give examples?
4. What are the benefits of having the standard?
5. What are the disadvantages of having the standard?
6. How are identified IPC risks raised and responded to within your DHB?
7. If there was one barrier that could be removed to improve engagement with IPC within your organisation what would it be?
8. Is there anything else that you would like to discuss regarding IPC governance within your DHB?

Interviews ranged from 21 minutes to 63 minutes in length and were recorded verbatim to be transcribed later.

3.5 Procedure

Participants were contacted via phone at an agreed-upon time to complete the interviews with the researcher. The participants were known to the researcher already so a good rapport was already in place. Participants were given information about the nature and purpose of the interview, how the data would be used and that every attempt would be made to preserve their anonymity, their participation was voluntary and they were free to withdraw at any time with no detriment to themselves. At this time participants were also made aware that the interview would be recorded for future transcribing and analysis. After receiving informed consent, the researcher began by asking participants the length of time they had

worked in IPC management and what their qualifications were and then the semi-structured interview portion of the research commenced. At the end of the interview, participants were thanked for their time, given the opportunity to provide feedback, and appropriately debriefed as to next steps of the research.

3.6 Analysis

The interview data was analysed thematically (Braun & Clarke, 2006; Patton, 2014). Initial codes were generated based on participant responses to the semi-structured interview questions (see Appendix B). From there, preliminary themes became apparent and each code was attributed to the appropriate theme (see Appendix C for example). Connections between these themes were further refined until six major themes emerged. Finally, a re-analysis of the raw interview data ensured that examples of each theme had been noted and compared and that themes remained tightly coupled to the initial codes derived from the data. The researcher's supervisors provided an independent assessment of the codes and themes.

3.7 Methodology

Designing a research project requires engagement with both philosophical and technical questions that shape the approach taken to generating knowledge about the social world. As Patton (2014) argues, the same phenomena, programme, community or organisation studied by researchers from different perspectives may use similar methods (e.g. interviews, document analysis and observations) yet the results obtained may differ. Given this, some researchers privilege one approach over another and claim that there are better ways to know the world whilst others argue that the best that one can do is be transparent about the stance adopted and allow others to read results and assess claims made with that information in mind (Robson, 1993). More specifically, there are two overall approaches or methodologies: quantitative and qualitative. The former focusing on collecting statistical data and the latter social meanings, however defined (Avis, 2003).

To answer my research question exploring clinical governance within IPC I was drawn towards a qualitative research model. It provides an approach that enables the gathering of an in-depth perspective from a workforce that has an invested interest in the topic and enables their voices to be heard (Seale, 1999). To underpin this, I reviewed qualitative theories and identified one that formed my qualitative methodological approach (Caelli, Ray, & Mill, 2003).

The methodological approach I believe that my research fits within is pragmatism; pragmatism occupies a middle ground between idealist and realist ontology. This theory permits phenomena to operate independently of our ideas and in turn we find this phenomena through our ideas. The term pragmatic suggests that it is practical problems or questions that determine how phenomena interest researchers. It also allows the researcher to present findings in accessible and actionable terms (Green & Thorogood, 2013). As the researcher, it is prudent to disclose my unique position in this research. I have worked as a registered nurse for over 30 years in the New Zealand Public Health Sector. Fifteen of these years have been in the IPC speciality. During my time in IPC I have held both local and national roles within New Zealand and formed networks with colleagues outside of my own DHB. These experiences informed the research design and the formulation of questions for the interviews. All of the interview participants were known to me in a professional capacity prior to commencing the interviews and my existing relationships facilitated acquisition of the IPC programmes and IPCC TOR.

With this kind of qualitative research that explores a niche aspect of health care management in New Zealand, my experience, networks, and unique relation to the research were an asset to the data collection and analysis. While there is an increased possibility of researcher and participant bias with this kind of involvement, there are many situations where being an ‘insider’ researcher in qualitative research offers unique access and facilitates the collection of data that might otherwise prove elusive (Lofland & Lofland, 1995).

3.8 Documentation Analysis

3.8.1 Materials. To best understand the IPC policies and procedures in place in New Zealand DHBs, an email request was made to each of 20 DHBs IPC teams for copies of their IPC Programmes and IPCC Terms of Reference. All DHBs complied with this request.

3.8.2 Analysis. To analyse the content of the IPC Programmes and IPCC Terms of Reference, a checklist was devised to indicate whether or not the document complied with New Zealand IPC standards. There were four key areas of interest:

1. The operational area that the IPC team report to within the DHB
2. The number of layers between the IPC team and the CEO
3. The role that signs off the IPC programme
4. If the plan was based on the national IPC standard

4 RESULTS

The results are split into two sections; the first section describes the thematic analysis of participant interviews and the second section describes the documentation analysis of the IPC programmes and IPCC TOR. The thematic analysis identified several unique themes from semi-structured interviews with 10 participants across nine New Zealand DHBs. The documentation analysis focused on extracting information from the IPC programmes and IPCC TOR of 20 DHBs to answer four key experimental questions.

4.1 Interview Thematic Analysis

Several separate themes emerged from the thematic analysis of the interviews. These were:

- The IPC Standard (NZS 8134.3:2008) was viewed as positive
- Implementation of the IPC standard depends on clinical governance structure
- Inconsistent implementation of the IPC standards between and within DHBs
- Continual change impacts on effective clinical governance
- The importance of IPC opinion leaders and positive relationships
- Future Opportunities

In general participants had a positive perception of the IPC Standard and many agreed it was a useful framework with which to build IPC programmes in their organisation and supported the credibility and implementation of these programmes to meet the standard. Implementation of the IPC standard depended on a number of clinical governance factors, including resources, organisation culture, undefined roles and responsibilities, and bureaucracy. One key factor that emerged was the inconsistent implementation of the IPC standards between and within DHBs. Continual change was noted as a significant barrier to implementing IPC within an organisation. Conversely, IPC opinion leaders and positive relationships were noted as significant facilitators to implementing IPC. A number of future areas of growth and development opportunities for IPC implementation, promotion, and integration were proposed. Together, these themes build a picture of the perceptions of the IPC standard and its relation to clinical governance in nine DHBs in New Zealand. Each unique theme will be discussed in turn.

4.1.1 *The IPC Standard (NZS 8134.3:2008) was viewed as positive.* The first theme acknowledges the importance of the standard to IPC in New Zealand and perceptions of the standard as generally very positive:

“The standard ensures that we have a safe level of care for patients” Laurence

“It is actually a good thing.” Judy

All participants noted the benefits of having the standard compared to having no standard at all:

“I think without having the standard, how would you [know] what you're doing, or what you should do?” Camelle

In particular, many noted that the standard provided a good reference point from which to structure and implement IPC in their organisation:

“It does provide that basic foundation with which we build on our practise..., I think it's just the basis to work from as a minimum standard.” Didy

“To me, it's a blueprint which I would use- which I do use, to set up the infection prevention and control programme, and out of that falls all the things you need to be doing to enable the day to day stuff to happen.” Russell

“The standard is the core document that is used as a template for our infection prevention programme.” Ryan

The standard was perceived as being protective in that it validated the role of IPC within the DHB:

“You can't say well actually we won't have any hand hygiene education for the next year because we really can't afford to do it... they can't do that. And that's the very best and most protective thing about that standard.” Judy

The importance of the IPC standard being linked to the HDSS certification process was also noted as important and that by having an IPC standard, the IPC team has the mandate to do their job.

“But you've got the standard ... and certification that actually provides you with “the mandate” to actually do your job.” Martin

“It doesn't matter if it's... engineers... or architects... building design.... they've got to have input from infection prevention control, and that will be found out during the certification process. You know if it hasn't been... the infection prevention and control team really keeps everyone honest.” Becky

The IPC standard ensures that an IPC framework is embedded in the organisations culture, and it provides visibility and accountability for IPC within the DHB:

“It gives a good base level of what you have to achieve, so that DHB’s have some guidelines, otherwise a person walks into the role as they have in the past and they basically just flounder.” Sharon

“If somethings a legislative requirement, if it’s raised as a corrective action through certification, that’s fantastic.” Sam

Based on responses from question six of the semi-structured interview, eight out of 10 participants could not think of any disadvantages at all to having the IPC standards which again highlights the positive way the standard is viewed by IPC nurses:

“It’s a baseline so you can go and do other things, to be honest I couldn’t think of any disadvantages of having the standard.” Didy

“I don’t really know of any disadvantages of the standard.” Becky

4.1.2 Implementation of the IPC standard depends on clinical governance structure. The second theme focuses on how the structure of the DHB impacts the implementation of the IPC standard and how some clinical governance factors can be a barrier to implementation. In particular, the responses from question seven of the semi-structured interview gave an insight into the priority that DHB’s placed on the resolution and identification of IPC risks. Each DHB is complex in that it has its own IPC systems and structures. Just some of the different systems and structures named were risk registers, incident systems and outbreak management.

Nine out of the ten interviewees were familiar with the IPC standard and the template it provided to maintain certification with the MoH. Five out of ten described the benefit of having the same template in the 20 DHBs. Eight out of ten utilised the IPC standard to formulate work plans. For example, participants suggested:

“An agreed minimum standard document for minimum standards of practice and that they are our overarching document for infection control practice within healthcare facilities.” Ryan

“It is a skeletal frame work for people to actually build new practises on.” Sharon

“It is the core document, a template for the IPC plan which goes down through policies and procedures.” Ryan

Some of the barriers to implementing IPC standards were identified as lack of resources, organisational culture, and an absence of clarity with the structure.

“Budget is a barrier... I'm having to beg, borrow, and steal... you know, from other departments, to be able to do stuff I think you should just be able to do.” Camelle

“A barrier with IPC I think it would be to change the attitude, and thinking, at the coalface, where infection prevention control is seen as our role, exclusively. We need to change that culture so that all staff appreciate that they are part of a process.”

Laurence

“With the restructure, it is being able to make decisions at my level, without having to go through several different layers of management.” Camelle

Accountability was required to be linked for IPC through the structures and the policies and procedures that underpin this. This ensures that IPC must be taken seriously:

“I sent all the relevant information to the appropriate manager, put it on the risk management database, and was told by the manager she won't do a business case unless it's driven by ED, and ED won't drive it because they have other priorities.”

Laurence

“Evaluation of new products works well if it goes through the product coordinator however if the products are introduced other ways not so good.” Ryan

“Because the organisation knows who to go to, what they can do. I think before we had a charge nurse role it wasn't – we didn't have strong governance, and that's no reflection on who we had, it was just the structure within the organisation. They didn't know who to go to, and it didn't make us very strong.” Sam

“The committee has no teeth. They've made recommendations' that have not been followed as they have no teeth.” Laurence

Further, there was a belief that a flat structure makes it easier to raise IPC issues:

“I am lucky I belong to a small organisation so not so many layers. You can talk to the head of staff, the CEO, CMO or the surgical team with not too much effort.”

Russell

Beliefs about the role of IPC teams in implementing the standard differed. Four out of ten believed that it was the responsibility of IPC, whereas the others believed that it belonged with the organisational as a whole:

“I think people tend to see it as, you know, it’s our job, so when we’re not here they don’t have to bother.” Ryan

“Sits within our service and support from clinical governance and IPCC and Director of Nursing.” Sam

“Whereas we’re a small voice with no authority, who make recommendations and give advice.” Judy

“[It’s] everyone’s job to implement” Martin

“I think it’s a collaborative thing, it’s not just IPC.” Becky

“Responsibility to develop the programme sits with the infection prevention control service, but the responsibility to implement it, will also be at the individual level, so it is through the governance structure... and so that will have representation from all areas.” Sharon

The documentation that provided the framework to support the implementation of the standard within the DHBs was also perceived differently by interviewees:

“We actually get caught up in having to write up the ‘thou shalt’ and ‘thou musts’ instead of actually talking to the people we need to about how do I make this work in the real world so it’s safe.” Judy

“With the policies and procedures in place, it is up to the services to deliver the programme.” Camelle

“I think the leadership and just having all those processes and everything connected to each other, that makes all the difference.” Sam

The final key subtheme identified from the interviews in regards to implementation of the standard was that the complexity of the process involved to implement IPC standards affected uptake:

“I just find the bureaucracy ridiculous.” Laurence

“The problem with IPC is that it is an organisational problem.” Ryan

“So, there’s a lot of accountability there, which never used to be.” Martin

4.1.3 Inconsistent implementation of the IPC standards between and within DHBs. Participants were concerned with local inconsistencies and where the responsibility for the IPC programme implementation sat within their DHB. Three out of ten interviewees placed the responsibility with everyone, five out of ten put implementation with the IPC team and two out of ten considered the CEO was directly responsible. The interviewees also discussed the documented structure and acknowledged that this did not always reflect how it is implemented within DHBs. Five out of ten articulated that meeting certification did not indicate that the entire DHB practised IPC to the same standard.

“Provides some consistency across the country.” Becky

“But then there is not enough resource to actually really make sure that it happens in all areas, so in the end you end up feeling compromised and making decisions about where to use the limited resources.” Ryan

“I think for the most part the intent to do it well is there.” Judy

“I think that it is well implemented in our DHB. We certainly make sure that we tick all of the boxes.” Sam

“I think it is implemented better in some areas than others.” Martin

“The dilution factor, you put a lot of effort in and go back six months later to find out that 50 percent of the people who were working on the ward have gone and IPC practice has suffered.” Sharon

“I believe the standard is well implemented, within the available resources that we have.” Russell

4.1.4 Continual change impacts on effective clinical governance. All ten interviewees mentioned that during the time that they had worked in the field of IPC their

reporting lines had changed at least once. This was felt to impact on the momentum of IPC progress. Six out of the ten interviewees discussed the difficulty with implementing the IPC programme owing to the continual change to DHB structures and personnel:

“Another restructure which makes it so difficult for decisions to be made.” Becky

“Infection control has been posted all over the place in the past, both here and in other hospitals. From quality to nursing to medical to laboratory just everywhere.”

Sharon

The interviewees discussed the impact of the continual changes on the IPC team. They articulated the frustration that they had with this:

“And then and then people come and go and it all changes, and it’s just a nightmare.” Judy

“I’ve been here for 18 years or so and our structure has changed, I mean we have changed several times. We have been under quality and risk, medicine, nursing and now for the last year the laboratories but who knows for how long” Sam

“Our team gets frustrated because governance has changed many times and expectations keep changing.” Ryan

4.1.5 The importance of IPC opinion leaders and positive relationships. A

common observation made by the interviewees was that the implementation of the IPC plan was important but not as important as having an IPC champion to successfully embed the standard and the IPC plan. Relationships were also identified as having a positive or negative impact on how IPC was viewed within the DHB. What made a successful IPC opinion leader was that they needed to have an understanding of what IPC involved, they had access to the higher levels of the organisation and that they believed that IPC was important.

“You can have governing structures for Africa but if your CEO, CMO or COO doesn’t talk to you, ... your governing structures fall over anyway.” Sharon

“I don’t think there’s a lot of barriers at the moment ... but I think that it also depends on who is in those roles as well.” Didy

“As I said if you’ve got a team, if you’ve got a person who is a figure head, which has a presence with the movers and shakers. The ones who make the decisions, the ones

who hold the purse strings, as well as the workplace, it doesn't matter where you sit."

Sharon

Two participants identified the advantage of having access to the CEO and for them to have an understanding of the importance of the role IPC plays within risk management within the DHB:

"The full understanding within our group is that overall responsibility actually fits with the CEO." Judy

"Actually, we bypassed the clinical governance and went straight to the CEO because he demanded to see us..." Martin

The relationships and the networks that the IPC team have within the DHB are hugely important to the implementation of IPC standard because it enables the IPC voice to be heard:

"We were quite lucky we have a really good relationship with the lab." Russell

"Most times management will come and have a chat." Sharon

"You know having a really strong advocate at exec level has made a really huge difference, and I think that's really vital." Sam

The role of an IPC opinion leader was not always viewed positively. For example the roles mentioned in the quotes below are similar and yet the role that they have in advocating for IPC has been viewed differently:

"So, our DON is not the right person to drive our issues at management level."

Laurence

"I think having the chief nurse as my direct line manager, she's a really good advocate for IPC which has been beneficial." Didy

One person noted the impact an IPC opinion leader can have if they do not have understanding of what IPC means:

"But it doesn't always help the process because they don't always understand with the decisions that they make what the downstream implications are." Laurence

4.1.6 Future Opportunities. The interviewees were given the chance to voice any other thoughts that they had with regards clinical governance and IPC. Areas that were identified include updating the IPC standard in line with current IPC issues and modifying its

content so it is more consistently applied across DHBs. Many interviewees noted the inconsistent and difficult application of the standard in different healthcare environments and that the standard restricts IPC practice rather than extending and promoting it. The interviewees also identified an opportunity to promote IPC and to market the profession.

Five out of the ten interviewees commented on the fact that they believed the standard was limiting and that the goal of the organisation was to meet certification rather than to build and expand on this:

“That it is a minimum standard and that there is a need to have something more aspirational.” Becky

“If you’re innovative some people can drag you down to the standard and just want you to achieve that, when you have actually moved beyond that and want to achieve more.” Ryan

“It’s not dynamic it can’t be dynamic in the healthcare setting that it is being audited within.” Didy

Another opportunity identified by the interviewees was that the IPC standard was difficult to implement in some health care facilities.

“Primarily aimed at secondary care facilities, tertiary care facilities. I wonder whether it’s actually appropriate for some of the more residential services.” Laurence

“If you’re a large facility I think it’s easier to implement it. If you’re a small facility, it’s ponderously hard.” Sharon

“One size doesn’t fit all.” Judy

Nine out of the ten interviewees made a comment about the age of the standard and the need for it to be updated.

“Age of standard – 2008, needs to be reviewed.” Becky

“It hasn’t really kept up.” Laurence

Five out of ten interviewees observed that the IPC service was not always seen in a positive light and that the organisation did not understand the role of IPC.

“To remove the negativity towards the service, and perhaps market ourselves in a more positive way.” Camelle

“It is probably the single most wide ranging speciality nurses or any healthcare worker can look at.” Sharon

“We are seen as ambulances at the bottom of the hill – they have no idea that 90% of what we do is prevention. Its hidden cause you know if you prevent infections they don’t see us.” Ryan

“...a framework to work within ... reinforces that the DHB can’t just pay lip service to Infection Control. We actually have to have a functioning service with measurable outcomes.” Didy

It was identified by six out of the ten interviewees that having electronic support and access was advantageous to their IPC role.

“I do think that having a computer programme that is able to provide reports and alert me of issues has helped greatly especially with the data surveillance...”

Laurence

Auditing of the IPC standard was seen as important but an area of potential difficulty in terms of national consistency.

“Certification is a framework for determining how you’re doing – the practise of auditing is “pretty random” Sharon

An opportunity was identified to ensure that time is allocated to review how well IPC programme is implemented

“The annual management plan runs alongside the standard, but when it gets busy there is limited time to review and see how well the plan was implemented.” Didy

4.2 Documentation Analysis of IPC Programmes and IPCC TOR

IPC programmes and IPCC TOR were collected from all 20 DHBs in New Zealand and were analysed in terms of content. The four key areas of interest were:

- The operational area that the IPC team reported to within the DHB
- The number of layers between the IPC team and the CEO
- The role that signs off the IPC programme
- Whether the IPC programme is based on the national standard

Although it was outside the clinical governance focus of the present research, two additional areas of interest were the inclusion of Māori health themes and reference to consumer, patient, or community involvement. Only two out of 20 DHBs included reference to Māori health specifically and only half mentioned any form of end-user involvement. When end-user involvement was mentioned, it was only done so in a broad, unclear manner. Notably, the layout, length, and structure of the documentation supporting each plan was different. This made the information difficult to extract. Two out of 20 programmes were from the previous year and therefore counted as out of date.

4.2.1 The operational area that the IPC team report to within the DHB. Eight of the IPC teams reported to the area of Quality that includes responsibility for the monitoring of patient safety programmes, four of the IPC teams reported to the laboratory and eight reported through to nursing. The reporting areas in the figure are operational and the IPCC nurses require professional reporting to nursing (see Figure 2).

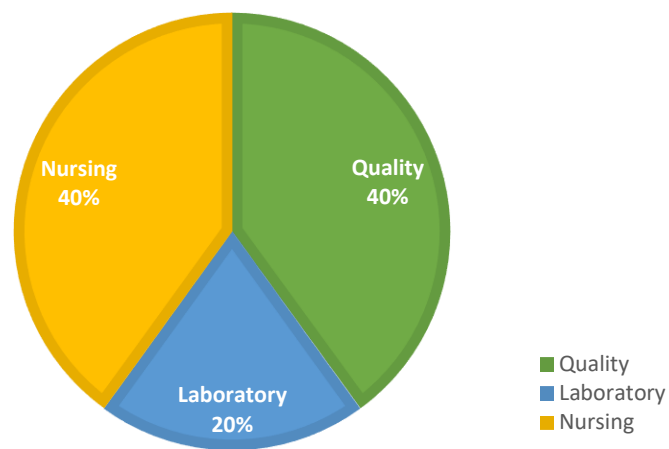


Figure 2. The operational area that the IPC team report to within the DHB (quality, laboratory or nursing)

4.2.2 The number of layers between the IPC team and the CEO. Ten of the 20 IPC teams had three levels to report through to the CEO. Nine had two levels and one had four levels. The DHB with four levels was one of the larger DHBs that had a multi-level structure and no IPC team leader role (see Figure 3).

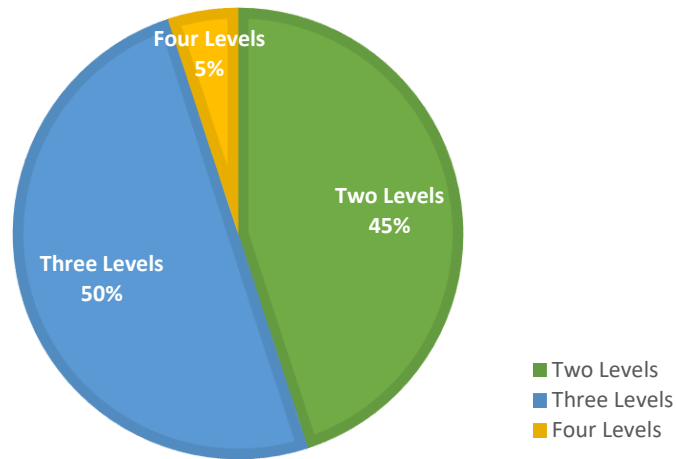


Figure 3. The number of layers between the IPC team and the CEO (two, three or four levels)

4.2.3 The role that signs off the IPC programme. All 20 DHBs had a process in place for the sign off of the plan and there were six different roles that had final sign off for the plan. Four plans were signed off by the CEO, three by the Director of Quality, one each by the COO and DON, and eleven out of the 20 DHBs plan are signed off by a committee (see Figure 4).

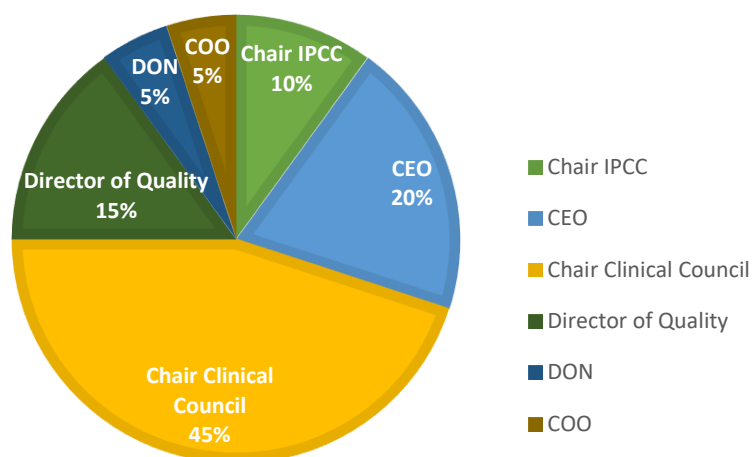


Figure 4. The role that signs off the IPC programme

4.2.4 Has the programme been based on the national IPC standard? Eighteen of the twenty DHB programmes referenced and based the plan on the national IPC standard. The two DHBs that did not reference the standard in their documentation were smaller with only a part time IPC staff member (see Figure 5).

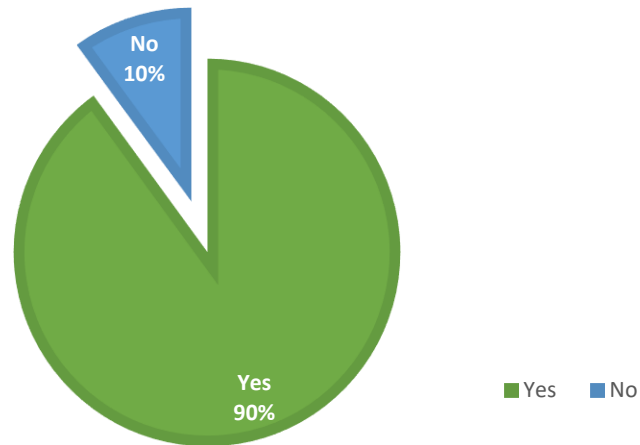


Figure 5. The number of DHB's with a plan based on the national IPC standard

4.3 Summary

This chapter has outlined the key findings from interviews with 10 IPC nurses across nine New Zealand DHBs and data extracted from the IPC programmes and IPCC TOR of 20 New Zealand DHBs. Six themes were identified from the thematic interview analysis. These provided a snapshot of how IPC clinical governance was viewed by nurses working in the speciality of IPC, potential future directions for IPC clinical governance in New Zealand, and barriers that could impact this. From the documentation analysis, I focused on four factors identified in the literature as important to IPC clinical governance and showed the differences in these factors between DHBs.

5 DISCUSSION

The purpose of this dissertation was to explore how DHB structures support evidence based best practice for IPC clinical governance within New Zealand DHBs. This was achieved via semi-structured interviews with ten nurses responsible for IPC planning within their organisation (five DHBs in the North Island and four in the South Island). The interviews were coded into six key themes related to perceptions of the IPC standard, the operationalisation of IPC within their organisation, and the role of clinical governance structures as barriers or facilitators to implementing IPC. Analysis of IPC documentation provided by the DHBs gave further objective insight into the supporting IPC structures.

It was acknowledged by the interviewees that the national IPC standard was positive. Each DHB had differing structures for clinical governance to operationalise the IPC standard. This allowed alternative strategies to be utilised by their organisation and the IPC team to implement national strategies including the standard within New Zealand DHBs. The following discussion will focus on the role of the IPC standard, the IPC programme, IPC team, IPC opinion leaders, certification, the impact of continual change within DHBs on IPC clinical governance, clinical governance nationally versus locally within New Zealand and ending with future opportunities.

5.1 The Role of the IPC Standard

The IPC standard (NZS 8134.3:2008) provides the framework for IPC clinical governance within New Zealand healthcare facilities. It is linked to the HDSS and compliance to the standard is required through legislation. The interviewees all acknowledged that the national IPC standard was positive for the role of IPC within their DHBs. Comments generally centred on the usefulness of the IPC standard for setting a minimum standard of safe care and providing a framework or baseline to build from. A useful analogy from one interviewee was that the IPC standard acts as a 'blueprint'. The standard ensures that the governing body supports the requirements that are indicated within the standard. This includes resourcing of the team and ensuring a clinical governance framework within the DHB to enable IPC risks to be identified and managed appropriately. In this way, one interviewee acknowledged that the IPC standard has a kind of protective role by ensuring the organisation prioritises IPC. The standard gives guidance on the type of surveillance and the required documentation including policies and procedures.

Concerns raised by interviewees included that the standard was in need of review and implementation of the standard differed depending on organisation size. The standard was last updated in 2008. The threats from antimicrobial resistance and the impact of MDROs has increased significantly since 2008 and so too have the requirements to manage these. The global issues of Ebola and pandemic influenza have also impacted on the changes to the priorities for IPC (Ministry of Health and Ministry for Primary Industries, 2017). Any national standard needs to reflect the changing IPC climate. Interviewees were also concerned that healthcare facilities struggled with the implementation of the standard because of the differences with complexity and size of their facility. For example, a small facility with a lower number of patients has less co-morbidities but it is still required to meet the IPC standard. One interviewee aptly summarised this as “one size doesn’t fit all”. A small facility often has limited resources and to be compliant to all of the criteria in the IPC standard is not necessarily the most cost-effective use of resources. This may be assisted with the addition of a table in the standard to differentiate requirements depending on the size of the organisation.

5.2 The IPC Programme

The IPC standard requires each DHB to have an annual IPC programme that provides the work plan for the following year (Ministry of Health, 2008). It should include identification of the organisational risks and the key performance indicators (KPIs). From the documentation analysis, all 20 New Zealand DHBs had an IPC programme. A copy of the IPC programme is requested by auditors prior to the certification site visit. The programme is a key document to provide evidence for compliance against the national IPC standard.

The framework for the IPC programmes of eighteen DHBs was based on the template provided by the IPC standard. This is consistent with responses from interviewees. A number of interviewees identified that the IPC standard provided a framework or outline from which to work when designing an IPC programme. They noted, however, that while the IPC standard was a useful starting point, it was important to design IPC programmes to the highest possible level of care and not just a minimum standard required to maintain compliance. Two out of the 20 IPC programmes had not been updated during the last 12 months. This could be because it was not a year when that particular DHB was going to be audited or because the role that had the responsibility to sign off the programme had changed. Changing staff and organisational structure were also identified by several interviewees as a barrier to implementing the IPC standard.

While the IPC team was thought to be responsible for developing the IPC programme, within each DHB there were a range of roles identified from the documentation analysis that had responsibility for the sign off of the IPC programme. This included nursing, quality, the chair of the IPCC, and the chair of the clinical governance board. It was not clear what level of understanding or responsibility the person that signed off the IPC programme had. It is important the person signing off the programme ensures there are adequate resources and support to implement the programme (Birgand, Johansson, Szilagyi, & Lucet, 2015).

5.3 The IPC Teams

IPC teams within New Zealand DHBs are predominantly comprised of nurses. The nurses that were interviewed as part of this study all had postgraduate qualifications although not necessarily within the speciality of IPC. Ninety percent of them had greater than ten years' experience in the field of IPC. In the smaller DHBs the 'team' constitutes one nurse working part time whereas in the larger DHBs there is often a team leader and nurses with a mixture of experience and skills (Anderson, 2015; O'Malley, 2015). The larger DHBs also have onsite support from infectious disease physicians, clinical microbiologists, antimicrobial pharmacists, medical officers of health, and information technologists (Collingnon, Freeman, Shaban, Rings, & Howard-Brown, 2016). The smaller DHBs have limited or no onsite support. Regardless of the size, resources, and specific purpose of an organisation, IPC implementation relies on shared responsibility and an organisational culture of engagement in continuous quality improvement and patient safety (Health Quality and Safety Commission, 2017). This sentiment was echoed by many of the interviewees. For example, one interviewee noted that while it was the IPC team's job to come up with the IPC programme, the responsibility for implementing it lay with everyone in the organisation.

IPC nurses are a resilient and resourceful work force with a wide range of skills but for the progression of IPC they cannot work in isolation. IPC clinical governance decisions cannot be made in a fragmented manner (Brannigan, Murray, & Holmes, 2009; Raveis et al., 2014). Based on success in other areas of healthcare, there is a need for a multi-disciplinary team approach that reaches throughout the organisation (Kaye et al., 2000; Rushforth, 2005). A number of the interviewees raised concerns about IPC being invisible. The resilience and the resourcefulness of the IPC nurse could explain this. It is possible that IPC nurses avoid 'making a fuss' in favour of identifying a risk and mitigating it before it escalates. As one of the interviewees described, 90% of their job is prevention which is often not seen. Another interviewee described how beliefs about IPC needed to change at the 'coalface' where

frontline staff need to appreciate that they are an integral part of the IPC process. A number of interviewees identified that changing these perceptions to a collaborative team-based mentality relied on culture change within the organisation. Embracing a more multi-disciplinary approach has been shown to significantly reduce infection rates overseas (De Bono, Heling, & Borg, 2017).

5.4 IPC Opinion Leaders

One of the themes that emerged from the interviews with IPC nurses was the impact of opinion leaders, or people who exert a major influence on their peers and colleagues (De Bono, Heling, & Borg, 2017; Valente & Pumpuang, 2007). All of the interviewees described situations where an individual had made a positive or negative impact on an IPC implementation outcome. If the individual had an interest in IPC and had taken the time to understand the importance of the IPC standard either through personal experience or previous roles they were more likely to positively champion IPC matters within the DHB. However, if through lack of understanding they perceived IPC as an area that was not important then that had a negative impact on outcomes. The position that the champion had within the organisation also contributed to their ability to enable the progression of IPC issues. Access to the decision makers and resources improved the IPC voice.

The IPC opinion leader was more likely to have influence within an organisation if it did not have a clear IPC clinical governance structure. An IPC-focused opinion leader might be an asset in the short-term. However long-term, if this person leaves or is restructured to another role in the organisation, this can have detrimental effects on the IPC programme. This highlights the importance of strong clinical governance structures so the responsibility of IPC does not rely on one individual (Health Quality and Safety Commission, 2017). The presence of opinion leaders is important for IPC best practice (De Bono, Heling, & Borg, 2017). However their greatest value may be the way in which they help shape the IPC culture of the organisation (Pittet, 2004). Changing organisation culture and IPC perceptions was identified by the interviewees as extremely important to IPC best practice and this is also shown in the literature (Raveis et al., 2014). While it is not advisable to rely on IPC opinion leaders to drive IPC within an organisation, their presence certainly has a number of benefits when paired with effective clinical governance structures.

5.5 Certification

New Zealand DHBs are required to meet certification criteria measured against the HDSS standards (Ministry of Health, 2008), including the IPC standard. The process of certification provides the mandate and benchmark for the IPC standard to be successfully implemented and integrated in DHBs. The interviewees spoke of the pride that it gave them when certification was achieved and exceeded. It validated practice and gave them an organisational voice. Certification allows access to the resources and tools to progress IPC issues. One of the interviewees gave the example of a new sluice that was required because it was non-compliant. They had tried for seven years to achieve this but when they mentioned it to the certification auditors and it was included in the certification feedback report, the \$2,000 dollars required was signed off by the organisation. IPC clinical governance should have ensured the organisation had the capacity and capability to identify and mitigate the IPC risk before it reached this point. This anecdote shows the usefulness of the IPC standard and audit process in ensuring staff have access to the IPC resources they need.

Even though the IPC auditing process was viewed as generally useful, there were a number of inconsistencies in the way the audit was carried out across organisations. As an example, an issue requiring action would be highlighted by auditors in one DHB but the same issues would not be reported in another DHB. This either reflects a lack of clarity of the standard or differences in individual interpretation or the auditor's understanding of IPC best practice. The DHB that had the issue identified through the certification audit was more likely to receive the required resources provided to mitigate it. Interviewees described incidents of highlighting an IPC issue that they had been unable to progress prior to audit but when documented in the audit report it was resolved. Healthcare facilities are often on a four-yearly audit cycle unless concerns have been identified. Interviewees identified the risk that in the non-audit years it was more difficult to progress IPC issues that were raised. Ultimately the auditing process is important but it needs to be managed correctly, applied consistently, and not be the sole reason for an organisation to implement IPC recommendations.

5.6 The Impact of Continual Change within DHBs on IPC Clinical Governance

IPC teams within DHBs have changed reporting lines many times. Those interviewees who had worked within the IPC speciality for more than fifteen years, described the various managerial reporting lines that they had experienced. These included, but were not limited to, quality, laboratory and nursing. The interviewee that had worked for IPC less than one year had already been through a restructure. The embedding of clinical governance with constant

change is challenging (Flynn, Burgess, & Crowley, 2015). Interviewees expressed frustration from being set back every time there is a major change and how difficult it is to make important decisions in this kind of environment.

Change does not only involve IPC structure but the personnel that IPC is reporting to. It takes time for a new manager to learn about the requirements of IPC and what they can do to support the infrastructure to embed practice. Each time there is a change then the momentum is reduced, progress is slowed, and there is a risk of staff becoming disengaged (Hogan, Basnett, & McKee, 2007). It is interesting to note that even though the reporting lines change, the IPC workforce generally remains constant, reflecting the resilience of this workforce. The importance of the IPC opinion leaders has been previously acknowledged and discussed. During a change in structure this 'champion' may be lost to the IPC team and, as in one case as described by an interviewee, to the DHB. Continual change needs to be appropriately managed to prevent this kind of shock and as recommended earlier, clinical governance structures need to be put in place to prevent IPC responsibilities from falling onto one individual or champion. That way, when an opinion leader leaves, IPC is still embedded in the organisation culture.

5.7 Clinical Governance Nationally Compared to Locally

On a national level, IPC clinical governance is provided by the IPC standard and certification process, MoH, HQSC and other professional bodies including the IPC nurses' college, Microbiology Network and ID physicians. The support and direction provided nationally raises awareness of IPC issues and encourages accountability from local healthcare facilities (Ministerial Task Group on Clinical Leadership, 2009). Healthcare facilities often now have additional expectations from external organisations over and above meeting the IPC standard. For example, HQSC programmes include the orthopaedic and cardiac surgical site infection improvement (SSII) and Hand Hygiene programmes. The MoH, in conjunction with MPI released 'The Antimicrobial Resistance: New Zealand's current situation and identified areas for action' document in March 2017. One of the five objectives focuses on improving IPC in healthcare settings to prevent infection and the transmission of microorganisms. ACC has placed a priority on reducing healthcare associated infections as part of their 2017 supporting patient safety initiative. The challenge is the ability for the IPC clinical governance structure within individual DHBs to implement these strategies in a consistent manner. All of these initiatives require resources from the DHB and put extra pressure on a work force that is already working at capacity as indicated by the interviewees

and further acknowledged by the HQSC. There are limited national resources provided to DHBs to assist with the engagement of these work streams.

On a local level, IPC teams are situated in various positions within their DHBs. The documentation analysis identified the wide variation in areas that IPC teams are placed; there were three different organisational areas within which IPC teams operated, between one and four layers separating themselves and the CEO, and six different roles identified that sign off the IPC programme. This variation in structure makes it difficult for national bodies that are leading IPC initiatives to know who they should communicate within the DHBs. In particular, the different levels separating the IPC team and the CEO level may lead to confusion within DHBs about the importance of the communications that are sent to the CEO for distribution. A number of interviewees mentioned the IT systems to support IPC within DHBs as well. IT systems are important for IPC teams to be able to access, monitor, measure and report IPC issues within their DHBs. In response to this, some DHBs have purchased the ICnet programme that is a repository for all of this information and has the ability to provide the required IPC reports. Finally, as previously discussed the inconsistent auditing of the IPC standard between DHBs leads to differences between DHBs on how the IPC standard is implemented.

Insight into the differences across DHBs were one of the key contributions of this research. Although there is one national IPC Standard that DHBs must follow in order to be certified, there were a number of inconsistencies in the way the standard was implemented. For example, when asked about where responsibility for IPC sat within their organisation interviewee's answers ranged from 'everyone' to 'the IPC team' to 'the CEO'. The literature review showed that having clear structures in place is important for clinical governance (Brennan & Flynn, 2013). Perhaps a sign of the misconception surrounding IPC clinical governance is the fact that some New Zealand publications do not mention the term specifically at all (Controller and Auditor-General, 2003). Because of a lack of clarity, staff are left to gather support and knowledge to implement IPC to the best of their ability.

5.8 Future Opportunities

Feedback from interviews with IPC nurses identified four main future opportunities for IPC both on a national level and locally within DHBs.

5.8.1 Understanding the role of clinical governance. None of the interviewees were able to articulate a clear definition of clinical governance and the opportunities that it

provides for IPC. The clinical governance document was released by the HQSC after the interviews had been completed therefore this may explain unfamiliarity with the term. The recent national antimicrobial resistance action plan, discussed the requirement for IPC to be integrated at all levels of the health system to support safe and a good quality of care for patients (Ministry of Health and Ministry for Primary Industries, 2017). The required elements are listed as clinical leadership, governance and the engagement of all healthcare professionals. Although the document essentially describes clinical governance it does not specifically mention the term. This suggests the need for consistent terminology and further education on how to implement a clinical governance structure that involves and includes IPC. These findings were also echoed in a recent review of IPC within the Canterbury DHB (Collingnon, Freeman, Shaban, Rings, & Howard-Brown, 2016) where they recommended clarifying IPC clinical governance structures within the organisation.

5.8.2 Updating the IPC standard. The IPC standard needs to be updated so that it can reflect the updated standards and guidelines since 2008. The update should allow for the ability to be adapted to different environments and patient populations to encourage organisations not only to meet but exceed the requirements. A critical area for updating is antimicrobial resistance. As one interviewee mentioned, the Australian national IPC standard was updated in 2012 and provides better clarity around IPC requirements and could be used as a reference document for updating our own. The Australian IPC standard integrates concepts of clinical governance throughout and focuses on both having the right systems and these systems being adopted across the organisation at all levels (Australian Commission on Safety and Quality in Health Care, 2012). Once the standard is updated it is necessary to give more guidance and education on how to audit the updated standard so IPC staff can have a more consistent national practice. Based on comments from interviewees, it might also be useful for the updated standard to take into account the different sizes and resources of different DHBs.

5.8.3 The IPC Team. The IPC teams within DHBs are predominantly made up of nursing staff. This workforce is small and specialised. IPC is acknowledged as a diverse speciality requiring knowledge of microbiology, cleaning, waste management, building and construction, just to name a few. As IPC becomes increasingly important and specialised, there is a need to upskill and adequately resource this workforce (Hale, Powell, Drey, & Gould, 2015). In some DHBs there is a MDT approach, however this appears to be inconsistent and reliant on the good will of microbiologists, Public Health and ID physicians.

The ideal is an embedded multi-disciplinary approach, which will support a clinical governance framework within DHBs (Castro-Sanchez & Holmes, 2015; Masterton & Teare, 2001). Without a more multi-disciplinary, integrated approach, IPC teams will struggle to comprehensively cover all clinical areas of an organisation (Hale, Powell, Drey, & Gould, 2015). Multi-disciplinary approaches have been shown to reduce the rate of HAIs (Kaye et al., 2000; Rushforth, 2005) and improve health outcomes for patients (De Bono, Heling, & Borg, 2017).

5.8.4 *The View of IPC within the DHBs*. As noted in the literature review, organisation culture is a key factor in achieving positive health outcomes for patients/consumers (Hofmann & Mark, 2006). A culture of IPC within an organisation is important for ensuring IPC policies and programmes are implemented (Raveis et al., 2014; Sinkowitz-Cochran et al., 2012) and an open, transparent organisation culture is important for ensuring good clinical governance (Gauld & Horsburgh, 2015). Comments from interviewees suggest this is an area for future development and focus. Three of the interviewees commented on the negative way that IPC was viewed within their DHBs. Terms such as ‘clean police’ or ‘control freaks’ were some of the names referenced. Another comment was that if the IPC team was doing their job it would be difficult to prove as 90% is prevention. This indicates that the healthcare work force is not aware of what role the IPC team has and the importance of IPC systems for patient care. A marketing and education programme raising awareness and understanding of IPC could help remove some negativity and increase uptake of IPC systems. For example, education programmes for frontline nurses, especially programmes that are continuously reinforced, have been shown to reduce the rate of HAIs (Coopersmith et al., 2002; Nobile, Montuori, Diaco, & Villari, 2002).

5.8.5 *The Role of the Consumer/Patient*. A key principle for effective clinical governance includes consumer/patient centred care. Consumer/patient centred care was one of three central facets identified in the Health Quality and Safety Commission’s (2017) clinical governance model. Good clinical governance supports consumer participation and engagement in decisions about the services, treatment and care they need and receive. HAIs have the ability to impact greatly on the consumer/patient by increased length of stay in hospital, antibiotics, additional procedures, and at the worst they can be fatal (Health, Quality & Safety Commission, 2017). For these reasons the reduction of HAIs is a priority for DHBs. Given the importance of the consumer in the IPC and clinical governance process, it is interesting that from analysis of the interviews and IPC documentation, there was limited

mention of the role of the consumer/patient. Only three of the interviewees used the term 'patient safety' but none of them expanded on what this meant and how the consumer voice guided their systems, policies and procedures. Instead, the focus was on the clinicians and management. For IPC clinical governance to be integrated within New Zealand DHBs the role of the consumer needs to be understood and encouraged, especially given the current healthcare movement embracing co-design principles (Boyd, McKernon, Mullin, & Old, 2012).

5.8.6 Cultural Considerations. The MoH focus with clinical governance is to provide a framework that brings individual dimensions together to enable sustainability and to strengthen the five dimensions of quality: people centred; safety; access and equity; efficiency; and effectiveness (Minister of Health, 2003). The foundation for these five dimensions of quality is derived from the principles of Te Tiriti o Waitangi - partnership, participation and protection (Ministry of Health, 2014). It is interesting to note that across the ten interviews, there was no mention of cultural considerations in terms of IPC governance nor to the diverse populations that were being protected. The documentation analysis showed limited acknowledgement of the Treaty of Waitangi and the DHB Māori health plans. DHBs should be cognisant of this when reviewing the IPC clinical governance structure within their annual programme and it is a potential area for IPC staff and teams to focus their training in the future.

5.9 Strengths and Limitations

The role of myself as the researcher was of immense benefit for the present research, however it must be noted as also being a potential limitation. I work within IPC so recruited peers for the interviews and obtained the IPC programmes and IPCC TOR. Working in the area meant that I had a thorough understanding of IPC systems and the health language and acronyms that were used in the interviews. Although I lacked formal experience in conducting interviews for qualitative research, I did have experience in leading many other types of interviews and familiarity with the interviewees made it easier to build rapport and gain their trust. Thus, an insider status and knowledge is acknowledged (Green & Thorogood, 2013).

Another potential limitation is the number and variety of interviewees recruited. There are 20 DHBs in New Zealand and an effort was made to ensure a reasonable sample from the North and South Island. In total there were 10 nurses from 9 different DHBs. Every DHB in

the South Island was represented except the DHB in which the researcher worked and the largest five DHBs in the North Island were represented. Due to the small number of interviewees, it was prudent to maintain as much consistency between them as possible. For this reason I targeted nurses responsible for IPC even though doctors are sometimes involved in IPC management too. Not every DHB had a doctor on their IPC team but all teams had a nurse. By recruiting only nurses ensured participants had a similar background and similar perspective. Having the views of the doctors working in IPC would add to the wider analysis of IPC in New Zealand.

One of the key strengths of this study is that it represents the first attempt at bringing together an analysis of IPC documentation and IPCC TOR in New Zealand alongside semi-structured interviews with IPC staff. Due to the researcher's unique position in the research, it was possible to gather IPC documentation from all New Zealand DHBs. This was impressive given that two of the IPC programmes were actually out of date but also very important because it gives a detailed, honest snapshot of where IPC clinical governance is currently at in New Zealand. There were some difficulties identified in analysing the IPC plans and IPC TOR as the format and length of these varied considerably. Because of this an objective approach was used, focusing on four key pieces of information contained in the documents. The use of documentation analysis validated the comments made in the semi-structured interviews and provided a context to people's comments. Two different methods complemented one another greatly.

6 CONCLUSIONS AND RECOMMENDATIONS

The results from this research suggest that while IPC clinical governance is gaining momentum in New Zealand, there are still inconsistencies across DHBs and room for improvement. From a review of national clinical governance structures within New Zealand and the current climate of IPC clinical governance in particular, I was able to establish the background and a framework for the current research. Then, from semi-structured interviews with 10 IPC nurses across nine DHBs, I gained a valuable insight into the perceived facilitators and barriers of effective IPC clinical governance in New Zealand. I also learned about how IPC is implemented within DHBs and how DHBs adhere to the national IPC Standard. Finally, documentation analysis of the IPC programs and IPCC TORs from all 20 New Zealand DHBs clarified the structures in place for IPC clinical governance. These complementary methods provided a broad view of IPC clinical governance in New Zealand and lead to a number of conclusions and recommendations for IPC clinical governance moving forward into the future.

The literature review highlighted different definitions of clinical governance and how the concept can be confusing. It also described the role that IPC has for quality improvement and the positive difference an effective clinical governance framework can make. The review highlighted the availability, internationally and nationally, of clinical governance structures and associated documentation to underpin them. What was found to be lacking in the literature was description and analysis of how national frameworks are implemented into individual organisations. There are numerous IPC requirements for New Zealand DHBs to implement and there is, to date, limited information about how successfully (or unsuccessfully) they have been implemented. The New Zealand IPC standard provides the legislative framework for IPC within New Zealand healthcare facilities however it is unclear to what extent the standards have improved and/or hindered IPC clinical governance. This research project focused on this identified gap in the literature.

Based on the results of semi-structured interviews with IPC nurses across New Zealand DHBs, six themes emerged:

1. The IPC Standard (NZS 8134.3:2008) was generally viewed as positive
2. Implementation of the IPC standard depended on clinical governance structure
3. There was inconsistent implementation of the IPC standards between and within DHBs
4. Continual change was a barrier to effective clinical governance

5. The importance of IPC opinion leaders and positive relationships
6. Future opportunities for strengthening IPC and IPC clinical governance

These themes show how IPC standards and clinical governance are perceived as important steps forward but it also shows frustration regarding the lack of consistency in how they are implemented. Based on the results of documentation analysis it was found that IPC teams report to either quality, laboratory, or nursing operational areas and there are usually either two or three structural layers between the IPC team and the organisation CEO. In the majority of cases, IPC programmes are signed off by the Clinical Council Chair, Director of Quality, or the CEO, and 90% of IPC programmes were based off the national IPC standard.

6.1 Recommendations

Several recommendations are made as a result of these themes and analyses:

- The importance of the IPC standard to IPC clinical governance was undeniable therefore it is important that it is fit for purpose. It is recommended that the MoH review and update the standard to ensure that it reflects the change in priorities for IPC both nationally and internationally since 2008. Further, when the IPC standard is updated the MoH should be cognisant of the difficulty that different size facilities have to interpret, implement and be compliant with the standard.
- There was a lack of clarity about the meaning of clinical governance. It has been noted already in other research reports that a New Zealand-wide definition of clinical governance should be agreed upon (Gauld & Horsburgh, 2015) and this view is also supported by the current research. Education and training could be provided to health care workers as to both the meaning of clinical governance and how to apply clinical governance in the work place. This type of training should not just be limited to the IPC workforce because clinical governance is important to all areas of healthcare (Health, Quality & Safety Commission, 2017).
- The benefits of a MDT approach to IPC clinical governance was acknowledged. This suggests there is an opportunity for DHBs to formalise a team approach and support the role of IPC nurses within New Zealand DHBs.
- Each DHB has differing structures for IPC clinical governance. This should be encouraged and acknowledged rather than expecting each DHB structure to be the same. It should be the responsibility of individual DHBs to operationalise IPC clinical governance effectively to not only achieve national requirements, but exceed them.
- Organisational culture was identified as important for the successful implementation

of IPC clinical governance. Each DHB should understand their unique culture and ensure that the organisational culture supports IPC clinical governance. Greater awareness of the preventative work that IPC does could be one way to achieve this.

- Crucial input from the patient/consumer was lacking within IPC. Each DHB should embrace the positive influence that involvement from the consumer/patient provides to positive IPC outcomes.
- The analysis showed that reference to Māori culture and issues were lacking. IPC programmes and frameworks should reflect the importance of Te Tiriti o Waitangi to the New Zealand health system and reference this.
- Constant change in health management impacts the implementation of IPC, this impact should be considered during any proposals for change in New Zealand DHBs. Change is often positive, however managing change is extremely important when it comes to ensuring IPC standards are maintained through transitions.

6.2 Conclusion

This research provided a snapshot of IPC clinical governance within New Zealand DHBs. It is important to note the increased focus and support for IPC since the Auditor General's 2003 report and the recommendations outlined above will help continue strengthen IPC in the future. This study work has uncovered several findings within New Zealand DHBs that impact on IPC clinical governance. It has identified barriers and enablers to the successful operationalisation of IPC. Each of these identified barriers and enablers provide an area for further research and it would be worthwhile to assist DHBs to understand where to use resources to support the successful implementation of the IPC programme. Doing so would contribute to better quality patient care and safety whilst reducing costs associated with hospital acquired infections (Healthcare Associated Infections Governance Group, 2016). IPC is an extremely important facet of healthcare and has even been suggested as a clinical indicator of overall quality and safety within an organisation (Borg 2014). Given this and the growing threat of antimicrobial resistance (Ministry of Health and Ministry for Primary Industries, 2017) it is more important than ever that we as health professionals continue to improve IPC systems for the sake of patient care and safety.

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Appendix A.

Category B Ethical Approval (including information sheet and participant consent form)



Form Updated: October 2015

UNIVERSITY OF OTAGO HUMAN ETHICS COMMITTEE APPLICATION FORM: CATEGORY B (Departmental Approval)

1. University of Otago staff member responsible for project:

Surname First Name Title (Mr/Ms/Mrs/Dr/Assoc. Prof./Prof.)

McBride David Associate Professor

2. Department/School:

Department of Preventive & Social Medicine, Dunedin School of Medicine.

3. Contact details of staff member responsible (always include your email address):

David McBride: email: david.mcbride@otago.ac.nz tel: 03 479 7208

4. Title of project:

Structures to support Evidence Based Best practice for Infection Prevention and Control (IPC)
Governance within District Health Boards

5. Indicate type of project and names of other investigators and students:

Staff Research

 es

David McBride, John Holmes

Student Research

 es

Jo Stodart

Masters by Dissertation

**External Research/
Collaboration**

Names

6. When will recruitment and data collection commence?

Data collection and recruitment will commence as soon as ethical approval has been gained.

When will data collection be completed?

Data collection will be completed by February 2016

7. Brief description in lay terms of the aim of the project, and outline of the research questions that will be answered

Aim:

To identify best practice in managing IPC within District Health Boards

Research Question:

How complete are the IPC management plans developed by District Health Boards (DHBs) and how effective are the governance structures supporting the operationalisation of the plan.

Further research questions and objectives: To carry out a structured audit of how NZ DHBs interpret and operationalise the IPC standards set out in the Health and Disability Sector Standard (NZS 8134.3:2008 'the standard') through analysis of the plans and asking the following questions of selected IPC nurses:

1. What is your understanding of the IPC standard?
2. Where does the responsibility sit within your DHB for implementing the standard?
3. How has the standard been implemented within your DHB?
4. What are the benefits of having the standard?
5. What are the disadvantages of the standard?
6. How are identified IPC risks raised and responded to within your DHB?
7. If there was one barrier that could be removed to improve engagement with IPC in your organisation what would it be?

8. Brief description of the method

Best practice governance review

A literature review identifying best practice in IPC governance and management will be undertaken using the Medline, Ovid and Web of Science databases. The 'grey' literature will be identified through online search engines such as Google Scholar.

Study sample

IPC plans will be requested from all 20 DHBs. Qualitative Interviews will be completed with IPC nurses for the 4 South Island DHBs and at least 5 of the North Island DHBs. Nursing has been the occupational group chosen because they are over 95% of this workforce. The 5 North Island DHBs will be chosen by bed numbers with the DHBs with the highest numbers being chosen.

The Southern DHB will be excluded from the interviews as the person completing the research would be the role selected to be interviewed instead an additional nurse will be interviewed from Canterbury DHB as this is the largest South Island DHB.

Content analysis of DHB IPC plans

Healthcare providers in New Zealand are required by national regulations to develop and review IPC plans. These plans are required to encompass the management and reduction of Health care associated infection. DHBs in the sampling frame will be contacted to provide their annual IPC plan including any supporting documentation.

A content analysis will assess the coverage of IPC plans in terms of the framework required by The Health and Disability Sector Standards (NZS 8134.3:2008) and informed by the literature review. A deductive approach will assess the presence of critical elements as required by the standard of each DHB plan, identified from the literature review. Each element will be scored one if the specific critical element exists (and is described in the plan) and zero if the element is not described.

Qualitative interviews with key informants

As each DHB will have assessed the requirements for IPC differently, and will have put into place different structures/processes/frameworks to enable IPC to meet the required standards, this part of the study will address what is perceived to facilitate good IPC practice and what the potential barriers are. Qualitative methods will allow for the depth of information regarding these issues.

9. Disclose and discuss any potential problems:

The researcher works within IPC at the Southern DHB therefore there could be a perceived bias because of this. To mitigate this only the IPC plan and IPCC TOR will be reviewed from the Southern DHB and there will be no interview.

***Applicant's Signature:**

Name (please print):

Date:

**The signatory should be the staff member detailed at Question 1.*

ACTION TAKEN

<input type="checkbox"/> Committee	<input type="checkbox"/> Approved by HOD	<input type="checkbox"/> Approved by Departmental Ethics
<input type="checkbox"/>	Referred to UO Human Ethics Committee	

Signature of **Head of Department:

Name of HOD (please print):

Date:

****Where the Head of Department is also the Applicant, then an appropriate senior staff member must sign on behalf of the Department or School.**

Departmental approval: *I have read this application and believe it to be valid research and ethically sound. I approve the research design. The research proposed in this application is compatible with the University of Otago policies and I give my approval and consent for the application to be forwarded to the University of Otago Human Ethics Committee (to be reported to the next meeting).*

IMPORTANT NOTE: As soon as this proposal has been considered and approved at departmental level, the completed form, together with copies of any Information Sheet, Consent Form, recruitment advertisement for participants, and survey or questionnaire should be forwarded to the Manager, Academic Committees or the Academic Committees Administrator, Academic Committees, Rooms G22, G23 or G24, Ground Floor, Clocktower Building, or scanned and emailed to either gary.witte@otago.ac.nz or jane.hinkley@otago.ac.nz

INFECTION PREVENTION AND CONTROL GOVERNANCE IN NEW ZEALAND DISTRICT HEALTH BOARDS INFORMATION SHEET FOR PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

What is the study about?

The focus of the project is to gain an understanding on how well the individual District Health Board Infection Prevention and Control (IPC) programmes and the IPC standards are operationalised within New Zealand District Health Boards. It will explore potential barriers and try and identify a governance structure that supports IPC best practice.

This project is being undertaken as part of a Master's in Public Health.

Who is being asked to take part?

Nurses who work within the IPC team in selected District Health Boards. This will include representatives from all South Island DHBs (excluding Southern) and the five largest DHBs in the North Island.

The nurses have been selected depending on their potential knowledge and experience through role, time in the job and IPC expertise. There will be potentially 10 interviews completed.

What will be involved?

You will be asked to participate in an interview that should take up to one hour. There will be an interview guide with open ended questions and other questions may arise through the course of the interview. A copy of the interview questions will be sent to you prior to the interview. The interview will be recorded and transcribed for later analysis.

Please be aware that you may decide not to take part in the project without any disadvantage to yourself.

What happens to the information that I give you?

The data collected will be securely stored in such a way that only the student researcher and supervisors listed in the 'things you need to know' section below will be able to gain access to it. Data obtained as a result of the research will be retained for **at least 10 years** in secure storage. Any personal information held on the participants may be destroyed at the completion of the research even though the data derived from the research will, in most cases, be kept for much longer or possibly indefinitely. Your own recorded interview will be made available to you on request.

The results of the project will be published as a dissertation and will be available electronically in the University of Otago Library (Dunedin, New Zealand). A summary of the main findings will be made available should you request this. Individuals will not be identified in the final report and every attempt will be made to preserve your anonymity.

This project involves an open-questioning technique. The general line of questioning includes the governance structure within your DHB and the barriers and enablers to facilitate IPC best practice. The precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. Consequently, although the Department of Preventive and Social Medicine has reviewed, in general, the topics to be explored in the interview, the Committee has not been able to review the precise questions to be used.

In the event that the line of questioning does develop in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) or to withdraw from the interview.

Other things you need to know:

If you have any queries or need more details contact Jo Stodart student researcher (jo.stodart@xtra.co.nz) or David McBride supervisor (david.mcbride@otago.ac.nz) telephone 03 479 7208 and John Holmes supervisor (jd.holmes@otago.ac.nz) telephone 03 4712131.

This study has been approved by the Department of Preventive and Social Medicine Ethics committee. However, if you have any concerns about the ethical conduct of the research you may contact the University of Otago Human Ethics Committee through the Human Ethics Committee Administrator (ph. 03 479-8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.

Infection Prevention and Control Governance within New Zealand District Health Boards

CONSENT FORM FOR *PARTICIPANTS*

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:-

1. My participation in the project is entirely voluntary;
2. I am free to withdraw from the project at any time without any disadvantage;
3. Personal identifying information including audio tapes will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for at least ten years;
4. This project involves an open-questioning technique. The general line of questioning includes the structures that are in place to support Infection Prevention and Control within your DHB and any barriers or enablers that impact on this. The precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops and that in the event that the line of questioning develops in such a way that I feel hesitant or uncomfortable I may decline to answer any particular question(s) and/or may withdraw from the project without any disadvantage of any kind.
5. The results of the project will be published and will be available in the University of Otago Library (Dunedin, New Zealand) however every attempt will be made to preserve my anonymity.

I agree to take part in this project.

.....
(Signature of participant)

.....
(Date)

.....
(Printed Name)

Appendix B.

Codes and sub-codes derived from semi-structured participant interviews.

Codes	Sub codes
1. Communication	A. Hidden B. Open/transparent
2. Structure	A. Documentation B. Implemented C. Committee D. Governance E. Framework F. Basis/base level G. Systems
3. Requirement	A. Resource a)money b)personnel B. Certification C. Legislation D. Power/Mandate E. Foundation/base F. Safety
4. Change	A. Structure B. Personnel
5. Roles	A. Hierarchy B. Leadership C. Person dependant D. Position E. System F. Committee
6. Culture	A. Involves everyone B. Network/connections C. Isolated/hidden D. Important E. Improved/better

Appendix C.

Narrative responses, codes and sub-codes for the first three interview questions.

	Question	Narrative	Codes	Subcodes
1	What is your understanding of the Infection Prevention and Control Standard?	Guide govern “keep the organisation open.”	3	C
		Part of the HDSS	3	C
		Legislative requirement	3	C
		“Basic standards that we should all match.”	3	E
		“An agreed minimum standard document for minimum standards of practice and that they are our overarching document for infection control practice within healthcare facilities.”	3	E
		A blue print	2	E
		So that when you have an external audit you are pretty much up to speed, and there’s nothing that catch you out, hopefully.	2	F
		Meet it for certification	3	B
		Quality framework	3	E
		Aspirational content	6	D
		Doesn’t actually provide anything in terms of a governance structure	2	D
		Framework	2	E
		Just policies and procedures “to be honest I hadn’t heard of it.”	2	A
		More or less a template	2	E
		Provides some consistency across the country	2	F
		Main foundation	3	E
		That we can assess quality	2	B
		Tries to cover main things	2	E
		It is a skeletal framework for people to actually build new practices on.	2	E
		Strategic direction for people to follow	2	D
		Help deliver safe patient care	6	A
		A framework to build on	2	E
		Is the core document as a template for the IPC plan	2	A
		Core document template for IPC document	2	A
2	Where does the responsibility sit within your DHB for the implementation of the standard?	IPC and monitored by committee	2	C
		Sits within our service and support from clinical governance and IPCC and Director of Nursing	2	D
		Primarily IPC governance IPCC overall CEO	5	A
		IPC nurse, IPC link staff, IPCC and higher management	5	E

		Responsibility to develop the programme sits with IPC but implementation by the individual through the governance structure	2	D
		It goes down through policies and procedures	2	A
		Everyone's job to implement	6	A
		IPC but it keeps everyone honest they need to have their networks supporting everyone else to do their job properly.	6 2	A G
		The implementation of each policy is really the managers.. I help when there's a need	5	A
		Us in infection control	5	C
		We've got an extended MDT to help us achieve it	5	E
		Anyone in the gun will be "the manager of IPC"	5	D
		IPC steering committee	2	C
		Well "I think it's a collaborative thing it's not just IPC."	6	A
		With the policies and procedures in place it is up to the services to deliver the programme	2	A
3	How well has the standard been implemented within your DHB and give examples?	IPCC programme reviewed annually	3	C
		Relevant policies and procedures and guidelines	2	A
		Quality plan antibiotic utilization	2	A
		"I think it's well implemented in our DHB. We certainly make sure that we have ticked all the boxes."	3 6	C D
		"I think for the most part the intent to do it well is there."	6	D
		"the honest reality is sometimes they kinda get lost in the wash a little bit."	2 5 6	B E C
		"I feel a wee bit blind sided by it. I wasn't party to some of the decision making that was actually happening, but I was the one who was walking around with the infection control person from the ministry for sign off."	5 6	D C
		"If you want IPC to be involved in those things, there probably weren't enough of us."	3	Aa
		"But then there's not enough resource to actually really make sure that it happens so in the end you feel compromised."	3	A
		Embedded into the day to day	2 6	G B
		External audit no corrective actions	3	B
		Well implemented	6	A
		Some things not notified for example proposals for change	2 5	G E
		Cross over with occupational health	5	D

		Lack of feedback of IPC orientation for staff	1 2	A G
		Evaluation of new products. If it goes through the product coordinator good but not if products introduced other ways	2 5 6	G E B
		Exceeded the surveillance requirements for a DHB our size	3	B
		Integral to work	6	A
		Certification no corrective actions	3	B
		"I think sometimes better than others."	5 6	C C
		Certification. "It's the best they have seen so far."	3	B
		"I think the leadership and just having all those processes and everything connected to each other, that makes all the difference."	5 6	B B
		hand hygiene (well implemented).	2 6	B A
		Systems for the wards to follow	2	G
		MRO's	1 2 3 5	A/B B E E
		Antimicrobial stewardship	2	G
		I think it's been implemented fully	1 2	? B
		"we actually received a continuous improvement for that."	2	B